

# CURRICULUM VITAE

## PERSONAL INFORMATION

**Surname:** Michail  
**Name:** Christos  
**Current Position:** Assistant Professor  
**Birth date:** 18-5-1982  
**Birthplace:** Thessaloniki  
**E-mail:** [cmichail@uniwa.gr](mailto:cmichail@uniwa.gr); [michail@upatras.gr](mailto:michail@upatras.gr)



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Web of Science Researcher ID: [H-6089-2019](#)

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## DEGREES AND QUALIFICATIONS

### B.SC.

[Department of Medical Instrumentation Technology](#)  
[Technological Educational Institute \(TEI\) of Athens.](#)

### THESIS

Part A: Installation and quality control of Magnetic Resonance Imaging systems.

Part B: Quality control in Radiology and Fluoroscopy (8/10/2004). *Grade: 10*

Supervisor: Prof I. Kandarakis [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)

### PRACTISE

Six months in the department of Biomedical Technology of the cancer [Hospital 'Metaxa'](#) in Piraeus (1/4/2004-30/9/2004).

### M.Sc.

International Interdepartmental postgraduate program in Medical Physics University of Patras Schools of Health Science-Faculties of Medicine-Physics (3/11/2006).

### THESIS

[Experimental and theoretical determination of the imaging characteristics in new phosphor-scintillator materials with cerium \(Ce3+\) activators applied in medical digital detectors.](#) (23/10/2006). *Grade: 10*

Supervisors: Prof G. Panayiotakis [panayiot@upatras.gr](mailto:panayiot@upatras.gr) and Prof. I. Kandarakis, [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)

### Ph.D

Postgraduate course in Medical Physics (PhD). University of Patras Schools of Health Science-Faculties of Medicine-Physics  
Research subject: [Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine.](#) (14/05/2010)

Supervisors: Prof G. Panayiotakis [panayiot@upatras.gr](mailto:panayiot@upatras.gr) and Prof. I. Kandarakis [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)

## PARTICIPATION IN SCIENTIFIC PROGRAMS

- 1) European Union-Greek Ministry of Education, Research Program ARCHIMIDIS II, '[Experimental investigation and simulation of radiation detection materials applied in Radiology and Nuclear Medicine systems via Monte Carlo techniques](#)', as researcher assistant for 3 years (1.01.2005-31.12.2007). Coordinator: Professor Dr. Ioannis Kandarakis ([kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)).
- 2) European Union-Greek Ministry of Education, Research program ARCHIMIDIS «[Development of membranes for optical visualization of high resolution in the near infrared](#)» (from 1/1/2007 to 28/2/2007). Coordinator: Professor Dr. E. Koudoumas ([koudoumas@stef.teiher.gr](mailto:koudoumas@stef.teiher.gr))

- 3) Technological Educational Institution of Athens, Research program EPEAEK II «THALIS» «[A novel method for the Modulation Transfer Function \(MTF\) determination in PET/CT scanners](#)» (from 1/1/2009 to 31/12/2010) Coordinator: Professor Dr. Oikonomou Georgia, ([goikon@teiath.gr](mailto:goikon@teiath.gr))
- 4) European Union-Greek Ministry of Education, Research program ARCHIMIDIS «[Novel applications of x-ray Dual Energy for early diagnosis in Osteoporosis, mammography and angiography](#)» Acronym: XDualGnosis, Duration: 01/03/2012-03/06/2015 Research Domain 3. Biological and Medical sciences. Research Area LS7; Diagnostic tools, therapies and public health. Primary Field of Research. LS7\_1; Medical engineering and technology, Coordinator: As. Professor: Dr. George Fountos, Technological Educational Institution of Athens [gfoun@teiath.gr](mailto:gfoun@teiath.gr).
- 5) European Union-Greek Ministry of Education, Research program ARCHIMIDIS «[Experimental evaluation of new co-doped Scintillator materials for use in Combined Tomographic Imaging Systems](#)» Acronym: ScoDo, Duration: 01/03/2012 - 31/12/2014 Research Domain 5. Mathematics, Physics, Chemistry. Research Area LS7; Diagnostic tools, therapies and public health. Primary Field of Research. LS7\_1; Medical engineering and technology. Coordinator: Professor: Dr. Konstantinos Kourkoutas, Technological Educational Institution of Athens [k\\_kourkoutas@yahoo.gr](mailto:k_kourkoutas@yahoo.gr).
- 6) European Union-Greek Ministry of Education, Research program ARCHIMIDIS «[Development of Monte Carlo simulation tool for evaluation of nano-phosphor based X-ray imaging detectors.](#)» Acronym: NanoCarlo. Duration: 01/03/2012 - 30/09/2014. Coordinator: Professor: Dr. Ioannis Kandarakis, Technological Educational Institution of Athens [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr).
- 7) European Union-Greek Ministry of Education, Research program ARISTEIA «[Medical Image SCIENCE thRough LUminescence \(MISCIRLU\) project](#)». Acronym: Miscirlu. Duration: 01/03/2013 - 27/09/2015. Coordinator: Professor: Dr. Ioannis Kandarakis, Technological Educational Institution of Athens [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr).
- 8) European Union-Greek Ministry of Education, Research program THALIS «[Multidisciplinary study of air quality with emphasis indoors](#)» Acronym: IndrAQ, Duration: 01/09/2011-31/12/2013 Primary Field of Study:11.9.3 Secondary Field:11.9.99 Measurement and Analysis of indoor air contamination. References Professor: Dr. Zisos Athanasios, Technological Educational Institution of Piraeus.
- 9) European Union-Greek Ministry of Education, Research program Academic and scientific excellence, [Evaluation of medical imaging detectors. Influence of the scintillating material on the detector performance](#), TEI Athens, Research team: I. Kandarakis, G. Fountos, I. Valais, N. Kalyvas, P. Iliopoulos, C. Michail, S. David.
- 10) European Union-Greek Ministry of Education, Research program ARISTEIA «[Medical Image SCIENCE thRough LUminescence \(MISCIRLU\) project](#)». Acronym: Miscirlu. Coordinator: Professor: Dr. Ioannis Kandarakis, Technological Educational Institution of Athens [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr).
- 11) European Union-Greek Ministry of Education, Research program UPDATING UNIVERSITY GRADUATES KNOWLEDGE «New Developments in Biomedical Technology» Coordinator: Professor: Dr. Ioannis Kandarakis, Technological Educational Institution of Athens [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr).
- 12) Technological Educational Institution of Athens, Research committee. [Organization & Quality Control study of an audiometry laboratory](#). Coordinator: Professor: Dr Ioannis Valais. Duration: 1/04/2014-31/03/2015.
- 13) Technological Educational Institution of Athens, Research committee. [Development of composite materials \(quantum dots modified with polymers\) for medical imaging applications](#) Coordinator: Professor: Dr Ioannis Valais. Duration: 01/10/2015-30/09/2016.
- 14) University of West Attica, Research memorandum between University of West Attica and Aegean Rebreath on [microplastics and heavy metals pollution in Greek seas](#). Coordinators on behalf of the University of West Attica (Ioannis Sanioudis, Christos Michail).
- 15) Operational Programme Human Resources Development, Education and Lifelong Learning, Research program “Support for researchers with an emphasis on young researchers-cycle B.” – ΕΔΒΜ 103 “[Human body mineral characterization using Dual Energy X-ray method](#)” (MIS): 5050326, co-funded from the European Social Fund (ESF) (80789) Duration: 2020 – 2021, Coordinator: Professor George Fountos.

#### **PARTICIPATION IN SCIENTIFIC PROGRAMS (APPROVED AT THE FIRST PHASE OF EVALUATION)**

- 1) European Union-Greek Ministry of Education, Research program Funding Opportunities for Postdoctoral Research Support of Postdoctoral Researchers «Development of a novel digital detector for use in Dual Energy Imaging and quantification aiming in early diagnosis of Breast Cancer and Osteoporosis», Postdoctoral Researcher: Christos Michail Acronym: XDualGnosis, Primary Field of Research. LS7.
- 2) European Union-Greek Ministry of Education, Research program Επικαιροποίηση Γνώσεων Αποφοίτων ΑΕΙ «[Modern developments in Biomedical Engineering](#)». Coordinator: Professor: Dr. Ioannis Kandarakis, Technological Educational Institution of Athens [kandarakis@teiath.gr](mailto:kandarakis@teiath.gr).

## **SCHOLARSHIPS**

Scholar of the [Greek State Scholarships Foundation \(I.K.Y.\)](#) for Academic Years 2007-2010 on the ‘Technology of Telecommunications in Medicine’ specialty after succeeding in the exams of the Foundation.

## **DISTINCTIONS**

European Union-Greek Ministry of Education, Research program Academic and scientific excellence, [Evaluation of medical imaging detectors. Influence of the scintillating material on the detector performance](#), TEI Athens, Research team: I. Kandarakis, G. Fountos, I. Valais, N. Kalyvas, P. Iliaparinos, C. Michail, S. David.

## **MILITARY SERVICE**

Special Scientist soldier at the [Center of Research and Technology](#) of the Hellenic Army (17/09/2010 - 17/05/2011).

## **REVIEWER IN SCIENTIFIC JOURNALS AND CONFERENCES:**

Verified Reviews Publons: <https://publons.com/researcher/1103385/christos-michail/peer-review/>

1. [European Radiology](#).
2. [The Journal of Engineering Research](#).
3. [Measurement](#).
4. [Information Technology Research Journal](#)
5. [Physica Medica](#)
6. [Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment](#)
7. [Ecotoxicology and Environmental Safety](#)
8. [4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, 5-8/6, 2015 Greece](#).
9. [Radiation Measurements](#)
10. [British Journal of Medicine and Medical Research](#)
11. [Nuclear Science and Techniques](#)
12. [Research on Chemical Intermediates](#)
13. [Journal of the Chemical Society of Pakistan](#)
14. [Journal of Electronic Materials](#)
15. [Photonics](#)
16. [Scinte 2015](#)
17. [Journal of physics conference series](#)
18. [Current Medical Imaging Reviews](#)
19. [Journal of Luminescence](#)
20. [Arabian Journal of Chemistry](#)
21. [Journal of Scientific Research and Reports](#)
22. [Thin Solid Films](#)
23. [Sensors](#)
24. [Microelectronics Journal](#)
25. [Annual Research & Review in Biology](#)
26. [ACS Applied Materials & Interfaces](#)
27. [Journal of Photochemistry and Photobiology B: Biology](#)
28. [Optik - International Journal for Light and Electron Optics](#)
29. [Crystals](#)
30. [Materials](#)
31. [Physics Letters A](#)
32. [Ultrasonics – Sonochemistry](#)
33. [Materials Research](#)
34. [Micromachines](#)
35. [Nanomaterials](#)
36. [IEEE Access](#)
37. [Sensors & Actuators: A. Physical](#)
38. [Optics & Laser Technology](#)
39. [Molecules](#)
40. [SoftwareX](#)
41. [Materials Chemistry and Physics](#)
42. [Symmetry](#)

43. [Ceramics International](#)
44. [Coatings](#)
45. [Journal of Alloys and Compounds](#)
46. [Heliyon](#)
47. [Materials Letters](#)
48. [Electronics](#)
49. [Engineering, Technology & Applied Science Research](#)
50. [Pharmaceuticals](#)
51. [Journal of Rare Earths](#)
52. [Sustainability](#)
53. [Applied Sciences](#)
54. [Progress in Natural Science: Materials International](#)

#### **REVIEWER IN SCIENTIFIC PROJECTS:**

1. [Science peer reviewer for MBIE's 2013 Science Investment Round](#), Science Investments, Science Skills and Innovation, Ministry of Business, Innovation & Employment, New Zealand Government.
2. [Competitive Research Grants \(CRG\)](#) programs at King Abdullah University of Science and Technology (KAUST).

#### **EDITORIAL BOARD**

[Engineering, technology and Applied Science Research](#) (ETASR) international journal (until 2021).  
[e-Journal of Science & Technology \(e-JST\)](#).

#### **SESSION CHAIRMAN**

1. [Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#) Technological Educational Institute of Athens, Friday 6 July 2012.
2. [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)

#### **CONFERENCE'S ORGANIZING COMMITTEE**

1. [2<sup>nd</sup> Conference on Bio-Medical Instrumentation and related Engineering And Physical Sciences Technological Educational Institute of Athens June 21-22, 2013, Athens, Greece.](#)
2. [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
3. [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), October 12-13, 2017, Athens, Greece.](#)

#### **CONFERENCE'S SCIENTIFIC COMMITTEE**

[Conference on Bio-Medical Instrumentation and related Engineering And Physical Sciences Technological Educational Institute of Athens.](#)

#### **GUEST EDITOR**

Guest Editor of the special issue [\(2015\) 637](#) in J. Phys.: Conf. Ser.

Guest Editor of the special issue [\(2017\) 931](#) in J. Phys.: Conf. Ser.

Guest Editor of the Special Issue "[Development and Application of Novel Dual Energy X-ray Imaging Methods](#)" in Crystals journal (IF 2.14).

#### **MEMBER**

- 1) [Greek Society of Experimental Mechanics of Materials.](#)
- 2) [Italian Group Fracture \(IGF\)](#) Certificate code: IGF 65/20.

#### **TEACHING EXPERIENCE**

- 1) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of Ionizing Radiations III (Laboratory exercises on MRI) (2006-2010).
- 2) Technological Educational Institution of Athens, Faculty of Health and Caring Professions, Department of Radiologic Technologists. Teaching Digital Imaging, Radiotherapy (24/10/2011-10/07/2012).
- 3) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of non-Ionizing Radiations (Laboratory exercises on MRI) (24/10/2011-10/07/2012).

- 4) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of optoelectronics and Lasers (24/10/2011-10/07/2012).
- 5) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of Maintenance & Quality Assurance of Medical Equipment (24/10/2011-10/07/2012).
- 6) Technological Educational Institution of Athens, Department of Medical Instruments Technology, CAD I Laboratory (24/10/2011-10/07/2012).
- 7) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of non-Ionizing Radiations (Laboratory exercises on MRI) (08/10/2012-12/07/2013).
- 8) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of optoelectronics and Lasers (08/10/2012-12/07/2013).
- 9) Technological Educational Institution of Athens, Department of Medical Instruments Technology, Laboratory of Maintenance & Quality Assurance of Medical Equipment (08/10/2012-12/07/2013).
- 10) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of optoelectronics and Lasers (08/10/2013-12/07/2014).
- 11) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of Maintenance & Quality Assurance of Medical Equipment (08/10/2013-12/07/2014).
- 12) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of electrical circuits and measurements in Biomedical Technology (29/10/2013-04/07/2014).
- 13) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of optoelectronics and Lasers (27/10/2014-06/07/2015).
- 14) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of Maintenance & Quality Assurance of Medical Equipment (27/10/2014-06/07/2015).
- 15) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of electrical circuits and measurements in Biomedical Technology (27/10/2014-06/07/2015).
- 16) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of optoelectronics and Lasers (04/11/2015-01/07/2016).
- 17) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of Maintenance & Quality Assurance of Medical Equipment (04/11/2015-01/07/2016).
- 18) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of electrical circuits and measurements in Biomedical Technology (04/11/2015-01/07/2016).
- 19) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of optoelectronics and Lasers (01/11/2016-30/06/2017).
- 20) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of Maintenance & Quality Assurance of Medical Equipment (01/11/2016-30/06/2017).
- 21) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of electrical circuits and measurements in Biomedical Technology (01/11/2016-30/06/2017).
- 22) Technological Educational Institution of Athens, Department of Biomedical Engineering, Laboratory of Biomedical Devices Design and development methodology (01/11/2016-30/06/2017).
- 23) University of West Attica, Department of Biomedical Engineering, Laboratory of optoelectronics and Lasers (29/11/2017-13/07/2018).
- 24) University of West Attica, Department of Biomedical Engineering, Laboratory of Maintenance & Quality Assurance of Medical Equipment (29/11/2017-13/07/2018).
- 25) University of West Attica, Department of Biomedical Engineering, Laboratory of electrical circuits and measurements in Biomedical Technology (29/11/2017-13/07/2018).
- 26) University of West Attica, Faculty of Health and Caring Professions, Department of Radiologic Technologists. Teaching Specialized Topics in Medical Informatics (21/03/2018-13/07/2018).
- 27) University of West Attica, Department of Biomedical Engineering, Laboratories of Electricity and Circuit Analysis, Maintenance & Quality Assurance of Medical Equipment, optoelectronics and Lasers (08/11/2018-12/07/2019).
- 28) University of West Attica, Faculty of Health and Caring Professions, Department of Biomedical Sciences. Teaching Biophysics (14/11/2018-08/03/2019).
- 29) University of West Attica, Department of Biomedical Engineering, Laboratories of Electricity and Circuit Analysis, Maintenance & Quality Assurance of Medical Equipment, optoelectronics and Lasers (01/11/2019-05/12/2019).
- 30) University of West Attica, Faculty of Health and Caring Professions, Department of Biomedical Sciences. Teaching Biophysics (05/11/2019-05/12/2019).
- 31) Departmental graduate program ERASMUS+. Department of Medical Radiological Technology, Faculty of Health and Caring Professions, Technological Educational Institute of Athens. Lecture: 'Artifacts & quality control in CT and MRI' (2014, 2016, 2017, 2018, 2019).

- 32) Ministry of National Education & Religious Affairs, Organisation for Vocational Education and Training (O.E.E.K.), Public Institute of Professional Training (I.E.K) Aigaleo, Health Care and Social Services sector, specialty: Radiotherapy Medical Devices, code: 13.02.04.12, course: Medical Imaging Physics III (10/10/2011- 14/02/2012).
- 33) Ministry of National Education & Religious Affairs, Organisation for Vocational Education and Training (O.E.E.K.), Public Institute of Professional Training (I.E.K) Keratsiniou, Health Care and Social Services sector, specialty: Radiotherapy Medical Devices, code: 13.02.04.12, course: Medical Imaging Physics I (10/10/2012- 14/02/2013).
- 34) Assistant Professor, University of West Attica, Department of Biomedical Engineering, since 19-11-2019.

### **TEACHING (MASTER COURSES)**

- 1) International Interdepartmental postgraduate program in Medical Physics. University of Patras Schools of Health Science Faculties of Medicine-Physics (2006-2010).
- 2) Interdepartmental postgraduate program in Information Technologies in Medicine and Biology (I.T.M.B.). Department of Informatics and Telecommunications of the National and Kapodistrian University of Athens (UoA), Technological Educational Institute (TEI) of Athens, Foundation for Biomedical Research of the Academy of Athens (BRFAA), Institute of Informatics and Telecommunications of the National Centre for Scientific Research "Demokritos" (2010- 2013).
- 3) Departmental postgraduate program in Advanced Systems and Methods in Biomedical Engineering. Department of Biomedical Engineering, University of West Attica. (2015-2019).

### **DOCTORAL ADVISORY COMMITTEES**

- 1) Supervisor of **1** PhD Candidate
- 2) member in **3** Doctoral Advisory Committees.

### **PEER-REVIEWED PUBLICATIONS**

#### **PUBLICATIONS IN INTERNATIONAL SCIENTIFIC JOURNALS**

- 1) D. Nikolopoulos, I. Kandarakis, D. Cavouras, I. Valais, D. Linardatos, **C. Michail**, S. David, A. Gaitanis, C. Nomicos, A. Louizi (**2006**) Investigation of radiation absorption and X-ray fluorescence properties of medical imaging scintillators by Monte Carlo methods *Nucl. Instrum. Meth. Phys. Res. A* 565:821-832. doi:[10.1016/j.nima.2006.05.170](https://doi.org/10.1016/j.nima.2006.05.170).

#### **IF (2006): 1.185**

- 2) **C. Michail**, S. David, P. Liaparinos, I. Valais, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, K. Kourkoutas, I. Kandarakis, G. S. Panayiotakis (**2007**) Evaluation of the imaging performance of LSO powder scintillator for use in x-ray mammography *Nucl. Instrum. Meth. Phys. Res. A* 580:558-561 doi:[10.1016/j.nima.2007.05.234](https://doi.org/10.1016/j.nima.2007.05.234).

#### **IF (2007): 1.114**

- 3) S. David, **C. Michail**, I. Valais, D. Nikolopoulos, P. Liaparinos, N. Kalivas, I. Kalatzis, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis and G.S. Panayiotakis (**2007**) Efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions *Nucl. Instrum. Meth. Phys. Res. A* 571(1-2):346-349. doi:[10.1016/j.nima.2006.10.106](https://doi.org/10.1016/j.nima.2006.10.106).

#### **IF (2007): 1.114**

- 4) I. Valais, S. David, **C. Michail**, D. Nikolopoulos, P. Liaparinos, D. Cavouras, I. Kandarakis and G. S. Panayiotakis (**2007**) Comparative study of luminescence properties of LuYAP:Ce and LYSO:Ce single crystal scintillators for use in medical imaging, *Nucl. Instrum. Methods Phys. Res. A* 580(1):614-616. doi:[10.1016/j.nima.2007.05.023](https://doi.org/10.1016/j.nima.2007.05.023).

#### **IF (2007): 1.114**

- 5) I. Valais, S. David, **C. Michail**, A. Konstantinidis, I. Kandarakis and G. S. Panayiotakis (**2007**) Investigation of luminescence properties of the LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low-energy  $\gamma$ -ray excitation used in nuclear imaging. *Nucl. Instrum. Meth. Phys. Res. A* 581:99-102. doi:[10.1016/j.nima.2007.07.037](https://doi.org/10.1016/j.nima.2007.07.037).

#### **IF (2007): 1.114**

- 6) I. G. Valais, I. S. Kandarakis, D. N. Nikolopoulos, **C. M. Michail**, S. L. David, G. K. Loudos, D. A. Cavouras and G. S. Panayiotakis (**2007**) [Luminescence properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>SiO<sub>5</sub>:Ce single crystal scintillators under x-ray excitation, for use in medical imaging systems](https://doi.org/10.1109/TNS.2006.888813) *IEEE Trans. Nucl. Sci.* 54(1):11-18. doi: [10.1109/TNS.2006.888813](https://doi.org/10.1109/TNS.2006.888813).

#### **IF (2007): 1.107**

- 7) D. Nikolopoulos, D. Linardatos, P. Gonias, N. Bertsekas, **C. Michail**, S. David, D. Cavouras and I. Kandarakis, "Monte Carlo Validation in The Diagnostic Radiology Range (**2007**) *Nucl. Instrum. Meth. Phys. Res. A* 571(1-2):267-269. doi:[10.1016/j.nima.2006.10.079](https://doi.org/10.1016/j.nima.2006.10.079).

#### **IF (2007): 1.114**

- 8) N. Efthimiou, N. Kalivas, G. Patatoukas, I. Valais, D. Nikolopoulos, A. Gaitanis, A. Konstantinidis, S. David, **C. Michail**, G., G. Loudos, D. Cavouras, K. Kourkoutas, G.S. Panayiotakis and I. Kandarakis (**2007**) Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models *Nucl. Instrum. Meth. Phys. Res. A* 571(1-2):270-273. doi:[10.1016/j.nima.2006.10.080](https://doi.org/10.1016/j.nima.2006.10.080).

**IF (2007): 1.114**

- 9) **C. Michail**, S. David, I. Valais, D. Nikolopoulos, I. Sianoudis, C. Nomicos, N. Dimitropoulos, G. Panayiotakis, D. Cavouras and I. Kandarakis (2007) [Investigation of the radiation absorption and light emission properties of a 25 mg/cm<sup>2</sup> Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) scintillating screen for use in x-ray digital mammography detectors](#) *e-Journal of Science & Technology*, (*e-JST*) 2(1):72-80.
- 10) **C. M. Michail**, I. G. Valais, A. E. Toutountzis, N. E. Kalyvas, G. P. Fountos, S. L. David, I. S. Kandarakis, G. S. Panayiotakis (2008) [Light emission efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu \(GOS:Eu\) powder screens under X-ray mammography conditions](#), *IEEE Trans. Nucl. Sci.* 55(6):3703-3709. doi: [10.1109/TNS.2008.2007562](#)

**IF (2008): 1.737**

- 11) I. G. Valais, **C. M. Michail**, S. L. David, A. Konstantinidis, D. A. Cavouras, I. S. Kandarakis and G. S. Panayiotakis (2008) [Luminescence emission properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LYSO:Ce\) and \(Lu,Y\)AlO<sub>3</sub>:Ce \(LuYAP:Ce\) single crystal scintillators under x-ray medical image conditions](#) *IEEE Trans. Nucl. Sci.* 55(2):785-789. doi: [10.1109/TNS.2008.918737](#)

**IF (2008): 1.737**

- 12) I. Valais, **C. Michail**, S. David, L. Costaridou, C.D. Nomicos, G.S. Panayiotakis, I. Kandarakis, (2008) [A Comparative Study of the Luminescence Properties of LYSO:Ce, LSO:Ce, GSO:Ce and BGO Single Crystal Scintillators for Use in Medical X-Ray Imaging](#), *Physica Medica* 24:122-125. doi:[10.1016/j.ejmp.2008.01.007](#).

**IF (2008): 1.045**

- 13) S. David, **C. Michail**, I. Valais, A. Toutountzis, D. Cavouras, I. Kandarakis, G. Panayiotakis (2008) [Investigation of luminescence properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator in the x-ray radiography energy range](#) *IEEE Trans. Nucl. Sci.* 55(6):3684-3691. doi: [10.1109/TNS.2008.2006901](#).

**IF (2008): 1.737**

- 14) V. Spyropoulou, N. Kalivas, A. Gaitanis, **C. Michail**, G. Panayiotakis, I. Kandarakis (2008) [Modeling detector performance in digital mammography using the linear cascaded systems approach](#) *e-Journal of Science & Technology (e-JST)* 3(2):51-57.
- 15) **C. M. Michail**, G. P. Fountos, S. L. David, I. G. Valais, A. E. Toutountzis, N. E. Kalyvas, I. S. Kandarakis, G. S. Panayiotakis (2009) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillators for use in x-ray mammography detectors](#) *Meas. Sci. Technol.* 20: 104008. doi: [10.1088/0957-0233/20/10/104008](#).

**IF (2009): 1.317**

- 16) **C. Michail**, A. Toutountzis, S. David, N. Kalivas, I. Valais, I. Kandarakis, G. S. Panayiotakis (2009) [Imaging performance and light emission efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO:Ce\) powder scintillator under x-ray mammographic conditions](#) *Appl Phys B* 95:131-139. doi:[10.1007/s00340-009-3408-0](#)

**IF (2009): 1.992**

- 17) **C. Michail**, V. Spyropoulou, N. Kalyvas, I. Valais, N. Dimitropoulos, G. Fountos, I. Kandarakis and G. Panayiotakis (2009) [The influence of software filtering in digital mammography image quality](#) *J. Inst.* 4:P05018. doi:[10.1088/1748-0221/4/05/P05018](#)

**IF (2009): 2.102**

- 18) I. G. Valais, S. David, **C. Michail**, C. D. Nomicos, G. S. Panayiotakis and I. S. Kandarakis (2009) [Comparative evaluation of single crystal scintillators under x-ray imaging conditions](#) *J. Inst.* 4:P06013. doi:[10.1088/1748-0221/4/06/P06013](#)

**IF (2009): 2.102**

- 19) V. Spyropoulou, N. Kalyvas, A. Gaitanis, **C. Michail**, G. Panayiotakis, I. Kandarakis (2009) [Modelling the imaging performance and low contrast detectability in digital mammography](#) *J. Inst.* 4:P06004. doi:[10.1088/1748-0221/4/06/P06004](#)

**IF (2009): 2.102**

- 20) A. Toutountzis, **C. Michail**, I. Valais, S. David, G. Nikiforidis and I. Kandarakis (2009) [Light emission efficiency of GdAlO<sub>3</sub>:Ce \(GAP:Ce\) powder screens under X-ray radiography conditions](#) *e-Journal of Science & Technology, (e-JST)* 4(3):23-29.
- 21) **C. M. Michail**, G. P. Fountos, P. F. Liaparinos, N. E. Kalyvas, I. Valais and I. S. Kandarakis, G. S. Panayiotakis (2010) [Light emission efficiency and imaging performance of Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator under X-ray Radiography conditions](#), *Med. Phys.* 37( 7):3694-3703. doi:[10.1118/1.3451113](#)

**IF (2010): 3.070**

- 22) **C. M. Michail**, A. Toutountzis, I. G. Valais, I. Seferis, M. Georgousis, G. Fountos, I. S. Kandarakis and G. S. Panayiotakis (2010) [Luminescence Efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu Powder Phosphors as X-ray to Light Converter](#) *e-Journal of Science & Technology, (e-JST)* 5(2):25-32.
- 23) I. G. Valais, **C. M. Michail**, S. L. David, P. F. Liaparinos, G. P. Fountos, T. V. Paschalis, I. S. Kandarakis and G. S. Panayiotakis (2010) [Comparative Investigation of Ce<sup>3+</sup> doped Scintillators in a wide Range of Photon Energies covering X-ray CT, Nuclear Medicine and Megavoltage Radiation Therapy Portal Imaging applications](#), *IEEE Trans. Nucl. Sci.* 57(1):3-7. doi: [10.1109/TNS.2009.2038273](#)

**IF (2010): 1.591**

- 24) S. L. David, **C. M. Michail**, M. Roussou, E. Nirgianaki, A. E. Toutountzis, I. G. Valais, G. Fountos, P. F. Liaparinos, I. Kandarakis, G. Panayiotakis (2010) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detector](#) *IEEE Trans. Nucl. Sci.* 57(3):951-957. doi: [10.1109/TNS.2010.2044890](#)

**IF (2010): 1.591**

- 25) S. L. David, **C. M. Michail**, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. S. Kandarakis, G. S. Panayiotakis (2010) [Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis](#) *e-Journal of Science & Technology, (e-JST)* 5(2):63-73.
- 26) M. Liaskos, **C. Michail**, N. Kalyvas, A. Toutountzis, S. Tsantis, G. Fountos, D. Cavouras and I. Kandarakis (2010) [Implementation of a Software Phantom for the Assessment of Contrast Detail in Digital Radiography](#) *e-Journal of Science & Technology, (e-JST)* 5(2):15-23.
- 27) G. Fountos, A. Zanglis, **C. Michail**, I. Kalantzis, A. Samartzis, D. Cavouras, E. Kounadi, P. Valsamaki, I. Kandarakis, S. Gerali and G. Nikiforidis (2010) [A novel flood source used for the MTF determination in SPECT systems](#) *e-Journal of Science & Technology, (e-JST)* 5(2):1-6.
- 28) A. Samartzis, G. Fountos, I. Kalantzis, **C. Michail**, A. Zanglis, D. Cavouras, I. Datseris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis (2010) [The use of Modulation Transfer Function as an Overall Quality Control parameter in PET/CT](#) *e-Journal of Science & Technology, (e-JST)* 5(2):41-48.
- 29) **C. M. Michail**, V. A. Spyropoulou, G. P. Fountos, N. E. Kalyvas, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis (2011) [Experimental and theoretical evaluation of a high resolution CMOS based detector under X-ray imaging conditions](#), *IEEE Trans. Nucl. Sci.* 58(1):314-322. doi: [10.1109/TNS.2010.2094206](#)

**IF (2011): 1.519**

- 30) **C. M. Michail**, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinos, I. S. Kandarakis, G. S. Panayiotakis (2011) [Evaluation of the red emitting Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator for use in indirect X-ray digital mammography detectors](#), *IEEE Trans. Nucl. Sci.* 58(5):2503-2511. doi: [10.1109/TNS.2011.2162002](#)

**IF (2011): 1.519**

- 31) N. Kalyvas, P. Liaparinos, **C. Michail**, S. David, G. Fountos, M. Wojtowicz and I. Kandarakis (2012) [Studying the luminescence efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nano-phosphor material for digital X-ray imaging applications](#), *Appl Phys A* 106:131-136. doi: [10.1007/s00339-011-6640-5](#)

**IF (2012): 1.63**

- 32) G. P. Fountos, **C. M. Michail**, A. Zanglis, A. Samartzis, N. Martini, V. Koukou, I. Kalantzis and I. Kandarakis (2012) [A novel easy-to-use phantom for the determination of MTF in SPECT scanners](#), *Med. Phys.* 39(3):1561-1570. doi: [10.1118/1.3688196](#)

**IF (2012): 2.91**

- 33) Ioannis Valais, **Christos M. Michail**, Ioannis Seferis, George Fountos, Nektarios Kalyvas, Ioannis Kandarakis and George S. Panayiotakis (2012), [Scintillation screen preparation for use in digital medical systems](#) *e-Journal of Science & Technology, (e-JST)* 7(3):1-5.
- 34) Christoforos Ntales, Nikolaos Kynatidis, **Christos Michail**, Ioannis Seferis, Ioannis Valais, Nektarios Kalyvas, George Fountos and Ioannis Kandarakis (2012), [Image quality assessment in cmos and cr medical imaging systems](#), *e-Journal of Science & Technology, (e-JST)* 7(3):7-13.
- 35) Nektarios Kalyvas, Anna Dimou, Kostas Tsinoukas, George Fountos, **Christos Michail**, Ioannis Valais and Ioannis Kandarakis (2012), [Effect of film digitization on mammographic image quality](#), *e-Journal of Science & Technology, (e-JST)* 7(3):23-28.
- 36) Ioannis E. Seferis, **Christos M. Michail**, Ioannis G. Valais, George G. Fountos, Nektarios I. Kalyvas, Fotini Stromatia, Ioannis S. Kandarakis, and George S. Panayiotakis, (2012), [X-ray image degradation passing through thin glass substrate](#), *e-Journal of Science & Technology, (e-JST)* 7(3):29-31.
- 37) Vaia N. Koukou, Niki D. Martini, Panagiota I. Sotiropoulou, George G. Fountos, **Christos M. Michail**, Ioannis G. Valais, Ioannis S. Kandarakis and George C. Nikiforidis, (2012) [Modified polyenergetic x-ray spectra for dual energy method](#), *e-Journal of Science & Technology, (e-JST)* 7(3):79-85.
- 38) S. David, M. Georgiou, G. Loudos, **C. Michail**, G. Fountos and I. Kandarakis, (2013) [Evaluation of powder/granular Gd<sub>2</sub>O<sub>2</sub>S:Pr scintillator screens in single photon counting mode under 140keV excitation](#), *J. Inst.* 8: P01006. doi:[10.1088/1748-0221/8/01/P01006](#)

**IF (2013): 1.526**

- 39) G. E. Karpetas, **C. M. Michail**, G. P. Fountos, P. N. Valsamaki, I. S. Kandarakis, G. S. Panayiotakis, (2013) [Towards the optimization of nuclear medicine procedures for better spatial resolution, sensitivity, scan image quality and quantitation measurements by using a new Monte Carlo model featuring PET imaging](#), *Hell J Nucl Med.* 16(2) :111-120. doi: [10.1967/s002449910082](#)

**IF (2013): 0.957**



- 40) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) [On the response of GdAlO<sub>3</sub>:Ce powder scintillators](https://doi.org/10.1016/j.jlumin.2013.06.041), *J Lumin.* 144:45-52. doi:10.1016/j.jlumin.2013.06.041  
**IF (2013): 2.367**
- 41) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) [On the response of a europium doped phosphor-coated CMOS digital imaging detector](https://doi.org/10.1016/j.nima.2013.06.107), *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315. doi: 0.1016/j.nima.2013.06.107  
**IF (2013): 1.316**
- 42) I. Seferis, **C. Michail**, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) [Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu](https://doi.org/10.1016/j.jlumin.2014.02.017), *J Lumin.* 151:229-234. doi: 10.1016/j.jlumin.2014.02.017  
**IF (2014): 2.719**
- 43) **Christos M. Michail**, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, [Figure of Image Quality and Information Capacity in Digital Mammography](https://doi.org/10.1155/2014/634856), (2014) *Biomed. Res. Int.* 2014:634856. doi: 10.1155/2014/634856  
**IF (2014): 1.579**
- 44) N. Kalyvas, I. Valais, S. David, **Ch. Michail**, G. Fountos, P. Liaparinos, and I. Kandarakis, [Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation](https://doi.org/10.1134/S0030400X14050117) (2014) *Opt. Spectroscop.* 116(5):95-99. doi: 10.1134/S0030400X14050117  
**IF (2014): 0.723**
- 45) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](https://doi.org/10.1097/MNM.0000000000000151), (2014) *Nucl. Med. Commun.* 35(9):967-976. doi:10.1097/MNM.0000000000000151  
**IF (2014): 1.669**
- 46) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, [A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator](https://doi.org/10.1088/1742-6596/490/1/012139), (2014) *J. Phys.: Conf. Ser.* 490 012139. doi: 10.1088/1742-6596/490/1/012139  
**SJR Cites/doc (2014): 0.265**
- 47) **C. Michail**, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F Powder Scintillators under X-ray radiation](https://doi.org/10.1016/j.radmeas.2014.09.008), (2014) *Radiat. Meas.* 70:59-64. doi: 10.1016/j.radmeas.2014.09.008  
**IF (2014): 1.213**
- 48) Nektarios Kalyvas, Panagiotis Liaparinos, Ioannis Valais, **Christos Michail**, Stratos David and Ioannis Kandarakis, [Scintillators in X-Ray Imaging:The Miscirlu Project](https://doi.org/10.1016/j.jst.2014.04.001) (2014) *e-Journal of Science & Technology, (e-JST)* 9(4):1-8.
- 49) Panagiota I. Sotiropoulou, George G. Fountos, Niki D. Martini, Vaia N. Koukou, **Christos M. Michail**, Ioannis G. Valais, Ioannis S. Kandarakis and George C. Nikiforidis, [Dual Energy Inverse Mapping Technique to Estimate Calcium to-Phosphorus Mass Ratio in Bone Quality Assessment](https://doi.org/10.1016/j.jst.2014.04.002) (2014) *e-Journal of Science & Technology, (e-JST)* 9(4):15-24.
- 50) I. Valais, G. Koulouras, G. Fountos, **C. Michail**, D. Kandris and S. Athinaios, [Design and Construction of a Prototype ECG Simulator](https://doi.org/10.1016/j.jst.2014.04.003) (2014) *e-Journal of Science & Technology, (e-JST)* 9(3):11-18.
- 51) Niki D. Martini, George G. Fountos, Vaia N. Koukou, Panagiota I. Sotiropoulou, **Christos M. Michail**, A. Bakas, Ioannis S. Kandarakis and George C. Nikiforidis, [X-Ray Spectra Optimization for the Hydroxyapatite/Collagen Ratio Determination-A New Approach in Osteoporosis Diagnosis](https://doi.org/10.1016/j.jst.2014.04.004) (2014) *e-Journal of Science & Technology, (e-JST)* 9(3):29-34.
- 52) D. Nikolopoulos, **C. Michail**, I. Valais, P. Yannakopoulos, S. Kottou, G. Karpetas, G. Panayiotakis, [GATE Simulation of the Biograph 2 PET/CT Scanner](https://doi.org/10.1016/j.jst.2014.04.005), (2014) *J. Nucl. Med. Radiat. Ther.* 5:201. doi:10.4172/2155-9619.1000201.
- 53) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](https://doi.org/10.1155/2015/563763), (2015) *J. Spectrosc.* 2015:563763. doi: 10.1155/2015/563763  
**IF (2015): 0.814**
- 54) N. Kalyvas, I. Valais, **C. Michail**, G. Fountos, I. Kandarakis, D. Cavouras, [A theoretical study of CsI:Tl columnar scintillator image quality parameters by analytical modeling](https://doi.org/10.1016/j.nima.2015.01.027), (2015) *Nucl. Instrum. Meth. Phys. Res. A.* 779:18-24. doi: 10.1016/j.nima.2015.01.027,  
**IF (2015): 1.200**

- 55) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) J. Phys.: Conf. Ser. 574 01207, doi:10.1088/1742-6596/574/1/012075](#)
- SJR Cites/doc (2015): 0.326**
- 56) [V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector \(2015\) J. Phys.: Conf. Ser. 574 012076, doi: 10.1088/1742-6596/574/1/012076](#)
- SJR Cites/doc (2015): 0.326**
- 57) [P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, Bone calcium/phosphorus ratio determination using Dual Energy X-ray method, \(2015\) Phys. Med. 31:307-313. doi: 10.1016/j.ejmp.2015.01.019](#)
- IF (2015): 1.763**
- 58) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation, \(2015\) Radiat. Meas. 74:39-46. doi:10.1016/j.radmeas.2015.02.007](#)
- IF (2015): 1.071**
- 59) [V. Koukou, N. Martini, C. Michail, P. Sotiropoulou, C. Fountzoula, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Dual energy method for breast imaging: A simulation study. \(2015\) Comput. Math. Methods. Med. 2015:574238. doi: 10.1155/2015/574238](#)
- IF (2015): 0.887**
- 60) [C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation, \(2015\) Radiat. Meas. 80:1-9. doi: 10.1016/j.radmeas.2015.06.008](#)
- IF (2015): 1.071**
- 61) [Christos Michail, Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>3</sub>S:Pr,Ce,F X-ray Sensor, \(2015\) J. Sensors. 2015:874637. doi: 10.1155/2015/874637](#)
- IF (2015): 0.712**
- 62) [V Koukou, N Martini, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling \(2015\) J. Phys.: Conf. Ser. 633 012093. doi: 10.1088/1742-6596/633/1/012093](#)
- SJR Cites/doc (2015): 0.326**
- 63) [N Martini, V Koukou, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, Modeling of the Calcium/Phosphorus Mass ratio for Breast Imaging \(2015\) J. Phys.: Conf. Ser. 633 012094. doi: 10.1088/1742-6596/633/1/012094](#)
- SJR Cites/doc (2015): 0.326**
- 64) [N Kalyvas, N Martini, V Koukou, C Michail, P Sotiropoulou, I Valais, I Kandarakis and G Fountos A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications \(2015\) J. Phys.: Conf. Ser. 633 012095. doi: 10.1088/1742-6596/633/1/012095](#)
- SJR Cites/doc (2015): 0.326**
- 65) [C M Michail, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, Medical Imaging Image Quality Assessment with Monte Carlo Methods \(2015\) J. Phys.: Conf. Ser. 633 012096. doi: 10.1088/1742-6596/633/1/012096](#)
- SJR Cites/doc (2015): 0.326**
- 66) [P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions \(2015\) J. Phys.: Conf. Ser. 633 012126. doi: 10.1088/1742-6596/633/1/012126](#)
- SJR Cites/doc (2015): 0.326**
- 67) [S L David, I G Valais, C M Michail and I S Kandarakis, X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems \(2015\) J. Phys.: Conf. Ser. 637 012004. doi: 10.1088/1742-6596/633/1/012126](#)
- SJR Cites/doc (2015): 0.326**
- 68) [G E Karpetas, C M Michail, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, Influence of Iterative Reconstruction Algorithms on PET Image Resolution, \(2015\) J. Phys.: Conf. Ser. 637 012011. doi: 10.1088/1742-6596/637/1/012011](#)
- SJR Cites/doc (2015): 0.326**
- 69) [V Koukou, N Martini, K Velissarakos, D Gkremos, C Fountzoula, A Bakas, C Michail, I Kandarakis and G Fountos. PVAL breast phantom for dual energy calcification detection, \(2015\) J. Phys.: Conf. Ser. 637 012013. doi: 10.1088/1742-6596/637/1/012013](#)

**SJR Cites/doc (2015): 0.326**

- 70) C M Michail, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018. doi: [10.1088/1742-6596/637/1/012018](https://doi.org/10.1088/1742-6596/637/1/012018)

**SJR Cites/doc (2015): 0.326**

- 71) C M Michail, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019. doi: [10.1088/1742-6596/637/1/012019](https://doi.org/10.1088/1742-6596/637/1/012019),

**SJR Cites/doc (2015): 0.326**

- 72) P I Sotiropoulou, G P Fountos, N D Martini, V N Koukou, C M Michail, I G Valais, I S Kandarakis and G C Nikiforidis, [X-ray dual energy spectral parameter optimization for bone Calcium/Phosphorus mass ratio estimation](#), (2015) *J. Phys.: Conf. Ser.* 637 012025. doi: [10.1088/1742-6596/637/1/012025](https://doi.org/10.1088/1742-6596/637/1/012025)

**SJR Cites/doc (2015): 0.326**

- 73) I Stathopoulos, K Skouroliakou, C Michail and I Valais, [Dynamic Infrared Thermography Study of Blood Flow Relative to Lower Limp Position](#), (2015) *J. Phys.: Conf. Ser.* 637 012027. doi: [10.1088/1742-6596/637/1/012027](https://doi.org/10.1088/1742-6596/637/1/012027)

**SJR Cites/doc (2015): 0.326**

- 74) I Valais, C Michail, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031. doi: [10.1088/1742-6596/637/1/012027](https://doi.org/10.1088/1742-6596/637/1/012027)

**SJR Cites/doc (2015): 0.326**

- 75) S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, [Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging](#), (2016) *J Lumin.* 169:706-710. doi: [10.1016/j.jlumin.2015.01.044](https://doi.org/10.1016/j.jlumin.2015.01.044)

**IF (2015): 2.686**

- 76) I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, [On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications](#) (2016) *Appl. Phys. A.* 122:526 doi: <https://doi.org/10.1007/s00339-016-0081-0>

**IF (2016): 1.455**

- 77) C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat. Meas.* 94:8-17. doi: [10.1016/j.radmeas.2016.04.005](https://doi.org/10.1016/j.radmeas.2016.04.005)

**IF (2016): 1.442**

- 78) D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, [Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends](#), (2016) *Radiat. Meas.* 92:19-31. doi: [10.1016/j.radmeas.2016.06.004](https://doi.org/10.1016/j.radmeas.2016.06.004),

**IF (2016): 1.442**

- 79) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Nikiforidis, [Polynomial dual energy inverse functions for bone Calcium/Phosphorus ratio determination and experimental evaluation](#), (2016) *Appl. Radiat. Isot.* 118:18-24. doi: [10.1016/j.apradiso.2016.08.007](https://doi.org/10.1016/j.apradiso.2016.08.007)

**IF (2016): 1.128**

- 80) C. M. Michail, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) [A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance](#), *Hell. J. Nucl. Med.* 19(3).231-240. doi: [10.1967/s002449910405](https://doi.org/10.1967/s002449910405)

**IF (2016): 1.048**

- 81) Vaia Koukou, Niki Martini, George Fountos, Christos Michail, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) [Dual energy subtraction method for breast calcification imaging](#), *Nucl. Instrum. Meth. Phys. Res. A.* 848:31-38. doi: [10.1016/j.nima.2016.12.034](https://doi.org/10.1016/j.nima.2016.12.034)

**IF (2017): 1.336**

- 82) I. E. Seferis, J. Zeler, C. Michail, S. David, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis (2017) [Grains size and shape dependence of light efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu thin screens](#), *Result. Phys.* 7:980-981. doi: [10.1016/j.rinp.2017.02.015](https://doi.org/10.1016/j.rinp.2017.02.015)

**IF (2017): 2.147**

- 83) George E. Karpetas, Christos M. Michail, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis (2017) [Detective Quantum Efficiency \(DQE\) in PET Scanners: A Simulation Study](#) *Appl. Radiat. Isot.* 125:154-162. doi: [10.1016/j.apradiso.2017.04.018](https://doi.org/10.1016/j.apradiso.2017.04.018)

**IF (2017): 1.123**

- 84) V. Koukou, N. Martini, G. Fountos, **C. Michail**, A. Bakas, G. Oikonomou, I. Kandarakis, G. Nikiforidis, [Application of a Dual Energy X-ray imaging method on breast specimen](#), (2017) *Result. Phys.* 7 1634:1636. doi: [10.1016/j.rinp.2017.04.034](#)
- IF (2017): 2.147**
- 85) I. Valais, **C. Michail**, C. Fountzoula, D. Tseles, P. Yannakopoulos, D. Nikolopoulos, A. Bakas, G. Fountos, G. Saatsakis, I. Sianoudis, I. Kandarakis and G Panayiotakis, [On the response of alloyed ZnCdSeS Quantum Dot films](#), (2017) *Result. Phys.* 7: 1734:1736. doi: [10.1016/j.rinp.2017.05.011](#)
- IF (2017): 2.147**
- 86) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, [Characterization of breast calcification types using dual energy X-ray method](#), (2017) *Phys. Med. Biol.* 62:7741-7764. doi: [10.1016/j.rinp.2017.05.011](#)
- IF (2017): 2.665**
- 87) A. Anastasiou, **C. Michail**, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012005. doi: [10.1088/1742-6596/931/1/012005](#)
- SJR Cites/doc (2017): 0.477**
- 88) G P Fountos and **C M Michail**, [Towards the Experimental Assessment of the DOE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021. doi: [10.1088/1742-6596/931/1/012021](#)
- SJR Cites/doc (2017): 0.477**
- 89) I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](#), (2017) *J. Phys.: Conf. Ser.* 931 012026. doi: [10.1088/1742-6596/931/1/012026](#)
- SJR Cites/doc (2017): 0.477**
- 90) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027. doi: [10.1088/1742-6596/931/1/012027](#)
- SJR Cites/doc (2017): 0.477**
- 91) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, **C Michail**, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>2</sub>S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology](#), (2017) *J. Phys.: Conf. Ser.* 931 012029. doi: [10.1088/1742-6596/931/1/012029](#)
- SJR Cites/doc (2017): 0.477**
- 92) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030. doi: [10.1088/1742-6596/931/1/012030](#)
- SJR Cites/doc (2017): 0.477**
- 93) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032. doi: [10.1088/1742-6596/931/1/012032](#)
- SJR Cites/doc (2017): 0.477**
- 94) I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (2017) *J. Phys.: Conf. Ser.* 931 012035. doi: [10.1088/1742-6596/931/1/012035](#)
- SJR Cites/doc (2017): 0.477**
- 95) V Koukou, N Martini, G Fountos, G Messaris, **C Michail**, I Kandarakis and G Nikiforidis, [Dual Energy Tomosynthesis breast phantom imaging](#) (2017) *J. Phys.: Conf. Ser.* 936 012044. doi: [10.1088/1742-6596/931/1/012035](#)
- SJR Cites/doc (2017): 0.477**
- 96) **C. Michail** I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (2018) *Measur.* 120:213-220. doi: [10.1016/j.measurement.2018.02.027](#)
- IF (2018): 2.791**
- 97) I. Seferis, **C. Michail**, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl. Phys. A.* 124:604. doi: [10.1007/s00339-018-2034-2](#)
- IF (2017): 1.604**
- 98) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332. doi: [10.1016/j.prostr.2018.09.045](#)

**SJR Cites/doc (2018): 0.895**

- 99) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459. doi: [10.3390/cryst8120459](https://doi.org/10.3390/cryst8120459)

**IF (2018): 2.061**

- 100) **Christos M. Michail**, Kyriakos N. Agavanakis, George E. Karpetas, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis, George S. Panayiotakis, George P. Fountos, [Information Content in Nuclear Medicine Imaging](#), (2019), *Energy Procedia*, 157:1517-1524. doi: [10.1016/j.egypro.2018.11.317](https://doi.org/10.1016/j.egypro.2018.11.317)

**SJR Cites/doc (2019): 1.806**

- 101) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

**SJR Cites/doc (2019): 0.908**

- 102) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#), (2019) *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>

**IF (2019): 2.404**

- 103) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>

**IF (2019): 2.474**

- 104) George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 105) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>

**IF (2019): 2.404**

- 106) Kyriakos N. Agavanakis, George E. Karpetas, Michael Taylor, Evangelia Pappa, **Christos M. Michail**, John Filos, Varvara Trachana and Lamprini Kontopoulou, [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* 2019, 2123, 020096, <https://doi.org/10.1063/1.5117023>.

**SJR Cites/doc (2019): 0.418**

- 107) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](#) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>

**IF (2021): 3.927**

- 108) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.

**IF (2021): 2.589**

- 109) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658; <https://doi.org/10.1016/j.microrel.2020.113658>

**IF (2021): 1.589**

- 110) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>

**SJR Cites/doc (2020): 0.838**

- 111) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>

**IF (2021): 2.589**

- 112) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>

**SJR Cites/doc (2020): 0.838**

- 113) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- IF (2021): 2.589**
- 114) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, IoannisValais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 115) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- IF (2021): 3.623**
- 116) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Mineral characterization in human body: A dual energy approach](#) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- IF (2021): 2.589**
- 117) P. Liaparinis, **C. Michail**, I. Valais, A. Karabotsos, A. Bakas, I. Kandarakis, [The effect of the Grain Size Distribution \(GSD\) on the light emission performance of phosphor-based X-ray detectors](#) (2021) *Optical Materials* 119: 111319, doi: <https://doi.org/10.1016/j.optmat.2021.111319>.
- IF (2021): 3.08**
- 118) Eleftherios Lavdas, Maria Papaioannou, Panos Papanikolaou, **Christos Michail**, Violeta Roka, Panayiotis Mavroidis, [Visualization of meniscus with 3D axial reconstructions](#) (2021) *Journal of Medical Imaging and Radiation Sciences* DOI: <https://doi.org/10.1016/j.jmir.2021.08.011>
- SJR Cites/doc (2020): 1.13**
- 119) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- SJR Cites/doc (2020): 0.838**
- 120) N. Martini, V. Koukou, **C. Michail** and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](#), *Procedia Structural Integrity* (2021) 33C, pp. 295-303, doi: <https://doi.org/10.1016/j.prostr.2021.10.036>.
- SJR Cites/doc (2020): 0.838**
- 121) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.
- SJR Cites/doc (2020): 0.838**

#### **PUBLICATIONS IN INTERNATIONAL SCIENTIFIC CONFERENCES WITH REFEREES**

- 1) G. Manousaridis, N. Kalivas, **C. Michail**, P. Liaparinis, S. Tsantis and I. Kandarakis, [Computer-Assisted Laboratory Exercises for Quality Control of X-Ray Modalities](#), Proceedings of the 2005 WSEAS International Conference on Engineering Education, Vouliagmeni, Athens, Greece, July 8-10, 2005 pp. 222-225.
- 2) S. David, **C. Michail**, I. Valais, D. Nikolopoulos, P. Liaparinis, N. Kalivas, I. Kalatzis, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis and G.S. Panayiotakis, "Efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions", *Euromedim 2006: 1<sup>st</sup> European Conference on Molecular Imaging Technology*, Marseille, France, 9-12 May 2006, [doi:10.1016/j.nima.2006.10.106](https://doi.org/10.1016/j.nima.2006.10.106).
- 3) D. Nikolopoulos, D. Linardatos, P. Gonias, N. Bertsekas, **C. Michail**, S. David, D. Cavouras and I. Kandarakis, "Monte Carlo Validation In The Diagnostic Radiology Range", *Euromedim 2006: 1st European Conference on Molecular Imaging Technology*, Marseille, France, 9-12 May 2006, [doi:10.1016/j.nima.2006.10.079](https://doi.org/10.1016/j.nima.2006.10.079).
- 4) N. Efthimiou, N. Kalivas, G. Patatoukas, I. Valais, D. Nikolopoulos, A. Gaitanis, A. Konstantinidis, S. David, **C. Michail**, G. Loudos, D. Cavouras, K. Kourkoutas, G.S. Panayiotakis and I. Kandarakis "Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models", *Euromedim 2006: 1st European Conference on Molecular Imaging Technology*, Marseille, France, 9-12 May 2006, [doi:10.1016/j.nima.2006.10.080](https://doi.org/10.1016/j.nima.2006.10.080).
- 5) **C. Michail**, S. David, I. Valais, D. Nikolopoulos, P. Liaparinis, A. Toutountzis, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, I. Kandarakis, G. S. Panayiotakis, [Determination of the Radiation Absorption and Light Emission Properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) Powder Phosphor using Computational Model and Experimental Techniques in Mammography](#)", 2<sup>nd</sup> International Conference "From Scientific Computing to Computational Engineering" (2<sup>nd</sup> IC-SCCE), Athens 2006, Greece.

- 6) A. Toutountzis, **C. Michail**, D. Nikolopoulos, I. Valais, S. David, N. Kalyvas, G. Panagiotakis, I. Kandarakis, [Imaging Properties of GdAlO<sub>3</sub>:Ce powder scintillator](#), 2<sup>nd</sup> International Conference "From Scientific Computing to Computational Engineering" (2<sup>nd</sup> IC-SCCE), Athens **2006**, Greece.
- 7) I. Valais, S. David, **C. Michail**, D. Nikolopoulos, D. Vattis, I. Sianoudis, D. Cavouras, C. Nomicos, I. Kandarakis and G. S. Panayiotakis, [Comparative Study of Luminescence Properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and YAlO<sub>3</sub>:Ce Single Crystal Scintillators for use in Medical Imaging](#) 5th European Symposium on BioMedical Engineering. ESBME 2006. 7th to 9th July **2006**, Patras, Ellas.
- 8) **C. Michail**, S. David, P. Liaparinos, I. Valais, D. Nikolopoulos, N. Kalivas, A. Toutountzis, D. Cavouras, I. Kandarakis and G. S. Panayiotakis, Evaluation of the imaging performance of LSO powder scintillator for use in X-ray mammography, 10th International Symposium on Radiation Physics 17-22 September, **2006**, Coimbra, Portugal, [doi:10.1016/j.nima.2007.05.234](#).
- 9) I. Valais, S. David, **C. Michail**, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, I. Kandarakis and G. S. Panayiotakis Comparative study of luminescence properties of LuYAP:Ce and LYSO:Ce single crystal scintillators for use in medical imaging 10th International Symposium on Radiation Physics 17-22 September, **2006**, Coimbra, Portugal, [doi:10.1016/j.nima.2007.05.023](#).
- 10) S. David, **C. Michail**, I. Valais, D. Nikolopoulos, N. Kalivas, D. Cavouras, G.S. Panayiotakis and I. Kandarakis. "[Luminescence efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator for X-ray medical radiography applications](#)" *IEEE, Nuclear Science Symposium, Medical Imaging Conference*, San Diego, California, on Oct. 29-Nov. 4, **2006** IEEE Nuclear Science Symposium Conference Record N30-148, page(s): 1178-1182, ISSN: 1082-3654, ISBN: 1-4244-0560-2, DOI: 10.1109/NSSMIC.2006.356054.
- 11) I. Valais, S. David, **C. Michail**, D. Nikolopoulos, D. Cavouras, I. Sianoudis, C. Kourkoutas, I. Kandarakis and G. S. Panayiotakis, [Investigation of luminescence emission properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LYSO:Ce\) and \(Lu,Y\)AlO<sub>3</sub>:Ce \(LuYAP:Ce\) single crystal scintillators under x-ray exposure for use in medical imaging](#), *IEEE, Nuclear Science Symposium, Medical Imaging Conference*, San Diego, California, on Oct. 29-Nov. 4, **2006** IEEE Nuclear Science Symposium Conference Record N30-152, page(s): 1187-1191, ISSN: 1082-3654, ISBN: 1-4244-0560-2, DOI: [10.1109/NSSMIC.2006.356056](#).
- 12) **C. Michail**, S. David, A. Toutountzis, N. Kalivas, I. Valais, I. Kandarakis, G. Panayiotakis, [Modeling the Imaging Transfer Characteristics of LSO Powder Scintillator for Use in X-Ray Mammography](#) 2nd International Conference on Experiments / Process / System Modeling /Simulation & Optimization (IC-EpsMsO) Athens, Greece 4-7 July, **2007**.
- 13) A. Toutountzis, S. David, **C. Michail**, I. Valais, G. Panagiotakis, I. Kandarakis, [Luminescence Efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) Powder Scintillator for X-Ray Medical Radiography Applications](#), 2nd International Conference on Experiments/Process/System Modeling/Simulation & Optimization (IC-EpsMsO) Athens, Greece 4-7 July, **2007**.
- 14) I. Valais, S. David, **C. Michail**, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis, I. Kandarakis, [Comparative Investigation of the Luminescence Properties of LYSO:Ce, LSO:Ce, GSO:Ce and BGO Single Crystal Scintillators for Use in X-Ray Imaging Applications](#), 2nd International Conference on Experiments/Process/System Modeling/Simulation & Optimization (IC-EpsMsO) Athens, Greece 4-7 July, **2007**.
- 15) **C. Michail**, S. David, A. Toutounzis, N. Kalivas, I. Valais, G. Panayiotakis, I. Kandarakis [Theoretical and Experimental Investigation of the Detective Quantum Efficiency \(DOE\) of LSO:Ce Powder Scintillator for X-Ray Mammography Applications](#) X<sup>th</sup> EFOMP European Federation of Organisations for Medical Physics Pisa, Italy 20-22/9/**2007**, P3-18.
- 16) I. Valais, **C. Michail**, S. David, A. Konstantinidis, D. Cavouras, C. Nomicos, G. Panayiotakis, I. Kandarakis [Luminescence Efficiency of LYSO:Ce, LSO:Ce, GSO:Ce and BGO Single Crystal Scintillators under X-Ray Imaging Conditions](#) X<sup>th</sup> EFOMP European Federation of Organisations for Medical Physics Pisa, Italy 20-22, 09-**2007**, P3-19.
- 17) I. G. Valais, **C. Michail**, S. David, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis and I. S. Kandarakis, [Comparative evaluation of scintillators under xray imaging conditions](#), 4th International Conference on Imaging Technologies in Biomedical Sciences, *From Medical Images to Clinical Information Bridging the Gap* 22-28 September **2007**, Conference Center *George Eliopoulos* Milos Island, Greece.
- 18) V. Spyropoulou, **C. Michail**, I. Kandarakis, I. Valais, N. Dimitropoulos, G. Panayiotakis, [The influence of software filtering in digital mammography image quality](#) 4th International Conference on Imaging Technologies in Biomedical Sciences *From Medical Images to Clinical Information Bridging the Gap* 22-28 September **2007**, Conference Center *George Eliopoulos* Milos Island, Greece.
- 19) V. Spyropoulou, N. Kalivas, A. Gaitanis, **C. Michail**, G. Panayiotakis, I. Kandarakis, [Modeling the imaging performance and low contrast detectability in digital mammography](#) 4th International Conference on Imaging Technologies in Biomedical Sciences *From Medical Images to Clinical Information Bridging the Gap* 22-28 September **2007**, Conference Center *George Eliopoulos* Milos Island, Greece.
- 20) **C. Michail**, S. David, A. Toutountzis, I. Valais, I. Kandarakis and G. S. Panayiotakis, [Imaging Performance Of LSO:Ce Powder Phosphor Screens In The X-Ray Mammography Energy Range](#), 3<sup>rd</sup> International Conference "From Scientific Computing to Computational Engineering, 3<sup>rd</sup> IC-SCCE Athens, 9-12 July, **2008**.

- 21) G. Fountos, A. Zanglis, **C. Michail**, L. Syggelopoulos, I. Kalantzis, D. Cavouras, G. Panayiotakis, I. Kandarakis, [MTF Determination In SPECT Systems Using A Film-Flood Source Based On Tc-99m](#), 3<sup>rd</sup> International Conference "From Scientific Computing to Computational Engineering, 3<sup>rd</sup> IC-SCCE Athens, 9-12 July, 2008.
- 22) **C. Michail**, S. David, A. Toutountzis, I. Valais, G.S. Panayiotakis G. Fountos, N. Kalivas, I. Kandarakis, [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor scintillators for use in a medical imaging detectors](#) IEEE International Workshop on Imaging Systems and Techniques (IST) Chania, Island of Crete, Greece September 10-11 2008. pp: 25-28, ISBN: 978-1-4244-2496-2, DOI: [10.1109/IST.2008.4659934](#).
- 23) I. Valais, **C. Michail**, S. David, G. Fountos, T. Pashalis, G.S. Panayiotakis and I. Kandarakis, [Investigation of the performance of Ce<sup>3+</sup> doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions](#), IEEE International Workshop on Imaging Systems and Techniques (IST) Chania, Island of Crete, Greece September 10-11 2008. pp: 21-24, ISBN: 978-1-4244-2496-2, DOI: [10.1109/IST.2008.4659933](#).
- 24) S. David, **C. Michail**, I. Valais, M. Roussou, E. Nirgianaki, A. Toutountzis, G. Fountos, I. Kandarakis, G. Panagiotakis, [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#), IEEE Nuclear Science Symposium, Medical Imaging Conference and 16<sup>th</sup> Room Temperature Semiconductor Detector Workshop 19-25 October 2008 Dresden, Germany, IEEE NSS Conference Record, 2008, page(s): 3950-3953, ISSN: 1082-3654, ISBN: 978-1-4244-2714-7, DOI: [10.1109/NSSMIC.2008.4774148](#).
- 25) I. G. Valais, **C. M. Michail**, S. L. David, A. E. Toutountzis, G. P. Fountos, G. S. Panayiotakis, I. S. Kandarakis, [A Comparative Investigation of Ce<sup>3+</sup> Doped Single Crystal Scintillators Covering Radiotherapy and PET/CT Imaging Conditions](#), IEEE Nuclear Science Symposium, Medical Imaging Conference and 16<sup>th</sup> Room Temperature Semiconductor Detector Workshop 19-25 October 2008 Dresden, Germany, IEEE NSS Conference Record, 2008, page(s): 4887, ISBN: 978-1-4244-2714-7, DOI: [10.1109/NSSMIC.2008.4774335](#).
- 26) **C. M. Michail**, I. G. Valais, A. Toutountzis, I. Seferis, M. Georgousis, G. Fountos, A. Samartzis, P. Liaparinos, I. S. Kandarakis and G.S. Panayiotakis, [Efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu Powder Phosphor as X-ray to Light Converter under Radiographic Imaging Conditions](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 794-797, DOI: [10.1007/978-3-642-03879-2\\_222](#).
- 27) A. Toutountzis, G. Fountos, **C. Michail**, A. Samartzis, I. Kandarakis and G. Nikiforidis, [Dual Energy Subtraction Angiography: a Simulation Study using the Three Material Approach](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 913-916, DOI: [10.1007/978-3-642-03879-2\\_255](#).
- 28) G. Fountos, A. Zanglis, **C. Michail**, I. Kalatzis, D. Cavouras, A. Samartzis, E. Kounadi, P. Valsamaki, S. Gerali, G. Nikiforidis and I. Kandarakis, [Assessment of Image Quality in SPECT Systems via the Implementation of a Novel Flood Source Technique](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 802-805, DOI: [10.1007/978-3-642-03879-2\\_224](#).
- 29) A. Samartzis, G. Fountos, I. Kalatzis, **C. Michail**, A. Zanglis, D. Cavouras, I. Datseris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis, [A novel method for the MTF determination in PET/CT scanners](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 841-844, DOI: [10.1007/978-3-642-03879-2\\_234](#).
- 30) **C. M. Michail**, A. Toutountzis, I. G. Valais, I. Seferis, M. Georgousis, G. Fountos, I. S. Kandarakis and G.S. Panayiotakis, [Luminescence Efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu Powder Phosphors as X-ray to Light Converter for use in digital mammography detectors](#), 3<sup>rd</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3<sup>rd</sup> IC-EpsMsO, Athens, 8-11 July, 2009.
- 31) S. David, **C. Michail**, I. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. Toutountzis, G. Fountos, I. Kandarakis, G. Panayiotakis, [Luminescence efficiency of fast yttrium aluminum garnet phosphor screens for use in digital breast tomosynthesis detectors](#), 3<sup>rd</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3<sup>rd</sup> IC-EpsMsO, Athens, 8-11 July, 2009.
- 32) M. Liaskos, **C. Michail**, N. Kalyvas, A. Toutountzis, S. Tsantis, G. Fountos, D. Cavouras, and I. Kandarakis, [Implementation Of A Software Phantom For The Assessment Of Contrast Detail In Digital Radiography](#), 3<sup>rd</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3<sup>rd</sup> IC-EpsMsO, Athens, 8-11 July, 2009.
- 33) G. Fountos, A. Zanglis, **C. Michail**, I. Kalatzis, D. Cavouras, A. Samartzis, E. Kounadi, P. Valsamaki, S. Gerali, G. Nikiforidis and I. Kandarakis, [Assessment of Image Quality in SPECT Systems via the implementation of a novel flood source technique](#), 3<sup>rd</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3<sup>rd</sup> IC-EpsMsO, Athens, 8-11 July, 2009.
- 34) A. Samartzis, G. Fountos, I. Kalatzis, **C. Michail**, A. Zanglis, D. Cavouras, I. Datseris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis, [The use of Modulation Transfer Function as an overall quality control parameter in PET/CT](#), 3<sup>rd</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3<sup>rd</sup> IC-EpsMsO, Athens, 8-11 July, 2009.



- 35) **C. M. Michail**, V. B. Spyropoulou, G. P. Fountos, N. E. Kalyvas, A. K. Mytafidis, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis, [Imaging Performance of a high resolution CMOS sensor under Mammographic and Radiographic conditions](#), in IEEE International Workshop on Imaging Systems and Techniques (IST) Thessaloniki, Greece 1-2 July 2010, page(s): 152 - 155, ISBN: 978-1-4244-6492-0, DOI: [10.1109/IST.2010.5548544](#).
- 36) S. David, **C. Michail**, G. S. Panayiotakis, I. Valais, G. Fountos, K. Nomicos and I. Kandarakis [Evaluation of the co-doped LSO:Ce,Ca scintillator crystal in the X-ray energy range from 50 to 140kVp for medical imaging applications](#), in IEEE International Workshop on Imaging Systems and Techniques (IST) Thessaloniki, Greece 1-2 July 2010, page(s): 253-255, ISBN: 978-1-4244-6492-0, DOI: [10.1109/IST.2010.5548542](#).
- 37) E. Petrakis, G. Ogkanesian, A. Samartzis, G. Fountos, **C. Michail**, I. Kalatzis, I. Kandarakis, E. Kounadi, G. Oikonomou and G. Nikiforidis, [Image quality Assessment in PET/CT Imaging](#), 4<sup>th</sup> International Conference "From Scientific Computing to Computational Engineering, 4<sup>th</sup> IC-SCCE Athens, 7-10 July, 2010.
- 38) V. Koukou, N. Martini, G. Fountos, A. Samartzis, **C. Michail**, I. Kalatzis, I. Kandarakis, E. Kounadi, G. Oikonomou and G. Nikiforidis, [Image Quality Assessment in SPECT Imaging](#), 4<sup>th</sup> International Conference "From Scientific Computing to Computational Engineering, 4<sup>th</sup> IC-SCCE Athens, 7-10 July, 2010.
- 39) G. Karpetas, **C. Michail**, A. Samartzis, G. Fountos, G. Loudos, I. Kandarakis and G. Panayiotakis, [Simulating the imaging performance of PET scanner using the Gate Monte Carlo toolkit](#), 4<sup>th</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 4<sup>th</sup> IC-EpsMsO, 6-9 July, 2011.
- 40) N. Kalyvas, S. David, **C. Michail**, P. Liaparinos, G. Fountos, I. Valais, I. Kandarakis, [Investigating the energy dependence of increasing conversion efficiency of phosphor materials through analytical models](#), 4<sup>th</sup> International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 4<sup>th</sup> IC-EpsMsO, 6-9 July, 2011.
- 41) N. I. Kalyvas, **C. M. Michail**, G. P. Fountos, I. G. Valais, P. Liaparinos, I. Seferis, V. Spyropoulou, A. K. Mytafidis, G.S. Panayiotakis and I. S. Kandarakis, Modelling Noise Properties of a High Resolution CMOS Detector for X-Ray Digital Mammography, IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October 2011 DOI: [10.1109/NSSMIC.2011.6152669](#), pp: 2465-2470.
- 42) A. Samartzis, G. P. Fountos, **C. M. Michail**, A. Zanglis, V. Koukou, N. Martini, E. Kounadi, N. Kalyvas, I. S. Kandarakis and G. Nikiforidis, [Comparison of the Image Quality Metrics Performance in PET and SPECT Imaging Systems](#), IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October 2011.
- 43) I. G. Valais, G. P. Fountos, **C. M. Michail**, I. Seferis, N. I. Kalyvas, A. K. Mytafidis, I. S. Kandarakis and G.S. Panayiotakis, Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications, IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October 2011 DOI: [10.1109/NSSMIC.2011.6152537](#) pp: 2997-3000.
- 44) Panagiota I. Sotiropoulou, George G. Fountos, Vaia N. Koukou, Niki D. Martini, **Christos M. Michail**, Ioannis S. Kandarakis and George C. Nikiforidis, Optimum energy selection for estimating calcium/phosphorus ratio in bones using dual energy x-ray, European Medical Physics and Engineering Conference EMPEC 18-20 October 2012 Sofia, Bulgaria.
- 45) I. E. Seferis, N. I. Kalyvas, I. G. Valais, **C. M. Michail**, P. F. Liaparinos, G. P. Fountos, E. Zych, I. S. Kandarakis and G. S. Panayiotakis, [Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under X-ray radiographic conditions](#). Proc. SPIE 8668, Medical Imaging 2013: Physics of Medical Imaging, 86683W (March 6, 2013) doi:[10.1117/12.2015265](#).
- 46) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stromatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, [Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications](#), XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevilla Spain 2013, doi:[10.1007/978-3-319-00846-2\\_117](#).
- 47) I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: [Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG:Ce\) single crystal under X-ray radiographic conditions](#), XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevilla Spain 2013 doi:[10.1007/978-3-319-00846-2\\_113](#).
- 48) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, [Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra](#), XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevilla Spain 2013, doi:[10.1007/978-3-319-00846-2\\_114](#).
- 49) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis, [X-ray spectra for bone quality assessment using energy dispersive counting and imaging detectors with dual energy method](#), XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevilla Spain 2013, doi:[10.1007/978-3-319-00846-2\\_115](#).
- 50) G Karpetas, **C Michail**, G Fountos, N Kalyvas, I Valais, I Kandarakis, G Panayiotakis, [A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator](#), International Conference on Mathematical Modeling in Physical Sciences September 1-5, 2013 Prague, Czech Republic.

- 51) D. Nikolopoulos, N. Chatzisavvas, I. Valais, **C. Michail**, X. Argyriou, T. Sevvos, N. Kalyvas, S. Kottou, P. Yannakopoulos, I. Kandarakis, [GATE Simulation of the Biograph 2 PET/CT Scanner](#), ERA-8 The Conference for International Synergy in Energy, Environment, Tourism and contribution of Information Technology in Science, Economy, Society and Education, 23-25/9/2013, Technological Educational Institute of Piraeus.
- 52) I. E. Seferis, **C. M. Michail**, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, [Imaging performance of a thin Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu conventional phosphor screen](#). Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).
- 53) Vaia Koukou, George Fountos, Niki Martini, Panagiota Sotiropoulou, **Christos Michail**, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, George Nikiforidis, [Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector](#), International Conference on Mathematical Modeling in Physical Sciences August 28-31, 2014 Madrid, Spain, [doi:10.1088/1742-6596/574/1/012076](#).
- 54) Niki Martini, Vaia Koukou, Nektarios Kalyvas, Panagiota Sotiropoulou, **Christos Michail**, Ioannis Valais, Ioannis Kandarakis, George Nikiforidis, George Fountos, [Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications](#), International Conference on Mathematical Modeling in Physical Sciences August 28-31, 2014 Madrid, Spain, [doi:10.1088/1742-6596/574/1/012075](#).
- 55) I. E. Seferis, J. Zeler, **C. Michail**, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, [Preparation and imaging performance of nanoparticulated LuPO<sub>4</sub>:Eu semitransparent films under x-ray radiation](#), Proc. SPIE 9668, SPIE Micro+Nano Materials, Devices, and Systems, 96682H (December 22, 2015); [doi:10.1117/12.2202535](#).
- 56) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, [Investigation of luminescence properties of Lutetium Fine Silicate \(LFS-3\) scintillation crystals under X-ray radiographic conditions](#), SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-067.
- 57) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 58) N. Kalyvas, **C. Michail**, G. Fountos, I. Seferis, I. Valais, P. Liaparinos, S. David, A. Bakas, G. Panayiotakis and I. Kandarakis, [Modeling a CMOS based indirect imaging detector. Effect of bit depth and detector software](#), SCinTE 2015, 5-7 November, Athens, Greece, 111-A01-050.
- 59) N. Martini, V. Koukou, **C. Michail**, I. Kandarakis, G. Fountos and G. Nikiforidis, [Calcium-to-Phosphorus mass ratio determination for breast calcification characterization using dual energy method](#), SCinTE 2015, 5-7 November, Athens, Greece, 209-A01-125.
- 60) I. Konstantinou, N. Kalyvas, G. Fountos, **C. Michail**, I. Valais, A. Bakas and I. Kandarakis, [Studying the effect of digitization and quantization in noise power spectra of X-ray medical imaging detectors](#), SCinTE 2015, 5-7 November, Athens, Greece, 111-A06-047.
- 61) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, [Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG\) crystals under X-ray excitation](#), SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-066.
- 62) George Saatsakis, Christos Michail, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films, [2019 14th International Conference on Design & Technology of Integrated Systems In Nanoscale Era \(DTIS\)](#), 16-18 April 2019 Mykonos, Greece. IEEE Xplore: 13 June 2019, DOI: [10.1109/DTIS.2019.8734940](#)
- 63) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#), 1st Virtual Conference on Structural Integrity - VCSII, 16 January 2020.

#### **ABSTRACTS IN INTERNATIONAL SCIENTIFIC CONFERENCES**

- 1) I. Valais, D. Nikolopoulos, S. David, **C. Michail**, I. Sianoudis, D. Cavouras, C. D. Nomicos, G.S. Panayiotakis, I. Kandarakis Investigation of the luminescence properties of the LYSO:Ce, LSO:Ce and GSO:Ce single crystal scintillators under low energy  $\gamma$ -ray excitation for nuclear imaging applications Annual Congress of the European Association of Nuclear Medicine EANM'06 Athens/Greece September 30 - October 4, 2006.
- 2) D. Nikolopoulos, I. Valais, P. Gonias, N. Bertsekas, S. David, **C. Michail**, D. Cavouras, G.S. Panayiotakis, I. Kandarakis Monte Carlo study of the Detection Efficiency of various scintillators for use in positron emission imaging (PET) Annual Congress of the European Association of Nuclear Medicine EANM'06 Athens/Greece September 30 - October 4, 2006.
- 3) I. Valais, S. David, **C. Michail**, A. Konstantinidis, I. Kandarakis, G. Panayiotakis, Investigation of Luminescent Properties of LSO:Ce, LYSO:Ce and GSO:Ce Crystal Scintillators Under Low Energy  $\gamma$ -ray Excitation Used in Nuclear Imaging, 11th Vienna Conference on Instrumentation - VCI 2007 February 19-24 2007 PB 45, [doi:10.1016/j.nima.2007.07.037](#).

- 4) G. Fountos, A. Zanglis, A. Samartzis, **C. Michail**, I. Kalantzis, D. Cavouras, E. Kounadi, P. Valsamaki, G. Nikiforidis, I. Kandarakis, S. Gerali, A novel method for the MTF determination in Siemens e-cam  $\gamma$ -camera, using the brain DaTSCAN and the Tc-99m-MIBI heart imaging protocols, Proceedings of the 4<sup>th</sup> International Meeting of the Hellenic Society of Nuclear Medicine, Grand Palace Hotel, Thessalonica, Greece 7-9-11-**2008**.
- 5) A. Samartzis, **C. Michail**, G. Fountos, A. Zanglis, I. Kalantzis, D. Cavouras, I. Datseris, E. Kounadi, L. Papaspyrou, I. S. Kandarakis, G. Nikiforidis, Comparison of two commercially available hybrid PET-CT scanners by using a novel method for image quality assessment. Annual Congress of the European Association of Nuclear Medicine (EANM) **2009**, Austria Center Vienna, OP 125.
- 6) A. Toutountzis, G. Fountos, A. Samartzis, **C. Michail**, I. Kandarakis, G. Nikiforidis, [Dual energy subtraction angiography: A simulation study using the three material approach](#), European Congress Of Radiology (ECR) 2009, Book of abstracts/ Volume 19/ Supplement 1/ March 6-10, Vienna, Austria **2009**, C-783.
- 7) A. Samartzis, G. Fountos, A. Zanglis, **C. Michail**, I. Kalantzis, D. Cavouras, I. Datseris, A. Kakouri, E. Kounadi, I. Kandarakis, [A novel method for the MTF determination in PET-CT scanners](#), European Congress Of Radiology (ECR) 2009 Book of abstracts/ Volume 19/ Supplement 1/ March 6-10, Vienna, Austria **2009**, B-772.
- 8) I. G. Valais, S. David, **C. Michail**, G. Fountos, T. Paschalis, C. L. Melcher, I. S. Kandarakis, G. S. Panayiotakis, Evaluation of the co-doped LSO:Ce,Ca scintillator crystal for Nuclear Medicine imaging applications. Annual Congress of the European Association of Nuclear Medicine (EANM), October 9-13 **2010**, Austria Center Vienna, PW 003.
- 9) A. Samartzis, G. Fountos, **C. Michail**, E. Kounadi, I. Datseris, I. Kandarakis and G. Nikiforidis, 89 - [A novel method to determine the detective quantum efficiency \(DQE\) in PET/CT scanners](#), 14th International Workshop on Radiation Imaging Detectors 1-5 July **2012** Figueira da Foz, Coimbra, Portugal.
- 10) George. E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, the effect of the scintillating crystal on pet imaging, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 11) George. E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis S. Kandarakis and George S. Panayiotakis, the effect of iterative image reconstruction on PET imaging, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 12) E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis, Single index image quality evaluation of a high resolution cmos sensor coupled to Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor screens, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 13) I. E. Seferis, N. I. Kalyvas, I. G. Valais, **C. M. Michail**, P. F. Liaparinos, G. P. Fountos, E. Zych, I. S. Kandarakis and G. S. Panayiotakis, Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor as a candidate for digital medical imaging applications, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 14) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis, Dual energy mammography x-ray spectra optimization for the microcalcification detection, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 15) N. Martini, V. Koukou, G. Fountos, P. Sotiropoulou, **C. Michail**, A. Bakas, I. Kandarakis and G. Nikiforidis, X-ray spectra optimization for the hydroxyapatite/collagen ratio determination - a new approach in osteoporosis diagnosis, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 16) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis Dual-Energy Inverse-Mapping Technique to Estimate Calcium-To-Phosphorous Mass Ratio in Bone Quality Assessment, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 17) George Fountos, Nektarios Kalyvas, **Christos Michail**, Ioannis Seferis, Ioannis Valais, Niki Martini, Vaia Koukou, Panagiotis Liaparinos, Stratos David, Ioannis Kandarakis, George Nikiforidis and George Panayiotakis, Considering Image Quality Metrics Calculation by Free Software, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 18) I. Stathopoulos, P. Kortidis, **C. Michail**, G. Fountos and I. Valais, Quality Assurance Protocols on Diagnostic Ultrasound Equipment, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 19) Nektarios Kalyvas, Liaparinos Panagiotis, Valais Ioannis, Fountos George, **Michail Christos**, David Stratos and Kandarakis Ioannis, Scintillators in x-ray imaging: the miscirlu project, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 20) Nektarios Kalyvas, George Fountos, Ioannis Valais, Panayiotis Liaparinos, **Christos Michail**, Stratos David, Ioannis Kandarakis, Phosphor Material Activator Type and Image Quality: Trading off Resolution, Noise and Sensitivity, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 21) Chatzisavvas Nickolaos, Argyriou Xenophon, Sevvos Theodoros, Nikolopoulos Dimitrios, Valais Ioannis, Kalyvas Nektarios, **Michail Christos**, Kottou Sofia, Yannakopoulos Panayiotis, Kandarakis Ioannis, GATE simulation of the

- Biograph 2 PET/CT scanner, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
- 22) A. S. Skouroliakou, I. Sianoudis, I. Valais, I. Seferis, A. F. Fragopoulou, G. Mitsou, **C. Michail**, L.H. Margaritis, Infrared Thermography Imaging: Skin Temperature Variations Caused by Exposure to Non Ionizing Radiation, [2<sup>nd</sup> Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences](#), 21 and 22 June **2013**, Athens, Greece.
  - 23) N. Kalyvas, I. Valais, S. David, **Ch. Michail**, G. Fountos, P. Liaparinos, I. Kandarakis, [Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation](#), XV Feofilov International Symposium, Kazan, Russia in 16-20 September **2013**.
  - 24) I. E. Seferis, **C. M. Michail**, J. Zeler, I. G. Valais, P. F. Liaparinos, N. I. Kalyvas, G. P. Fountos, A. Bakas, I. S. Kandarakis, E. Zych, [X-ray efficiency of LuPO<sub>4</sub>:Eu nanophosphor screens](#), 15th International Meeting on Chemical Sensors (IMCS), March 16-19 **2014** Buenos Aires, Argentina.
  - 25) **C. Michail**, I. Seferis, I. Valais, V. Koukou, N. Kalyvas, A. Bakas, G. Fountos and I. Kandarakis, [Imaging performance of a Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F scintillator coated CMOS imaging sensor](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.266](#).
  - 26) I. E. Seferis, **C. M. Michail**, J. Zeler, I. G. Valais, T. Sideras, P. F. Liaparinos, N. I. Kalyvas, G. P. Fountos, A. Bakas, I. S. Kandarakis, E. Zych, [X-ray Luminescence Efficiency and Detector Quantum Gain of LuPO<sub>4</sub>:Eu nanophosphor](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.275](#).
  - 27) N. Kalyvas, **C. Michail**, G. Fountos, I. Valais, I. Kandarakis, D. Cavouras, [Investigating columnar scintillators through analytical modeling. A semiempirical approach](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.222](#).
  - 28) D. Nikolopoulos, I. Valais, **C. Michail**, S. Kottou, N. Chatzisavvas, P. Yannakopoulos, V. Malaxianakis, [Modelling Biograph 2 PET/CT Scanner with GATE](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.269](#).
  - 29) A. Skouroliakou, I. Seferis, **C. Michail**, I. Sianoudis, D. Mathes, I. Valais, [Thermographic blood flow variation relative to lower limb position](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.296](#).
  - 30) N. Martini, V. Koukou, P. Sotiropoulou, **C. Michail**, I. Kandarakis, G. Nikiforidis, and G. Fountos, [A novel non-invasive method substituting breast cancer biopsies](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014**, [doi:10.1016/j.ejmp.2014.07.242](#).
  - 31) V. Koukou, N. Martini, P. Sotiropoulou, C. Michail, I. Kandarakis, A. Bakas, E. Kounadi, G. Nikiforidis, G. Fountos, [A new approach in dual energy mammography using an active pixel CMOS detector](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014**, [doi: 10.1016/j.ejmp.2014.07.276](#).
  - 32) Dimitrios Nikolopoulos, Sofia Kottou, Ermioni Petraki, Efstratios Vogianis, **Christos Michail**, Anna Louizi, Yiannis Chaldeos, Panayiotis H. Yannakopoulos, [Multivariate statistical analysis of factors related to mean annual indoor radon concentrations of Greek dwellings](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, [doi:10.1016/j.ejmp.2014.07.260](#) **2014**.
  - 33) Sofia Kottou, Dimitrios Nikolopoulos, Dionysios Koulougliotis, Konstantinos Pouliezos, Efstratios Vogianis, Nikolaos Gorgolis, Roxanne Suzzet Lorilla, Georgios Kefalas, Sotiria Potozi, Yiannis Chaldeos, Theodore Sevvos, Ermioni Petraki, **Christos Michail**, Panayiotis Moustanis, Anastasios Kalimeris, Panayiotis H. Yannakopoulos, [Preliminary study of distribution of indoor EMR in Greek dwellings](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, **2014** [doi:10.1016/j.ejmp.2014.07.263](#).
  - 34) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Kandarakis and G. Nikiforidis, [In vivo determination of human radius Ca/P ratio using X-ray dual energy method](#), RSNA 2014, 30/11-05/12, 2014 Chicago, USA.
  - 35) I. Valais, **C. Michail**, A. Bakas, N. Kalyvas, K. Kourkoutas, I. Seferis, I. Kandarakis, A. Gektin, and S. David, [Luminescent and scintillation properties of LFS-3 and GAGG:Ce crystals](#), Technology and Instrumentation in Particle Physics **2014** (TIPP 2014), Amsterdam, Netherlands, June 2-6.
  - 36) I. Valais, S. David, **C. Michail**, A. Bakas, N. Kalyvas, K. Kourkoutas, I. Seferis, I. Kandarakis, and P. Liaparinos, [Light emission measurements of LFS-3 and GAGG:Ce single crystal samples under X-ray radiographic conditions](#), Technology and Instrumentation in Particle Physics **2014** (TIPP 2014), Amsterdam, Netherlands, June 2-6.
  - 37) **Christos Michail**, George Karpetas, George Fountos, Nektarios Kalyvas, Niki Martini, Vaia Koukou, Ioannis Valais, Ioannis Kandarakis [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#), 4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, June 5-8, **2015**, Mykonos, Greece.
  - 38) Vaia Koukou, Niki Martini, **Christos Michail**, Panagiota Sotiropoulou, Nektarios Kalyvas, Ioannis Kandarakis, George Nikiforidis, George Fountos, [Optimum Filter Selection for Dual Energy X-ray Applications through Analytical Modeling](#), 4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, June 5-8, **2015**, Mykonos, Greece.

- 39) Niki Martini, Vaia Koukou, **Christos Michail**, Panagiota Sotiropoulou, Nektarios Kalyvas, Ioannis Kandarakis, George Nikiforidis, George Fountos, [Modeling of the Calcium/Phosphorus Mass ratio for Breast Imaging](#), 4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, June 5-8, **2015**, Mykonos, Greece.
- 40) Nektarios Kalyvas, Niki Martini, Vaia Koukou, **Christos Michail**, Panagiota Sotiropoulou, Ioannis Valais, Ioannis Kandarakis, George Fountos, [A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications](#), 4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, June 5-8, **2015**, Mykonos, Greece.
- 41) Panagiota Sotiropoulou, Vaia Koukou, Niki Martini, **Christos Michail**, Evangelia Kounadi, Ioannis Kandarakis, George Nikiforidis, George Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions](#), 4<sup>th</sup> International Conference on Mathematical Modeling in Physical Sciences, June 5-8, **2015**, Mykonos, Greece.
- 42) **Christos M. Michail**, George P. Fountos, Ioannis Valais and Ioannis Kandarakis, Inter-Comparison of Resolution Assessment Methods And Their Effect In Image Quality Parameters, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece.
- 43) **Christos Michail**, Nektarios Kalyvas, Ioannis Seferis, Thomas Sideras, Ioannis Valais, George Fountos, Athanasios Bakas, George Panayiotakis and Ioannis Kandarakis, Information capacity of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F scintillators coupled to CMOS x-ray sensor, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece.
- 44) **Christos M. Michail**, George E. Karpetas, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Dimitrios Nikolopoulos, Ioannis S. Kandarakis and George S. Panayiotakis, Assessment of the contrast to noise ratio (CNR) in positron emission tomography scanners with monte carlo methods, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 45) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Dimitrios Nikolopoulos, Ioannis S. Kandarakis and George S. Panayiotakis, Influence of iterative reconstruction algorithms on pet image resolution, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 46) S. David, I. Valais, **C. Michail**, N. Kalyvas, P. Liaparinos, I. Kandarakis, Absolute efficiency and statistical distribution of the light flashes emitted by the GOS:Pr powder phosphor screens under X-ray general radiography imaging conditions, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece.
- 47) S. David, I. Valais, **C. Michail**, N. Kalyvas, I. Kandarakis, Decay time measurements of powder scintillators used in X-ray imaging indirect detectors, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 48) K. Velissarakos, D. Gkremos, V. Koukou, N. Martini, C. Fountzoula, A. Bakas, **C. Michail**, I. Kandarakis and G. Fountos, PVAL breast phantom for dual energy calcification detection, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 49) S. David, I. Valais, **C. Michail**, I. Kandarakis, X-ray Luminescence efficiency of GAGG:Ce single crystal scintillators for use in Tomographic Medical Imaging Systems, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 50) I. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, X-ray imaging performance of thin semitransparent films of LuPO<sub>4</sub>:Eu, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 51) Vaia N. Koukou, George G. Fountos, Niki D. Martini, **Christos M. Michail**, Panagiota I. Sotiropoulou, Georgia Oikonomou, Athanasios Bakas, Nektarios Kalyvas, Ioannis S. Kandarakis, Robert Speller and George C. Nikiforidis, A dual energy method for breast imaging: experimental results, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 52) P. Liaparinos, N. Kalyvas, S. David, **C. Michail**, I. Valais, G. Fountos, I. Kandarakis, Study on the optical diffusion performance of granular phosphors employed in medical imaging, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece
- 53) Ioannis G. Valais, **Christos M. Michail**, Dimitrios N. Nikolopoulos, Christina C. Fountzoula, Athanasios Bakas, Panayiotis H. Yannakopoulos, George S. Panayiotakis and Ioannis S. Kandarakis, Effect of the concentration on the X-ray luminescence efficiency of a cadmium selenide/zinc sulfide (CdSe/ZnS) quantum dot nanoparticle solution, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece.
- 54) Niki D. Martini, Konstantinos Tselios, Vaia N. Koukou, **Christos M. Michail**, George G. Fountos, Nektarios Kalyvas, Ioannis S. Kandarakis, MINORE: A Medical Image, Noise and Resolution Evaluation Software, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\)](#), June 18-20, **2015**, Athens, Greece

- 55) Niki D. Martini, Vaia N. Koukou, **Christos M. Michail**, Ioannis S. Kandarakis, George C. Nikiforidis and George G. Fountos, Calcium/phosphorus mass ratio for breast microcalcification characterization, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece.](#)
- 56) Panagiota I. Sotiropoulou, George G. Fountos, Niki D. Martini, Vaia N. Koukou, **Christos M. Michail**, Ioannis Valais, Ioannis S. Kandarakis and George C. Nikiforidis, X-ray dual energy spectra optimization for bone Calcium/Phosphorus mass ratio estimation, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
- 57) N. Kalyvas, I. Valais, **C. Michail**, G. Fountos, P. Liaparinos, S. David, I. Kandarakis. Experimental and theoretical study of the photoreceptor effect in indirect conversion digital detectors, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
- 58) N. Kalyvas, **C. Michail**, G. Fountos, I. Valais, P. Liaparinos, S. David, I. Kandarakis. A theoretical study of optical photon propagation in granular scintillator detectors, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece.](#)
- 59) I. Kandarakis, I. Valais, G. Fountos, N. Kalyvas, P. Liaparinos, **C. Michail**, S. David, Medical Image Science through luminescence (MISCIRLU project), [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
- 60) I. Stathopoulos, K. Skouroliakou, **C. Michail** and I. Valais, Dynamic infrared thermography study of blood flow relative to lower limb position, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
- 61) M. Tzomakas, A. Episkopakis, N. Kalyvas, **C. Michail**, I. Valais, G. Panayiotakis, I. Kandarakis, Effect of energy on imaging performance of electronic portal imaging devices, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2015\), June 18-20, 2015, Athens, Greece](#)
- 62) V. Koukou, N. Martini, I. Vasiloudis, L. Klimi, **C. Michail**, I. Valais, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Detective Quantum Efficiency \(DQE\) of the Dexela 2923MAM Detector According to IEC 62220-1-1:2015](#), 1st European Congress of Medical Physics, 1-4 September, 2016, Athens, Greece, Physica Medica: European Journal of Medical Physics, Volume 32, Supplement 3, pp. 291-292 [doi: 10.1016/j.ejmp.2016.07.118](#).
- 63) N. Kalyvas, P. Maragkaki, A. Bakas, G. Fountos, V. Koukou, N. Martini, **C. Michail**, I. Valais and I. Kandarakis, [X-Ray Response of a Digital Detector For Dental Radiographs](#), 1st European Congress of Medical Physics, 1-4 September, 2016, Athens, Greece, Physica Medica: European Journal of Medical Physics, Volume 32, Supplement 3, pp.291-292 [doi: 10.1016/j.ejmp.2016.07.118](#).
- 64) Vaia N. Koukou, Niki D. Martini, George P. Fountos, **Christos M. Michail**, Athanasios Bakas, Ioannis S. Kandarakis, George C. Nikiforidis, [Contrast-to-Noise Ratio Comparison of Different Calcification Types in Dual Energy Breast Imaging](#), 19th International Conference on Radiological Physics and Radiation Dosimetry ICRPPD 2017, London, United Kingdom May, 25-26, 2017.
- 65) V Koukou, N Martini, G Fountos, G Messaris, **C Michail**, I Kandarakis and G Nikiforidis Dual Energy Tomosynthesis breast phantom imaging, 6th International Conference on Mathematical Modeling in Physical Sciences, August 28-31, 2017, Pafos, Cyprus.
- 66) George Fountos and **Christos Michail**, Towards The Experimental Assessment of the DQE in SPECT Scanners, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)
- 67) I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, Polymer Based Thin Film Screen Preparation Technique, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)
- 68) Alexandros Anastasiou, **Christos Michail**, Vaia Koukou, Niki Martini, Athanasios Bakas, Filina Papastamati, Panayiota Maragkaki, Lefteris Lavdas, George Fountos, Ioannis Valais and Nektarios Kalyvas, Examining the Spatial Frequency Components of a Digital Dental Detector, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)
- 69) Ioannis Seferis, Justyna Zeler, **Christos Michail**, Ioannis Valais, George Fountos, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, Eugeniusz Zych and George Panayiotakis, X-Ray Imaging Performance Of Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens Coupled To a High Resolution CMOS Imaging System, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)
- 70) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, George Fountos, Ioannis Kandarakis and **Christos Michail**, Resolution Properties of a Calcium Tungstate (CaWO<sub>4</sub>) Thin Screen Coupled to a CMOS Imaging Detector, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)
- 71) Iraklis Kapetanakis, George Fountos, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, 3D Printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017.](#)

- 72) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, I. Kandarakis, and G.S. Panayiotakis, Evaluation of Scintillation Response of Znsmn Quantum Dots Under X-Ray Irradiation, [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017](#).
- 73) Anna Dezi, Elenasophie Monachesi, Michela D'Ignazio, Lorenzo Scalise, Luigi Montalto, Paolo Mengucci, George Loudos, Athanasios Bakas, **Christos Michail**, Ioannis Valais, Christine Fountzoula, George Fountos, Stratos David, Structural characterization and absolute luminescence efficiency evaluation of Gd<sub>2</sub>O<sub>2</sub>S highly packing density ceramic screens doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further applications in radiology. [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE 2017\), Athens, Greece, October 12-13, 2017](#).
- 74) Christos M. Michail, Kyriakos N Agavanakis, George. E. Karpetas, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis, George S. Panayiotakis, George P. Fountos, Information Content in PET imaging, [Technologies and Materials for Renewable Energy, Environment and Sustainability TMREE18 Int'l Conf. Athens-Greece/September 19-21, 2018](#).
- 75) Kyriakos Agavanakis, George Karpetas, **Christos Michail**, Evangelia Pappa and John Filos. [Practical machine learning based on cloud computing resources](#), Technologies and Materials for Renewable Energy, Environment and Sustainability TMREE19 Int'l Conf. Beirut-Lebanon/April 10-12, 2019.
- 76) Niki Martini, Konstantinos Ninos, Ioannis Valais, George Saatsakis, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, Luminescence Efficiency of CaF<sub>2</sub>:Eu Single Crystals: Temperature Dependence, [1st Mediterranean Conference on Fracture and Structural Integrity](#), MedFract1, February 26-28, 2020.
- 77) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), 1<sup>st</sup> Virtual European Conference on Fracture – VECF1, June 29, 2020
- 78) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), IGF26 - 26th International Conference on Fracture and Structural Integrity May 26-28, 2021, Turin (Italy) & Web.
- 79) N. Martini, V. Koukou, **C. Michail** and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](#), IGF26 - 26th International Conference on Fracture and Structural Integrity May 26-28, 2021, Turin (Italy) & Web.
- 80) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), IGF26 - 26th International Conference on Fracture and Structural Integrity May 26-28, 2021, Turin (Italy) & Web.
- 81) Dionysios Linardatos, Konstantinos Velissarakos, Ioannis Valais, George Fountos, Anastasios Konstantinidis, Nektarios Kalyvas, Ioannis Kandarakis, **Christos Michail**, [X-ray Detection and spectral compatibility properties of Cerium Bromide \(CeBr<sub>3</sub>\) single crystal for medical imaging applications](#), 10th International Conference on Mathematical Modeling in Physical Sciences September 6-9, 2021, Virtual, on-line Conference.
- 82) Anastasios Konstantinidis, Niki Martini, Vaia Koukou, George Fountos, Nektarios Kalyvas, Ioannis Valais, **Christos Michail**, [RAD IQ: A free software for characterization of digital X-ray imaging devices based on the novel IEC 62220-1-1:2015 International Standard](#), 10th International Conference on Mathematical Modeling in Physical Sciences September 6-9, 2021, Virtual, on-line Conference.

#### **PROCEEDINGS IN GREEK SCIENTIFIC CONFERENCES WITH REFEREES**

- 1) I. Βαλαής, Δ. Νικολόπουλος, Ι. Σιανούδης, Α. Γαϊτάνης, **X. Μιχαήλ**, Ε. Δαυίδ, Δ. Κάβουρας, Α. Λουίζη, Κ. Νομικός, Γ. Παναγιωτάκης, Ι. Κανδαράκης Πειραματική Αξιολόγηση των Μονοκρυσταλλικών Σπινθηριστών Gd<sub>2</sub>SiO<sub>5</sub>:Ce και (Lu,Y)<sub>2</sub>SiO<sub>5</sub>:Ce με Τεχνικές Οπτικής Ολοκλήρωσης σε Συνθήκες Διέγερσης με Ακτίνες-X, 1<sup>ο</sup> Συνέδριο ΕΠΕΑΕΚ Αρχιμήδης: 'Καινοτόμος ανάπτυξη και τεχνολογία: Ποσοτική και Ποιοτική Αντιμετώπιση' Αθήνα 24-26 Νοεμβρίου 2005.
- 2) Ν.Καλύβας, Ι. Βαλαής, Δ. Νικολόπουλος, Α. Τουτουτζής, **X. Μιχαήλ**, Ι. Σιανούδης, Δ.Κάβουρας, Κ. Νομικός, Γ. Παναγιωτάκης, Ι. Κανδαράκης Πειραματική διερεύνηση των MTF, NPS, DQE σε οθόνες φωσφόρων κοκκώδους μορφής YAlO<sub>3</sub>:Ce για χρήση σε ανιχνευτές Διαγνωστικής Ακτινολογίας, ΕΠΕΑΕΚ ΑΡΧΙΜΗΔΗΣ, 1<sup>ο</sup> Συνέδριο: 'Καινοτόμος ανάπτυξη και τεχνολογία: Ποσοτική και Ποιοτική Αντιμετώπιση' Αθήνα 24-26 Νοεμβρίου 2005.
- 3) Β. Σπυροπούλου, Ν. Καλύβας, Ι. Κανδαράκης, **X. Μιχαήλ**, Ν. Δημητρόπουλος, Γ. Παναγιωτάκης, [Μοντελοποίηση Συστήματος Ψηφιακής Μαστογραφίας](#), 17ο Διαπανεπιστημιακό, Συνέδριο Ακτινολόγων, Συνεδριακό & Πολιτιστικό Κέντρο του Πανεπιστημίου Πατρών 9-11 Νοεμβρίου 2007.
- 4) **X. Μιχαήλ**, Α. Κακούρη, Γ. Φούντος, Η. Νάκος, Ι. Τζαχσάν, Ι. Κανδαράκης, Ι. Βαζάκας, Συγκριτική μελέτη των φωσφόρων σπινθηριστών Lu<sub>2</sub>SiO<sub>5</sub>:Ce και Gd<sub>2</sub>O<sub>2</sub>S:Eu για χρήση σε ανιχνευτές ιατρικής απεικόνισης, XVI Πανελλήνιο Ακτινολογικό Συνέδριο Αθήνα, Divani Caravel 22 - 25 Οκτωβρίου 2008.

- 5) Γεώργιος Καρπέτας, **Χρήστος Μιχαήλ**, Γεώργιος Φούντος, Ιωάννης Κανδαράκης, Γεώργιος Παναγιωτάκης, Προσομοίωση των απεικονιστικών χαρακτηριστικών του GE Discovery ST PET μέσω μεθόδων Monte Carlo, 11 Πανελλήνιο Συνέδριο Πυρηνικής Ιατρικής, 30 Μαρτίου-1 Απριλίου 2012, Αθήνα, Ελλάδα.
- 6) I.G. Valais, **C.M. Michail**, I.E. Seferis, G.G. Fountos, N.I. Kalyvas, I.S. Kandarakis and G.S. Panayiotakis, [Scintillation Screen Preparation For Use In Digital Medical Imaging Systems](#), Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 7) N. Kalyvas, A. Dimou, K. Tsinoukas, G. Fountos, **C. Michail**, I. Valais and I. Kandarakis, [Effect of film digitization of mammographic image quality](#), Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 8) Ntales Christoforos, Kynatidis Nikolaos, **Christos Michail**, Ioannis Seferis, Ioannis Valais, Nektarios Kalyvas, George Fountos, and Ioannis Kandarakis, [Image quality assesment in CMOS and CR medical imaging systems](#) Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 9) P.I. Sotiropoulou, V.N. Koukou, N.D. Martini, G.G. Fountos, **C.M. Michail**, I. Valais, I.S. Kandarakis and G.C. Nikiforidis, [A theoretical approach for optimum dual energy selection in the quality assessment of bone in osteoporosis diagnosis](#), Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 10) I. Seferis, **C. Michail**, I. Valais, G. Fountos, N. Kalyvas, I. Kandarakis and G.S. Panayiotakis, [Experimental Evaluation of a CMOS Based Detector Coupled to a Custom Made Gd<sub>2</sub>O<sub>2</sub>S:Eu Screen for Medical Imaging](#), Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 11) David Stratos, Georgiou Maria, Fysikopoulos Eleftherios, Loudos George, Seferis Ioannis, Panayiotakis George, Liaparinos Panagiotis, Valais Ioannis, Sianoudis Ioannis, Aravantinos Thanasis, Fountos George, **Michail Christos**, Kalyvas Nektarios, Alexander Gektin, Kandarakis Ioannis and Kourkoutas Kostantinos, [Development of a Small Field of View Gamma-Ray Imager using a LuAg:Pr Scintillator](#), Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences, 6 July 2012, Athens, Greece.
- 12) Ι. Σεφέρης, Ν. Καλύβας, Ι. Βαλαής, **Χ. Μιχαήλ**, Π. Λιαπαρίνος, Γ. Φούντος, Ι. Κανδαράκης, Γ. Παναγιωτάκης, Φωταύγεια νανοϋλικών: Μελέτη του νανο-φωσφόρου Lu<sub>2</sub>O<sub>3</sub>:Eu για εφαρμογές ιατρικής απεικόνισης, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April 2013.
- 13) N. Kalyvas, I. Kandarakis, G. Fountos, I. Valais, P. Liaparinos, Ch. Michail, S. David, Studying the effect of the activator material on detective quantum efficiency of indirect digital detectors, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April 2013.
- 14) Ν. Μαρτίνη, Β. Κούκου, Π. Σωτηροπούλου, Γ. Φούντος, Χ. Μιχαήλ, Ι. Κανδαράκης και Γ. Νικηφορίδης, Ποιοτικός χαρακτηρισμός των οστών με χρήση τεχνικής διπλής ενέργειας ακτίνων-Χ, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April 2013.
- 15) Γ. Φούντος, **Χ. Μιχαήλ**, Ν. Μαρτίνη, Β. Κούκου, Π. Σωτηροπούλου, Ν. Καλύβας, Ι. Κανδαράκης και Ε. Κουνάδη Βαθμονόμηση και διόρθωση ενεργειακής εξάρτησης φασματογράφου CDTE ακτίνων-Χ, Μετρολογία 2014, 5<sup>ο</sup> Τακτικό Εθνικό Συνέδριο Μετρολογίας, 9 - 10 Μαΐου 2014, Εθνικό Ίδρυμα Ερευνών, Αθήνα.
- 16) Βάια Κούκου, Νίκη Μαρτίνη, **Χρήστος Μιχαήλ**, Παναγιώτα Σωτηροπούλου, Ιωάννης Βαλαής, Ιωάννης Κανδαράκης, Γεώργιος Φούντος και Γεώργιος Νικηφορίδης, [απεικόνιση διπλής ενέργειας στη μαστογραφία](#), 6ο Πανελλήνιο Συνέδριο Βιοϊατρικής Τεχνολογίας, 6-8 Μαΐου 2015, Αθήνα, Ελλάδα.
- 17) Stavros Tseremoglou, **Christos Michail**, Ioannis Valais, Athanasios Bakas, Konstantinos Ninou, George Fountos and Nektarios Kalyvas, [Study of Lanthanum Based Scintillators for Nuclear Medicine Imaging Instrumentation](#), 15th Panhellenic Congress of Nuclear Medicine, 27-30 May 2021.

## **BOOKS**

Paul Davidovits, Physics in Biology and Medicine, Elsevier (4<sup>th</sup> Edition). Greek 4<sup>th</sup> Edition I. Sianoudis, C. Michail, 2019.

## **BOOK CHAPTERS (FROM CONFERENCE PROCEEDINGS)**

- 1) **C. M. Michail**, I. G. Valais, A. Toutountzis, I. Seferis, M. Georgousis, G. Fountos, A. Samartzis, P. Liaparinos, I. S. Kandarakis and G.S. Panayiotakis, [Efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu Powder Phosphor as X-ray to Light Converter under Radiographic Imaging Conditions](#), WC IFMBE Proceedings 25/II, pp. 794-797, 2009, (Eds) O. Dossel and W.C. Schegel.
- 2) A. Toutountzis, G. Fountos, **C. Michail**, A. Samartzis, I. Kandarakis and G. Nikiforidis, [Dual Energy Subtraction Angiography: a Simulation Study using the Three Material Approach](#), WC 2009, IFMBE Proceedings 25/II, pp. 913-916, 2009, (Eds) O. Dossel and W.C. Schegel.
- 3) G. Fountos, A. Zanglis, **C. Michail**, I. Kalatzis, D. Cavouras, A. Samartzis, E. Kounadi, P. Valsamaki, S. Gerali, G. Nikiforidis and I. Kandarakis, [Assessment of Image Quality in SPECT Systems via the Implementation of a Novel Flood Source Technique](#), WC 2009, IFMBE Proceedings 25/II, pp. 802-805, 2009, (Eds) O. Dossel and W.C. Schegel.



- 4) A. Samartzis, G. Fountos, I. Kalatzis, **C. Michail**, A. Zanglis, D. Cavouras, I. Datseris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis, [A novel method for the MTF determination in PET/CT scanners](#), WC 2009, IFMBE Proceedings 25/II, pp. 841-844, **2009**, (Eds) O. Dossel and W.C. Schegel.
- 5) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stomatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.
- 6) I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystal under X-ray radiographic conditions, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 455-458.
- 7) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 459-462.
- 8) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis, X-ray spectra for bone quality assessment using energy dispersive counting and imaging detectors with dual energy method, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 463-466.
- 9) [D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_5](#)

#### **INVITED SPEAKER**

- 1) **C. Michail**, Estimation of intrinsic scintillator characteristics for use in general Radiography and Mammography, 1 April **2006**, 1ST Hellenic Medical Seminars, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services, (15-18 March 2006), Hellinikon East Airport, Athens, Greece.
- 2) **C. Michail**, Measurements and modelling of imaging characteristics in Digital Radiography (FP/DR), 17 March **2007**, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services (15-18 March 2007), Hellinikon West Airport, Athens, Greece.
- 3) **C. Michail**, V. Spyropoulou, I. Valais, S. David, A. Toutountzis, I. Kandarakis, Experimental and theoretical investigation of objective image quality characteristics in medical imaging systems (DOG, MTF, NPS, DQE), 29 March **2008**, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services (27-30 March 2008), Hellinikon West Airport, Athens, Greece.
- 4) I. Valais, **C. Michail**, A. Toutountzis, I. Kandarakis, Efficiency and optical characteristics measurements on medical imaging scintillators, 29 March 2008, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services (27-30 March **2008**), Hellinikon West Airport, Athens, Greece.
- 5) **C. Michail**, V. Spyropoulou, Digital Mammography, Computed Tomography Breast Imaging, Digital Tomosynthesis, 4 April 2009, Round Table Breast Imaging, Coordinator: I. Kandarakis, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services (3-5 April **2009**), Hellinikon West Airport, Athens, Greece.
- 6) **C. Michail**, CMOS sensors: Medical imaging on a single chip, 26 February 2011, MEDICEXPO (International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services (25-27 February **2011**), Expo Athens, Athens, Greece.
- 7) **C. Michail**, Experimental evaluation of scintillators for X-ray medical imaging. 18 July **2013**, UCL department of medical physics and bioengineering, faculty of engineering sciences.
- 8) C. Michail, [CMOS technology and X-ray Imaging](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September, Workshop on Biomedical Instrumentation and Related Engineering and Physical Sciences, Saturday September 13th, **2014**.
- 9) I. Kandarakis, I. Valais, G. Fountos, N. Kalyvas, P. Liaparinos, **C. Michail**, S. David, Medical Image Science through luminescence (MISCIRLU project), [Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEIP 2015\)](#), June 18-20, **2015**, Athens, Greece

#### **APPENDIX: SCITATIONS (last update 27-11-2021)**

(Scopus Citation Index & Google Scholar).

**Scitations: 1452**

**Excluding self citations: 682**

**h-index:22**

**i10-index:44**

**Scitations (Scopus): 1062**

**h-index\*:19**

**Excluding self citations (Scopus): 423**

**h-index\*:11**

**Scitations (Google Scholar): 1458**

**h-index\*:22**

**i10-index\*\*:46**

#### **Publication**

[Nikolopoulos, D., Kandarakis, I., Cavouras, D., Valais, I., Linardatos, D., Michail, C., David, S., \(...\), Louizi, A. Investigation of radiation absorption and X-ray fluorescence properties of medical imaging scintillators by Monte Carlo methods](#) **2006** *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 565 (2), pp. 821-832

**(Scitations: 5)**

- 1) [Research progress of \(Y, Gd\)<sub>2</sub>O<sub>3</sub>:Eu scintillator](#) [Shen, S.-F., Ma, W.-M., Wen, L., Guo, Y.-F., Yin, K., Wang, H.-D.](#) **2009** *Rengong Jingti Xuebao/Journal of Synthetic Crystals* 38 (2), pp. 465-470
- 2) D. Nikolopoulos, N. Kalyvas, I. Valais, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators, **(2012)** *JINST* 7 P11021.
- 3) A GATE Simulation Study of the Siemens Biograph DUO PET/CT System, Dimitrios Nikolopoulos, Sofia Kottou, Nikolaos Chatzisavvas, Xenophon Argyriou, Emannouel Vlamakis, Panayiotis Yannakopoulos, Anna Louizi, *OJRad*> Vol.3 No.2, **2013**, 56-65 DOI: 10.4236/ojrad.2013.32009
- 4) D. Nikolopoulos, C. Michail, I. Valais, P. Yannakopoulos, S. Kottou, G. Karpetas, G. Panayiotakis, [GATE Simulation of the Biograph 2 PET/CT Scanner](#), **(2014)** *J Nucl Med Radiat Ther* 5:201.
- 5) [Bhatia Navnina, Tisseur David, Valton Solene, Létang Jean Michel](#), Separable scatter model of the detector and object contributions using continuously thickness-adapted kernels in CBCT, Journal: [Journal of X-Ray Science and Technology](#), pp. 1-10, **2016**, DOI: 10.3233/XST-160583.

#### **Publication**

I. Valais, S. David, C. Michail, D. Nikolopoulos, D. Cavouras, I. Sianoudis, C. Kourkoutas, I. Kandarakis and G. S. Panayiotakis, [Investigation of luminescence emission properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LYSO:Ce\) and \(Lu,Y\)AlO<sub>3</sub>:Ce \(LuYAP:Ce\) single crystal scintillators under x-ray exposure for use in medical imaging](#), *IEEE, Nuclear Science Symposium, Medical Imaging Conference*, San Diego, California, on Oct. 29-Nov. 4, **2006** IEEE Nuclear Science Symposium Conference Record N30-152, page(s): 1187-1191, ISSN: 1082-3654, ISBN: 1-4244-0560-2, DOI: [10.1109/NSSMIC.2006.356056](#).

**(Scitations: 1)**

- 1) Shunsuke Kurosawa, Kei Kamada, Yuui Yokota and Akira Yoshikawa. Luminescent properties of Ce:Gd<sub>3</sub>(Al,Ga,Mg,M)<sub>5</sub>O<sub>12</sub> crystal (M = Zr, Hf), *Jpn. J. Appl. Phys.* 53 04EG14 **(2014)** [doi:10.7567/JJAP.53.04EG14](#)

#### **Publication**

I Valais, S David, C Michail, D Nikolopoulos, D Vattis, I Sianoudis, D Cavouras, C Nomicos, I Kandarakis, G Panayiotakis, Comparative study of luminescence properties of Lu<sub>2</sub>SiO<sub>5</sub>: ce and YAlO<sub>3</sub>:Ce single crystal scintillators for use in medical imaging, 5th ESBME **2006** – Proceedings.

**(Scitations: 1)**

- 1) G. N. Nihare, S. C. Gedam and S. J. Dhoble, Luminescence in Sr<sub>4</sub>Al<sub>14</sub>O<sub>25</sub>:Ce<sup>3+</sup> aluminate phosphor, *Luminescence* **2014**, 1522-7243 doi: 10.1002/bio.2708

#### **Publication**

David S, Michail C, Valais I, Nikolopoulos D, Kalivas N, Kalatzis I, Karatopis A, Cavouras D, Loudos G, Panayiotakis GS, Kandarakis I (2006) Luminescence efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce (LSO) powder scintillator for X-ray medical radiography applications. IEEE nuclear science symposium conference record. Nucl Sci Symp 2006 2:1178–1182. doi:10.1109/NSSMIC.2006.356054

**(Scitations: 1)**

- 1) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_2](#)

#### Publication

S. David, C. Michail, I. Valais, D. Nikolopoulos, N. Kalivas, D. Cavouras, G.S. Panayiotakis and I. Kandarakis. "[Luminescence efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator for X-ray medical radiography applications](#)" *IEEE, Nuclear Science Symposium, Medical Imaging Conference*, San Diego, California, on Oct. 29-Nov. 4, **2006** IEEE Nuclear Science Symposium Conference Record N30-148, page(s): 1178-1182, ISSN: 1082-3654, ISBN: 1-4244-0560-2, DOI: 10.1109/NSSMIC.2006.356054.

#### (Scitations: 1)

- 1) Kumar, V.; Luo, Z. A Review on X-ray Excited Emission Decay Dynamics in Inorganic Scintillator Materials. *Photonics* **2021**, 8, 71. <https://doi.org/10.3390/photonics8030071>

#### Publication

[Michail, C., David, S., Liaparinos, P., Valais, I., Nikolopoulos, D., Kalivas, N., Toutountzis, A., \(...\), Panayiotakis, G. Evaluation of the imaging performance of LSO powder scintillator for use in X-ray mammography 2007 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 580 \(1 SPEC. ISS.\), pp. 558-561.](#)

#### (Scitations: 32)

- 1) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor scintillators for use in a medical imaging detectors Michail, C., David, S., Toutountzis, A., Valais, I., Panayiotakis, G.S., Fountos, G., Valais, I., \(...\), Kandarakis, I. 2008 IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings , art. no. 4659934, pp. 25-28](#)
- 2) [Investigation of luminescence properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator in the X-ray radiography energy range David, S.L., Michail, C.M., Valais, I.G., Toutountzis, A.E., Liaparinos, P.F., Cavouras, D.A., Kandarakis, I.S., Panayiotakis, G.S. 2008 IEEE Transactions on Nuclear Science 55 \(6\), art. no. 4723823, pp. 3684-3691](#)
- 3) Christos Michail, Stratos David, Adrianos Toutountzis, Ioannis Valais, Ioannis Kandarakis and George S. Panayiotakis, imaging performance of LSO:Ce powder phosphor screens in the x-ray mammography energy range, 3rd International Conference "From Scientific Computing to Computational Engineering 3rd IC-SCCE, Athens, 9-12 July, **2008**
- 4) [C. Michail, S. David, A. Toutountzis, I. Valais, G.S. Panayiotakis G. Fountos, N. Kalivas, I. Kandarakis, A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor scintillators for use in a medical imaging detectors IEEE International Workshop on Imaging Systems and Techniques \(IST\) Chania, Island of Crete, Greece September 10-11 2008. pp: 25-28, ISBN: 978-1-4244-2496-2, DOI: 10.1109/IST.2008.4659934.](#)
- 5) Adrianos Toutountzis, Nikolaos Stathonikos, Giorgos Fountos, Giorgos Nikiforidis, Ioannis Kandarakis, Dual energy mammography: evaluation of scintillators for x-ray detectors using a signal to noise ratio model, *e-Journal of Science & Technology (e-JST)*, **2009** 4(1), 1-9
- 6) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillators for use in x-ray mammography detectors Michail, C.M., Fountos, G.P., David, S.L., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Kandarakis, I.S., Panayiotakis, G.S. 2009 Measurement Science and Technology 20 \(10\), art. no. 104008](#)
- 7) [Imaging performance and light emission efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO:Ce\) powder scintillator under X-ray mammographic conditions Michail, C., Toutountzis, A., David, S., Kalyvas, N., Valais, I., Kandarakis, I., Panayiotakis, G.S. 2009 Applied Physics B: Lasers and Optics 95 \(1\), pp. 131-139](#)
- 8) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, **2010**.
- 9) R.K. Gartia a, Th. Tejkumar Singh a, Th. Basanta Singh Optically stimulated luminescence (OSL) of Lu<sub>2</sub>SiO<sub>5</sub>:Ce powder: A preliminary study, *Nuclear Instruments and Methods in Physics Research B* 269 (**2011**) 30-33
- 10) C. M. Michail, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinos, I. S. Kandarakis, G. S. Panayiotakis (**2011**) [Evaluation of the red emitting Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator for use in indirect X-ray digital mammography detectors, IEEE Trans. Nucl. Sci. 58\(5\):2503-2511.](#)
- 11) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen, Seferis I, MSc Thesis, University of Patras, Greece, 2013.](#)
- 12) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 13) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (**2014**) 2014:634856.

- 14) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (2014) *J. Phys.: Conf. Ser.* 490 012139.
- 15) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 16) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018.
- 17) [D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_5](#)
- 18) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_2](#)
- 19) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 20) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 21) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 22) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 23) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 24) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 25) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 26) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 27) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals.* 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 28) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 29) E. I. Get'man, S. V. Radio, [Predicting the Substitution of Rare-Earth Elements with Cerium in the Solid Solutions Based on Nanoscale LnSiO \(Ln=Tb–Lu, Y\)](#), *Nanosistemi, Nanomateriali, Nanotehnologii* Issue 4 vol. 17, 2019, 701-710.
- 30) Jeong, H.Y.; Lim, H.S.; Lee, J.H.; Heo, J.; Kim, H.N.; Cho, S.O. ZnWO<sub>4</sub> Nanoparticle Scintillators for High Resolution X-ray Imaging. *Nanomaterials* 2020, 10, 1721, <https://doi.org/10.3390/nano10091721>
- 31) Get'man E.I., Oleksii Yu.A., Radio S.V., Ardanova L.I. Determining the phase stability of luminescent materials based on the solid solutions of oxyorthosilicates (Lu<sub>1-x</sub>Ln<sub>x</sub>)[(SiO<sub>4</sub>)<sub>0.5</sub>O<sub>0.5</sub>], where Ln = La–Yb. *Fine Chemical Technologies.* 2020;15(5):54-62. <https://doi.org/10.32362/2410-6593-2020-15-5-54-62>
- 32) Jeong, H. Y. et al. [The Size Effect of Powdered Scintillator on High-Resolution X-ray Imaging System](#), Transactions of the Korean Nuclear Society Virtual Autumn Meeting December 17-18. (2020).

## Publication

[Valais, I.](#), [David, S.](#), [Michail, C.](#), [Nikolopoulos, D.](#), [Liaparinos, P.](#), [Cavouras, D.](#), [Kandarakis, I.](#), [Panayiotakis, G.S.](#) Comparative study of luminescence properties of LuYAP:Ce and LYSO:Ce single-crystal scintillators for use in medical imaging **2007** *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 580 (1 SPEC. ISS.), pp. 614-616

**(Scitations: 12)**

- 1) [Gamma-ray responses of Pr:LuYAP and Pr:YAP scintillators](#) [Yanagida, T.](#), [Kamada, K.](#), [Yokota, Y.](#), [Fujimoto, Y.](#), [Maeo, S.](#), [Yoshikawa, A.](#) **2010** *IEEE Transactions on Nuclear Science* 57 (3 PART 2), art. no. 5485090, pp. 1316-1319
- 2) [Yanagida T, Kamada K, Fujimoto Y, Sugiyama M, Furuya Y, Yamaji A, Yokota Y, Yoshikawa A, Growth and scintillation properties of Pr doped YAP with different Pr concentrations.](#) *Nuclear Instruments and Methods in Physics Research A* 623 (2010) 1020-1023
- 3) [Piñera I, Abreu Y, Van Espen P, Díaz A, Leyva A, Cruz C.M, Radiation damage evaluation on LYSO and LuYAP materials through dpa calculation assisted by Monte Carlo method \(Conference Paper\)](#) **2012** IEEE Nuclear Science Symposium and Medical Imaging Conference, NSS/MIC 2011;Valencia
- 4) [Kei Nishimoto, Yuui Yokota, Shunsuke Kurosawa, Jan Pejchal, Kei Kamada, Valery Chani, Akira Yoshikawa, Effects of La, Gd, or Lu co-doping on crystal growth and scintillation properties of Eu:SrI2 single crystals,](#) *Journal of Crystal Growth* (2014) [Volume 401](#), 1, Pages 484–488.
- 5) [Kei Nishimoto, Yuui Yokota, Shunsuke Kurosawa, Kei Kamadab, Akihiro Ymajia, Akira Yoshikawa. Eu concentration dependence on scintillation properties of Eu doped SrI2 single crystals grown by modified micro-pulling-down method,](#) *Optical Materials*, [Volume 36, Issue 12](#), October **2014**, Pages 1946–1949.
- 6) [Ibrahim Piñera, Carlos M. Cruz, Yamiel Abreu, Antonio Leyva, Piet Van Espen, Angelina Díaz, Ana E. Cabal, Nick Van Remortel,](#) Gamma induced atom displacements in LYSO and LuYAP crystals as used in medical imaging applications, *Nuclear Instruments and Methods in Physics Research Section B*, [Volumes 356–357](#), **2015**, Pages 46–52.
- 7) [Monika E. Bohem, Niels-Patrick Pook, Arnold Adam, Thanh Thao Tran, P.Shiv Halasyamani, Marc Entenmann, Thomas Schleid, Luminescence and Scintillation Properties of La<sub>2</sub>\[Si<sub>2</sub>O<sub>7</sub>\]:Ce<sup>3+</sup> Functional Pigment - A Concept for UV-Protection of Coatings, Dyes and Pigments,](#) **2015** 123:331-340.
- 8) [I.S. Kandarakis,](#) Luminescence in Medical Image Science, *Journal of Luminescence* **2016** 169:553-558.
- 9) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2,](#) (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0 2
- 10) [Shi, Z., Cen, W., Xu, Y., Li, H., Li, D., Wang, J., Growth and characterization of high-lutetium component LuYAP:Ce single crystals,](#) *Yadian Yu Shengguang/Piezoelectrics and Acoustooptics*, [Volume 38\(3\)](#), **2016**, Pages 413-414 and 419.
- 11) [Xu Y., Dong H., Shi Z., \(...\), Wu Y., Fu C, Study on LuYAP:Ce Scintillation Crystal Array, \*\*2019\*\* \*Yadian Yu Shengguang/Piezoelectrics and Acoustooptics\*, 41\(2\), pp. 185-187](#)
- 12) [Krittiya Sreebunpeng, Patanachai Janthon, Weerapong Chewpraditkul, Tomasz Szczesniak, MartinNikl, Akira Yoshikawa, Scintillation characteristics of YAlO<sub>3</sub>:Pr perovskite single crystals,](#) *Optical Materials*, [Volume 108](#), **2020**, 110161, <https://doi.org/10.1016/j.optmat.2020.110161>

## Publication

I. Valais, S. David, C. Michail, A. Konstantinidis, I. Kandarakis and G. S. Panayiotakis (2007) Investigation of luminescence properties of the LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low-energy  $\gamma$ -ray excitation used in nuclear imaging. *Nucl. Instrum. Meth. Phys. Res. A* 581:99-102. doi:[10.1016/j.nima.2007.07.037](https://doi.org/10.1016/j.nima.2007.07.037).

**(Scitations: 19)**

- 1) [Pearson, Brett S Exploring the processing parameters for the preparation of luminescent lutetium oxyorthosilicate polycrystalline ceramics for gamma-ray detection.](#) University of Nevada, Reno, MSc Thesis, **2008**. 1460769.
- 2) Investigation of the performance of SiPM sensors with LiF-loaded ZnS scintillator for neutron detection, Froso Michael, MSc Thesis **2010**
- 3) [R.D. Narayan, R. Miranda, P. Rez, Simulating gamma-ray energy resolution in scintillators due to electron-hole pair statistics,](#) *Nuclear Instruments and Methods in Physics Research B* 269 (2011) 2667-2675.
- 4) The Effect of Material Properties on Energy Resolution in Gamma-ray Detectors, Raman Narayan PhD Thesis **2011**
- 5) [Sunghwan Kim, Scintillation Properties of Eu<sup>2+</sup> ions doped LaCl<sub>3</sub> Crystal,](#) 한국산학기술학회논문지, Vol. 12, No. 2 pp. 600-604, **2011**.
- 6) [M. Aburto-Crespo, G.A. Hirata, J. McKittrick, Synthesis and characterization of \(Lu<sub>1-x-y</sub>Y<sub>x</sub>Ce<sub>y</sub>\)<sub>2</sub>SiO<sub>5</sub> luminescent powders with fast decay time,](#) *Journal of Luminescence* (2013) [Volume 136](#), Pages 86-89.
- 7) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 8) [G E Karpetas, C M Michail, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator,](#) (2014) *J. Phys.: Conf. Ser.* 490 012139.

- 9) Kei Nishimoto, Yuui Yokota, Shunsuke Kurosawa, Kei Kamada, Akihiro Ymaji, Akira Yoshikawa, Eu concentration dependence on scintillation properties of Eu doped Sr12 single crystals grown by modified micro-pulling-down method, *Optical Materials* (2014) [Volume 36, Issue 12](#), Pages 1946–1949.
- 10) **C. Michail**, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (2015) *Radiat Meas.*74:39-46.
- 11) **C. Michail**, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, [Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation](#), (2015) *Radiat Meas.*80:1-9.
- 12) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, [Investigation of luminescence properties of Lutetium Fine Silicate \(LFS-3\) scintillation crystals under X-ray radiographic conditions](#), SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-067.
- 13) **C. Michail**, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 14) A.M. Alonso, B.S. Cooper, A. Deller, D.B. Cassidy, [Single-shot positron annihilation lifetime spectroscopy with LYSO scintillators](#), *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, Volume 828, 2016, Pages 163-169.
- 15) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 16) Xu J., Feng H., Pan Y., Zhang Y., Fan S, [Development of Bismuth Silicate Scintillation Crystals and Doping Effects](#), Kuei Suan Jen Hsueh Pao/Journal of the Chinese Ceramic Society, 45(12), 2017, pp. 1748-1757.
- 17) Douglas S. McGregor, *Materials for Gamma-Ray Spectrometers: Inorganic Scintillators*, *Annu. Rev. Mater. Res.* 2018, 48:13.1–13.33, <https://doi.org/10.1146/annurev-matsci-070616-124247>.
- 18) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 19) Li, J., Chen, X. and Nikl, M. (2021). Scintillators. In *Processing of Ceramics*, A. Ikesue (Ed.). <https://doi.org/10.1002/9781119538806.ch3>

#### Publication

[David, S., Michail, C., Valais, I., Nikolopoulos, D., Liaparinos, P., Kalivas, N., Kalatzis, I., \(...\), Panayiotakis, G.S. Efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder phosphor as X-ray to light converter under mammographic imaging conditions 2007 \*Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment\* 571 \(1-2 SPEC. ISS.\), pp. 346-349](#)

(Scitations: 21)

- 1) **C. Michail**, S. David, A. Toutountzis, N. Kalivas, I. Valais, I. Kandarakis, G. Panayiotakis, [Modeling the Imaging Transfer Characteristics of LSO Powder Scintillator for Use in X-Ray Mammography](#) 2nd International Conference on Experiments / Process / System Modeling /Simulation & Optimization (IC-EpsMsO) Athens, Greece 4-7 July, 2007.
- 2) **C. Michail**, S. David, A. Toutounzis, N. Kalivas, I. Valais, G. Panayiotakis, I. Kandarakis [Theoretical and Experimental Investigation of the Detective Quantum Efficiency \(DQE\) of LSO:Ce Powder Scintillator for X-Ray Mammography Applications](#) X<sup>th</sup> EFOMP European Federation of Organisations for Medical Physics Pisa, Italy 20-22/9/2007, P3-18.
- 3) [Evaluation of the imaging performance of LSO powder scintillator for use in X-ray mammography Michail, C., David, S., Liaparinos, P., Valais, I., Nikolopoulos, D., Kalivas, N., Toutountzis, A., \(...\), Panayiotakis, G. 2007 \*Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment\* 580 \(1 SPEC. ISS.\), pp. 558-561](#)
- 4) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor scintillators for use in a medical imaging detectors Michail, C., David, S., Toutountzis, A., Valais, I., Panayiotakis, G.S., Fountos, G., Valais, I., \(...\), Kandarakis, I. 2008 \*IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings\* , art. no. 4659934, pp. 25-28](#)
- 5) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors David, S.L., Michail, C.M., Valais, I.G., Roussou, M., Nirgianaki, E., Toutountzis, A.E., Fountos, G., \(...\), Panayiotakis, G.S. 2008 \*IEEE Nuclear Science Symposium Conference Record\* , art. no. 4774148, pp. 3950-3953](#)
- 6) Christos Michail, Stratos David, Adrianos Toutountzis, Ioannis Valais, Ioannis Kandarakis and George S. Panayiotakis, *Imaging performance of Iso:ce powder phosphor screens in the x-ray mammography energy range*, 3rd International Conference “From Scientific Computing to Computational Engineering 3rd IC-SCCE, Athens, 9-12 July, 2008.
- 7) [Investigation of luminescence properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator in the X-ray radiography energy range David, S.L., Michail, C.M., Valais, I.G., Toutountzis, A.E., Liaparinos, P.F., Cavouras, D.A., Kandarakis, I.S., Panayiotakis, G.S. 2008 \*IEEE Transactions on Nuclear Science\* 55 \(6\), art. no. 4723823, pp. 3684-3691](#)

- 8) [Pearson, Brett S Exploring the processing parameters for the preparation of luminescent lutetium oxyorthosilicate polycrystalline ceramics for gamma-ray detection](#), University of Nevada, Reno, MSc Thesis, **2008**. 1460769.
- 9) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillators for use in x-ray mammography detectors](#) Michail, C.M., Fountos, G.P., David, S.L., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Kandarakis, I.S., Panayiotakis, G.S. **2009** *Measurement Science and Technology* 20 (10), art. no. 104008
- 10) S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. Kandarakis, G. Panayiotakis, luminescence efficiency of fast yttrium aluminum garnet phosphor screens for use in digital breast tomosynthesis detectors, 3rd International Conference on Experiments/Process/System Modeling/Simulation & Optimization 3rd IC-EpsMsO, Athens, 8-11 July, **2009**
- 11) [Imaging performance and light emission efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO:Ce\) powder scintillator under X-ray mammographic conditions](#) Michail, C., Toutountzis, A., David, S., Kalyvas, N., Valais, I., Kandarakis, I., Panayiotakis, G.S. **2009** *Applied Physics B: Lasers and Optics* 95 (1), pp. 131-139
- 12) Adrianos Toutountzis, Nikolaos Stathonikos, Giorgos Fountos, Giorgos Nikiforidis, Ioannis Kandarakis, Dual energy mammography: evaluation of scintillators for x-ray detectors using a signal to noise ratio model, *e-Journal of Science & Technology* (e-JST), **2009** 4(1):1-9.
- 13) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#) David, S.L., Michail, C.M., Roussou, M., Nirgianaki, E., Toutountzis, A.E., Valais, I.G., Fountos, G., (...), Panayiotakis, G. **2010** *IEEE Transactions on Nuclear Science* 57 (3 PART 1), art. no. 5485157, pp. 951-957
- 14) Experimental evaluation of single-crystal and granular scintillators in medical imaging detectors: application in an experimental prototype imaging system, David S, PhD Thesis, University of Patras, Greece, **2010**.
- 15) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, **2010**.
- 16) S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. S. Kandarakis, G. S. Panayiotakis (**2010**) [Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis](#) *e-Journal of Science & Technology*, (e-JST) 5(2):63-73.
- 17) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (**2015**) *Radiat Meas.* 74:39-46.
- 18) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, [Investigation of luminescence properties of Lutetium Fine Silicate \(LFS-3\) scintillation crystals under X-ray radiographic conditions](#), SCinTE **2015**, 5-7 November, Athens, Greece, 162-A01-067.
- 19) [C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (**2016**) *Radiat Meas.* 94:8-17.
- 20) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_2](#)
- 21) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, C **Michail**, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>2</sub>S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012029.

## Publication

[Valais, I.G., Kandarakis, I.S., Nikolopoulos, D.N., Michail, C.M., David, S.L., Loudos, G.K., Cavouras, D.A., Panayiotakis, G.S. Luminescence properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>SiO<sub>5</sub>:Ce single crystal scintillators under X-ray excitation for use in medical imaging systems](#) **2007** *IEEE Transactions on Nuclear Science* 54 (1), pp. 11-18

(Scitations: 34)

- 1) I. G. Valais, **C. Michail**, S. David, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis and I. S. Kandarakis, [Comparative evaluation of scintillators under xray imaging conditions](#), 4th International Conference on Imaging Technologies in Biomedical Sciences, *From Medical Images to Clinical Information Bridging the Gap* 22-28 September **2007**, Conference Center *George Eliopoulos* Milos Island, Greece.
- 2) [Investigation of the performance of Ce<sup>3+</sup> doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions](#) Valais, I., Michail, C., David, S., Panayiotakis, G.S., Fountos, G., Kandarakis, I., Paschalis, T. **2008** *IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings* , art. no. 4659933, pp. 21-24
- 3) [A comparative investigation of Ce<sup>3+</sup> doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions](#) Valais, I.G., Michail, C.M., David, S.L., Toutountzis, A.E., Fountos, G.P., Paschalis, T.V., Kandarakis, I.S., Panayiotakis, G.S. **2008** *IEEE Nuclear Science Symposium Conference Record* , art. no. 4774335, pp. 4887-4890

- 4) [Luminescence emission properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LYSO:Ce\) and \(Lu,Y\)AlO<sub>3</sub>:Ce \(LuYAP:Ce\) single crystal scintillators under medical imaging conditions](#) Valais, I.G., Michail, C.M., David, S.L., Konstantinidis, A., Cavouras, D.A., Kandarakis, I.S., Panayiotakis, G.S. **2008** *IEEE Transactions on Nuclear Science* 55 (2), pp. 785-789.
- 5) [Systematic study of the light emission efficiency and the corresponding intrinsic physical characteristics of single crystal scintillators, doped with the trivalent cerium \(Ce<sup>3+</sup>\) activator, in wide energy range](#) (from 20kV-18MV) for medical applications, I Valais, PhD Thesis, University of Patras, Greece, **2008**.
- 6) [A theoretical model describing the light emission efficiency of single-crystal scintillators in the diagnostic energy range](#) Petropoulou, A., Kalyvas, N., Kandarakis, I., Valais, I., Panayiotakis, G.S. **2009** *J. of Instrumentation* 4(6), P06016
- 7) [Comparative evaluation of single crystal scintillators under x-ray imaging conditions](#) Valais, I.G., David, S., Michail, C., Nomicos, C.D., Panayiotakis, G.S., Kandarakis, I.S. **2009** *J. Inst.* 4:P06013
- 8) [Lu<sub>2</sub>SiO<sub>5</sub>:Ce optical ceramic scintillator for PET](#) Wang, Y., Van Loef, E., Rhodes, W.H., Glodo, J., Brecher, C., Nguyen, L., Lempicki, A., (...), Shah, K.S. **2009** *IEEE Transactions on Nuclear Science* 56 (3), art. no. 5076121, pp. 887-891
- 9) [Comparative investigation of Ce<sup>3+</sup> doped scintillators in a wide range of photon energies covering X-ray CT, nuclear medicine and megavoltage radiation therapy portal imaging applications](#) Valais, I.G., Michail, C.M., David, S.L., Liaparinos, P.F., Fountos, G.P., Paschalis, T.V., Kandarakis, I.S., Panayiotakis, G.S. **2010** *IEEE Transactions on Nuclear Science* 57 (1 PART 1), art. no. 5410009, pp. 3-7
- 10) Experimental evaluation of single-crystal and granular scintillators in medical imaging detectors: application in an experimental prototype imaging system, David S, PhD Thesis, University of Patras, Greece, **2010**.
- 11) Signal fluctuations in crystal-APD systems, F. Kocak, I. Tapan and E. Pilicer, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment Vol. 648(1), **2011**, pp: S128-S130 *Transactions on Nuclear Science* 55 (2), art. no. 4484243, pp. 785-789
- 12) D. Nikolopoulos, N. Kalyvas, I. Valais, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators, (**2012**) JINST 7 P11021.
- 13) D. Hou, C. Liu, X. Kuang and H. Liang, Enhanced emission of Mn<sup>2+</sup> via Ce<sup>3+</sup> Mn<sup>2+</sup> energy transfer in  $\alpha$ -Sr<sub>2</sub>P<sub>2</sub>O<sub>7</sub>, Optics Express **2012** 20(27), 28969.
- 14) Semi-empirical Monte Carlo optical-gain modelling of Nuclear Imaging scintillators, Vlamakis E, Argyriou X, Sevvos T, Kalyvas N, Yannakopoulos P, Valais I, Kandarakis I, Nikolopoulos D, ERA-7 The Conference for International Synergy in Energy, Environment, Tourism and contribution of Information Technology in Science, Economy, Society and Education, **2012**, Technological Educational Institute of Piraeus.
- 15) [Tapan K. Gupta](#) Device Fabrication (Scintillators/Radiation Detectors) [Radiation, Ionization, and Detection in Nuclear Medicine](#) **2013**, pp 315-365.
- 16) Zafar U. Usubov, Light output simulation of LYSO single crystal, **2013**, [arXiv:1305.3010](#)
- 17) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 18) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stomatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.
- 19) N. Kalyvas, I. Valais, S. David, Ch. Michail, G. Fountos, P. Liaparinos, and I. Kandarakis, Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation (**2014**) Optics and Spectroscopy. 116(5):95-99.
- 20) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (**2014**) *J. Phys.: Conf. Ser.* 490 012139.
- 21) Xinguo Zhang, Yibo Chen, Liya Zhou, Qi Pang, and Menglian Gong, Synthesis of a Broad-Band Excited and Multicolor Tunable Phosphor Gd<sub>2</sub>SiO<sub>5</sub>:Ce<sup>3+</sup>,Tb<sup>3+</sup>,Eu<sup>3+</sup> for Near-Ultraviolet Light-Emitting Diodes, *Ind. Eng. Chem. Res.* (**2014**), 53 (16), pp 6694-6698 DOI: 10.1021/ie404312n
- 22) Qinhua Wei, Jiandong Zhuang, Guanghui Liu, Zhenzhen Zhou, Hu Yang Jiacheng Wang and Qian Liu, Preparation and luminescence properties of SiO<sub>2</sub>/Lu<sub>2</sub>Si<sub>2</sub>O<sub>7</sub>:Ce composite starting from mesopore template **RSC Adv.**, (**2014**), **4**, 33819-33825.
- 23) **C. Michail**, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, [Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation.](#) (**2015**) *Radiat Meas.* 80:1-9.
- 24) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2.](#) (**2016**) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_2
- 25) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.



- 26) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 27) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 28) George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 29) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 30) **H. Mohammadi**, **M.R. Abdi**, **M.H. Habibi**, [Synthesis and scintillation properties of cerium-doped Gd<sub>2</sub>SiO<sub>5</sub> nanopowders under alpha radiation and the importance of selecting the appropriate calcination temperature](#), *Journal of Luminescence* (2019), 116849, doi: <https://doi.org/10.1016/j.jlum.2019.116849>.
- 31) Qiang Xu, Wenyi Shao, Jun Liu, Zhichao Zhu, Xiao Ouyang, Jiafa Cai, Bo Liu, Bo Liang, Zheng-Yun Wu, Xiaoping OuYang, Bulk organic-inorganic methylammonium lead halide perovskite single crystals for indirect gamma ray detection, *ACS Appl. Mater. Interfaces* 2019, <https://doi.org/10.1021/acsami.9b10367>
- 32) Sara Espinoza Villalba, UV Emitting Nanoscale Scintillators for Biomedical Applications, PhD Thesis, Faculty of Biology and Chemistry, University of Osnabrück, September 2019.
- 33) Nuritdinov, I., Esanov, Z.U. & Saidakhmedov, K.K. Effect of Ionizing Radiation on the Local Environment of Cerium-Related Emission Centers in Gd<sub>2</sub>SiO<sub>5</sub>:Ce Crystals. *Inorg Mater* 57, 1047-1051 (2021). <https://doi.org/10.1134/S0020168521100095>
- 34) НУРИТДИНОВ И.\*, ЭСАНОВ З.У., САИДАХМЕДОВ К.Х., ВЛИЯНИЕ ИОНИЗИРУЮЩЕГО ИЗЛУЧЕНИЯ НА ЛОКАЛЬНОЕ ОКРУЖЕНИЕ ЦЕРИЕВЫХ ЦЕНТРОВ СВЕЧЕНИЯ В КРИСТАЛЛАХ GD2SIO5:CE, 1 Институт ядерной физики Академии наук Республики Узбекистан, п. Улугбек, Узбекистан, Тип: статья в журнале - научная статья Язык: русский, Том: 57Номер: 10 Год: 2021 Страницы: 1107-1112, DOI: 10.31857/S0002337X21100092

#### Publication

[Nikolopoulos, D., Linardatos, D., Valais, I., Michail, C., David, S., Gonias, P., Bertsekas, N., \(...\), Kandarakis, I. Monte Carlo validation in the diagnostic radiology range 2007 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 571 \(1-2 SPEC. ISS.\), pp. 267-269](#)

#### (Scitations: 4)

- 1) [Reduction in patient skin dose during interventional radiology with the use of an air gap substitute Kawabe, A., Takeda, Y., Nakagiri, Y. 2008 British Journal of Radiology 81 \(966\), pp. 474-478](#)
- 2) D. Nikolopoulos, N. Kalyvas, I. Valais, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators, (2012) JINST 7 P11021.
- 3) Abel Zhou, Yuming Yin, Graeme L White and Rob Davidson, A new solution for radiation transmission in anti-scatter grids, *Biomed. Phys. Eng. Express* 2 (2016) 055011.
- 4) Abel Zhou, Graeme L White and Rob Davidson, Validation of a Monte Carlo code system for grid evaluation with interference effect on Rayleigh scattering, *Phys. Med. Biol.* 63 2018 03NT02, <https://doi.org/10.1088/1361-6560/aaa44b>

#### Publication

N. Efthimiou, N. Kalivas, G. Patatoukas, I. Valais, D. Nikolopoulos, A. Gaitanis, A. Konstaninidis, S. David, **C. Michail**, G., G. Loudos, D. Cavouras, K. Kourkoutas, G.S. Panayiotakis and I. Kandarakis (2007) Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models *Nucl. Instrum. Meth. Phys. Res. A* 571(1-2):270-273. doi:[10.1016/j.nima.2006.10.080](https://doi.org/10.1016/j.nima.2006.10.080).

#### (Scitations: 3)

- 1) [Tapan K. Gupta](#), Mathematical Modeling of Radiation [Radiation, Ionization, and Detection in Nuclear Medicine](#), 2013, pp 135-185.
- 2) Jingfu zhang, Jingen Pan, Lianyi Shao, Jie Shu, Mingjiong Zhou, Jianguo Pan. Micro-sized cadmium tungstate as a high-performance anode material for lithium-ion batteries, *Journal of Alloys and Compounds* (2014) [Volume 614](#), 25, Pages 249-252.
- 3) Muad Saleh, Kelvin G. Lynn, John S. McCloy, Evaluation of undoped ZnS single crystal materials for x-ray imaging applications, 2017, *Proc. of SPIE Vol. 10179*, 1017904-14, doi: 10.1117/12.2262187.

#### Publication

[Michail, C.M., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Fountos, G.P., David, S.L., Kandarakis, I.S., Panayiotakis, G.S., Light emission efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu \(GOS:Eu\) powder screens under X-ray mammography conditions 2008 \*IEEE Transactions on Nuclear Science\* 55 \(6\), art. no. 4723824, pp. 3703-3709](#)

**(Scitations: 30)**

- 1) [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillators for use in x-ray mammography detectors Michail, C.M., Fountos, G.P., David, S.L., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Kandarakis, I.S., Panayiotakis, G.S. 2009 \*Measurement Science and Technology\* 20 \(10\), art. no. 104008](#)
- 2) [Pixel readout circuit for X-ray imagers Rocha, J.G., Minas, G., Lanceros-Mendez, S. 2010 \*IEEE Sensors Journal\* 10 \(11\), art. no. 5483229, pp. 1740-1745](#)
- 3) [Light emission efficiency and imaging performance of Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator under x-ray radiography conditions Michail, C.M., Fountos, G.P., Liaparinos, P.F., Kalyvas, N.E., Valais, I., Kandarakis, I.S., Panayiotakis, G.S. 2010 \*Medical Physics\* 37 \(7\), pp. 3694-3703](#)
- 4) [Cathodoluminescence degradation of PLD thin films, Swart H.C., Coetsee E., Terblans J.J., Ntwacaborwa O.M., Nsimama P. D., Dejene F.B., Dolo J.J. \*Appl Phys A\* \(2010\) 101: 633-638](#)
- 5) Anna Dobrowolska and Eugeniusz Zych, Forcing Eu<sup>3+</sup> into Different Positions in the BaHfO<sub>3</sub> Host and its Spectroscopic Consequences, *Chem. Mater.* **2010**, 22, 4652-4659
- 6) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, **2010**.
- 7) Séverine Lechevallier, Synthèse Et Caractérisation De Nanoparticules Luminescentes A Base De Lanthanides: Vers De Nouveaux Bio-Marqueurs, PhD Thesis, Université Toulouse, 2010.
- 8) I. G. Valais, G. P. Fountos, C. M. Michail, I. Seferis, N. I. Kalyvas, A. K. Mytafidis, I. S. Kandarakis and G.S. Panayiotakis, [Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications](#), IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October **2011**.
- 9) C. M. Michail, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinos, I. S. Kandarakis, G. S. Panayiotakis (**2011**) [Evaluation of the red emitting Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator for use in indirect X-ray digital mammography detectors](#), *IEEE Trans. Nucl. Sci.* 58(5):2503-2511.
- 10) Ioannis Valais, **Christos M. Michail**, Ioannis Seferis, George Fountos, Nektarios Kalyvas, Ioannis Kandarakis and George S. Panayiotakis (**2012**), [Scintillation screen preparation for use in digital medical systems](#) *e-Journal of Science & Technology*, (*e-JST*) 7(3):1-5.
- 11) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 12) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (**2013**) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 13) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, **2013**.
- 14) I. E. Seferis, N. I. Kalyvas, I. G. Valais, **C. M. Michail**, P. F. Liaparinos, G. P. Fountos, E. Zych, I. S. Kandarakis and G. S. Panayiotakis, [Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under X-ray radiographic conditions](#). Proc. SPIE 8668, Medical Imaging 2013: Physics of Medical Imaging, 86683W (March 6, **2013**) doi:10.1117/12.2015265.
- 15) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stromatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.
- 16) I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystal under X-ray radiographic conditions, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 455-458.
- 17) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (**2014**) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu, *J Lumin.* **Volume 151**, Pages 229-234.
- 18) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F Powder Scintillators under X-ray radiation](#), (**2014**) *Radiat Meas.* 70:59-64.
- 19) Gadolinium and Terbium: Chemical and Optical Properties, Sources and Applications, Editors: Lorrie P. Wilder, Chapter: Gadolinium Luminescent Materials Obtained by Spray Pyrolysis, Co-Precipitation, and Non-Hydrolytic Sol-Gel Route: Structure and Optical Properties, Marcela Guedes Matos, Gabriela Simões Freiria, Lídia Resende Oliveira, Emerson Henrique de Faria, Paulo Sérgio Calefi, Katia Jorge Ciuffi, Lucas Alonso Rocha, Eduardo José Nassar, Marc Verelst, Sémiyou A. Osseni, Séverine Lechevallier, pp.127-162, ISBN: 978-1-63117-906-8, **2014**.

- 20) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) J. Phys.: Conf. Ser. 574 01207.](#)
- 21) [Jan D. Kuttig, Christian Steiding, Daniel Kolditz, Martin Hupfera, Marek Karolczak, Willi A. Kalender, Comparative investigation of the detective quantum efficiency of direct and indirect conversion detector technologies in dedicated breast CT, \(2015\), Physica Medica 31\(4\):406-13. doi: 10.1016/j.ejmp.2015.03.007.](#)
- 22) Mohamed, Amgad Elsayed Soliman, A dense plasma focus device as a pulsed neutron source for material identification, Department of Mechanical and Nuclear Engineering, Kansas State University, PhD Thesis, **2015**.
- 23) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging, \(2016\) J Lumin. 169:706-710.](#)
- 24) [I.S. Kandarakis, Luminescence in Medical Image Science, Journal of Luminescence 2016 169:553-558.](#)
- 25) [I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications Applied Physics A \(2016\) 122:526](#)
- 26) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, C Michail, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>2</sub>S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology, \(2017\) J. Phys.: Conf. Ser. 931 012029.](#)
- 27) Ioannis E. Seferis, Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application, PhD Thesis, University of Patras, Greece, **2017**.
- 28) Sun Chaoming, Ge Jiqiang, Sun Kaihua, Optimization on calibration of flat panel detector in digital radiography, Nuclear Techniques, **2018** 41(9), 090401. DOI: 10.11889/j.0253-3219.2018.hjs.41.090401
- 29) [Sapizah Rahim, Muhammad Taqiyuddin Mawardi Ayob, Muhammad Hassyakirin Hasim, Irman Abdul Rahman, Shahidan Radiman, Physical and optical studies of Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> nanophosphors by microwave irradiation and  \$\gamma\$ -irradiation methods, Luminescence, 2019, 2019:1-8, <https://doi.org/10.1002/bio.3655>](#)
- 30) Jan Lindström, Gudrun Alm Carlsson, Erik Wåhlin, Åsa Carlsson Tedgrena, Gavin Poludniowski, Experimental assessment of a phosphor model for estimating the relative extrinsic efficiency in radioluminescent detectors, Physica Medica, Volume 76, **2020**, pp. 117-124, <https://doi.org/10.1016/j.ejmp.2020.07.009>.

## Publication

I. Valais, C. Michail, S. David, L. Costaridou, C.D. Nomicos, G.S. Panayiotakis, I. Kandarakis, (2008) [A Comparative Study of the Luminescence Properties of LYSO:Ce, LSO:Ce, GSO:Ce and BGO Single Crystal Scintillators for Use in Medical X-Ray Imaging, Physica Medica 24:122-125](#)

## (Scitations: 51)

- 1) [Evaluation of the co-doped LSO:Ce,Ca scintillator crystal in the X-ray energy range from 50 to 140kVp for medical imaging applications , Stratos, D., Christos, M., George, P., Ioannis, V., George, F., Costantinos, N., Ioannis, K. 2010 IEEE International Conference on Imaging Systems and Techniques, IST 2010-Proceedings, art.no.5548542, pp.253-255](#)
- 2) [Measurement technology for multi-parameter spectral responsivity of X-ray scintillation crystals , Li, R.-H., Han, Y.-P., Zhou, H.-C., Han, Y. 2010 Guang Pu Xue Yu Guang Pu Fen Xi/Spectroscopy and Spectral Analysis 30\(8\), pp.2184-2186](#)
- 3) [Performance of a 511 keV gamma-ray imager using a LYSO \(Ce\) crystal array with wavelength shifter, Aogaki, S., Takeuchi, IEEE Transactions on Nuclear Science 57 \(3 PART 2\), art. no. 5485103, pp. 1502-1511 \(2010\).](#)
- 4) Cristaux et céramiques transparentes comme matériaux scintillateurs pour l'imagerie médicale, B. Viana, *UVX 2010* (2011) 153-159.
- 5) Bonifacio, Daniel Alexandre Baptista, [Modeling of a detection system for positron emission mammography using monolithic scintillator detectors](#), PhD Thesis, University of São Paulo, Brazil, **2011**.
- 6) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 7) Yoshiyuki Hirano, Munetaka Nitta, Naoko Inadama, Fumihiko Nishikido, Eiji Yoshida, Hideo Murayama, Taiga Yamaya, Performance evaluation of a depth-of-interaction detector by use of position-sensitive PMT with a super-bialkali photocathode, Radiological Physics and Technology **2014**, Volume 7, Issue 1, pp 57-66.
- 8) [Seema Shinde, Manoranjan Ghosh, S.G. Singh, Shashwati Sen, S.C. Gadkari, S.K. Gupta, Structural and Optical Properties of Gd<sub>2</sub>SiO<sub>5</sub> prepared from hydrothermally synthesized powder, Journal of Alloys and Compounds, Vol 592, 15, 2014, 12-18.](#)
- 9) G E Karpetas, C M Michail, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (2014) *J. Phys.: Conf. Ser.* 490 012139.

- 10) Chan Hee Park, Arim Lee, Rinah Kim, Joo Hyun Moon, Evaluation of the detection efficiency of LYSO scintillator in the fiber-optic radiation sensor, Science and Technology of Nuclear Installations (2014) Volume 2014, 248403.
- 11) Dongzhou Ding, Jianhua Yang, Guohao Ren, Martin Nikl, Sheng Wang, Yuntao Wu and Zhiyong Mao, Effects of anisotropy on structural and optical characteristics of LYSO:Ce crystal, Phys. Status Solidi B (2014) Volume 251, Issue 6, pages 1202-1211, <http://dx.doi.org/10.1002/pssb.201350338>
- 12) Dongzhou Ding, Bo Liu, Yuntao Wu, Jianhua Yang, Guohao Ren, Junfeng Chen, Effect of yttrium on electron-phonon coupling strength of 5d state of Ce<sup>3+</sup> ion in LYSO:Ce crystals, Journal of Luminescence (2014) Volume 154, Pages 260-266.
- 13) Xinguo Zhang, Yibo Chen, Suiwen Zeng, Liya Zhou, Jianxin Shi, Menglian Gong, Luminescence properties of novel Eu<sup>3+</sup> doped NaCaBO<sub>3</sub> red phosphors, *Ceramics International* (2014) Volume 40, Issue 9, Part A, Pages 14537-14541.
- 14) Kiyoshi Kobayashi, Takuji Ikeda, Norihito Hiyoshi, and Yoshio Sakka, Discovery of a new crystalline phase: BiGeO<sub>2</sub>(OH)<sub>2</sub>(NO<sub>3</sub>), CrystEngComm, 2014, 16:10080-10088, DOI: 10.1039/C4CE01355G
- 15) X射线晶体光学性能光电综合测试方法 Laser & Optoelectronics Progress 2014
- 16) Kiyoshi Kobayashi, Takuji Ikeda, Syunya Mihara, Kenya Hirai, Takaya Akashi and Yoshio Sakka, Room-temperature synthesis of Bi<sub>4</sub>Ge<sub>3</sub>O<sub>12</sub> from aqueous solution 2015 Jpn. J. Appl. Phys. 54 06FJ03 [doi:10.7567/JJAP.54.06FJ03](https://doi.org/10.7567/JJAP.54.06FJ03)
- 17) **C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, Luminescence Efficiency of (Lu,Gd)<sub>2</sub>SiO<sub>5</sub>:Ce (LGSO:Ce) crystals under X-ray radiation, (2015) Radiat Meas. 80:1-9.**
- 18) **C M Michail, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods, (2015) J. Phys.: Conf. Ser. 637 012019.**
- 19) G E Karpetas, **C M Michail, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, Influence of Iterative Reconstruction Algorithms on PET Image Resolution, (2015) J. Phys.: Conf. Ser. 637 012011.**
- 20) **C M Michail, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, Medical Imaging Image Quality Assessment with Monte Carlo Methods (2015) J. Phys.: Conf. Ser. 633 012096.**
- 21) Stratos David, **Christos Michail, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, Investigation of luminescence properties of Lutetium Fine Silicate (LFS-3) scintillation crystals under X-ray radiographic conditions, SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-067.**
- 22) Stratos David, **Christos Michail, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG) crystals under X-ray excitation, SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-066.**
- 23) G. Annadurai, S. Masilla, Moses Kennedy, Synthesis and photoluminescence properties of Ba<sub>2</sub>CaZn<sub>2</sub>Si<sub>6</sub>O<sub>17</sub>:Eu<sup>3+</sup> red phosphors for white LED applications, Journal of Luminescence, Volume 169, Part B, 2016, 690-694.
- 24) Q. Li, Z.P. Liu, X. J. Li, L. M. Dong, Synthesis And Luminescence Properties Of Sr<sub>2</sub>CeO<sub>4</sub>: Eu<sup>3+</sup>, Tb<sup>3+</sup> Phosphors, Digest Journal of Nanomaterials and Biostructures, Vol. 11(1), 2016, p. 313-319.
- 25) Takayuki Yanagida, Masanori Koshimizu, Go Okada, Takahiro Kojima, Junya Osada, Noriaki Kawaguchi, Comparative study of nondoped and Eu-doped SrI<sub>2</sub> scintillator, Optical Materials, 2016, 61:119-124, doi:10.1016/j.optmat.2016.05.030
- 26) **C. M. Michail, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, Hell J Nucl Med. 19(3):231-240.**
- 27) Q. Li, Z. P. Liu, L. M. Dong, Y. F. Zhang, Facile Synthesis And Luminescence Properties Of CePO<sub>4</sub>:Tb<sup>3+</sup> By Electrospinning, Digest Journal of Nanomaterials and Biostructures Vol. 11, No. 4, 2016, p. 1311-1317.
- 28) Konstantinos Psichis, Nektarios Kalyvas, Ioannis Kandarakis, George Panayiotakis, An analytical approach to the light transport in columnar phosphors. Detector Optical Gain, angular distribution and the CsI:Tl paradigm. Physica Medica 2017 35:39:49 <http://dx.doi.org/10.1016/j.ejmp.2017.02.008>.
- 29) George E. Karpetas, **Christos M. Michail, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) Appl. Radiat. Isot. 125:154-162.**
- 30) Optical and scintillation properties of ScAlMgO<sub>4</sub> crystal grown by the floating zone method, Takayuki Yanagida, Masanori Koshimizu, Naoki Kawano, Go Okada, Noriaki Kawaguchi, Materials Research Bulletin, 2017, 95:409-413, <https://doi.org/10.1016/j.materresbull.2017.08.021>
- 31) Ioannis E. Seferis, Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application, PhD Thesis, University of Patras, Greece, 2017.
- 32) Xiao X., Xu J., Xiang W. Research Development of Lu-based Scintillation Crystals Cailiao Daobao/Materials Review, 31(9), 2017, pp. 12-19.
- 33) K. Psichis, Signal transfer characteristics of columnar phosphors used in X-ray imaging, University of Patras, Ph.D. Thesis (2017).

- 34) [P. Limkitjaroenporn, W. Hongtong, W. Chaiphaksa, S.J. Kang, J. Kaewkhao, K. Siengsanoh](#), The light yield non-proportionality and electron energy resolution study of CsI(Tl) scintillator by Compton coincidence technique (CCT), *Materials today proceedings*. **Vol. 5, Issue 7, Part 1**, 2018, pp.15110-15114, <https://doi.org/10.1016/j.matpr.2018.04.066>.
- 35) Muhammad Nasir Ullah, Eva Pratiwi, Jin Ho Park, Seiichi Yamamoto, Kei Kamada, Akira Yoshikawa, Jung-Yeol Yeom, Studies on sub-millimeter LYSO:Ce, Ce:GAGG, and a new Ce:GFAG block detector for PET using digital silicon photomultiplier, *Nuclear Inst. and Methods in Physics Research, A* **2018** 911, pp. 115-122, DOI: <https://doi.org/10.1016/j.nima.2018.09.029>.
- 36) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 37) **Christos M.Michail**, Kyriakos N.Agavanakis, George. E.Karpetas, Nektarios I.Kalyvas, Ioannis G.Valais, Ioannis S.Kandarakis, George S.Panayiotakis, George P.Fountos, Information Content in Nuclear Medicine Imaging, [Energy Procedia, Volume 157, 2019](#), pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 38) Zhenzhang Li, Biliang Zhong, Yujun Cao, Shaoan Zhang, Yang Lv, Zhongfei Mu, Zhengfa Hu, Yihua Hu, Energy transfer and tunable luminescence properties in Y<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>: Tb<sup>3+</sup>, Eu<sup>3+</sup> phosphors, [Journal of Alloys and Compounds, Volume 787, 2019](#), pp 672-682. <https://doi.org/10.1016/j.jallcom.2019.02.154>
- 39) Pradip Z. Zambare, Luminescent Properties of Sr<sub>2</sub>CeO<sub>4</sub>:Eu<sup>3+</sup>, Tb<sup>3+</sup> Phosphor by Solid state reaction Method, *IJRAR-International Journal of Research and Analytical Reviews*, (2019), 6(1), 570-574.
- 40) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 41) T. Thoř, K. Rubeřova, V. Jakeř, D. Mikolařova, F. Průřa, L. Nadherny, R. Kučerkova, and M. Nikl "Eu:Lu<sub>2</sub>O<sub>3</sub> transparent ceramics prepared by spark-plasma-sintering", *Proc. SPIE 11385, Optics and Measurement International Conference 2019, 113850K* (30 December 2019); <https://doi.org/10.1117/12.2544573>
- 42) Igashira, K.; Nakauchi, D.; Fujimoto, Y.; Kato, T.; Kawaguchi, N.; Yanagida, T. Photoluminescence and Scintillation Properties of Ce-Doped Ca(Gd,Y)Al<sub>3</sub>O<sub>7</sub> Single Crystals. *Optical Materials* **2019**, 98, 109497, doi:10.1016/j.optmat.2019.109497.
- 43) Kagami, K., Fujimoto, Y., Koshimizu, M. et al. Photoluminescence and scintillation properties of Al(PO<sub>3</sub>)<sub>3</sub>-CeCl<sub>3</sub>-CsCl-CsPO<sub>3</sub> glass scintillators. *J Mater Sci: Mater Electron* (2020). <https://doi.org/10.1007/s10854-020-02997-5>
- 44) Kenta Igashira, Daisuke Nakauchi, Taiki Ogawa, Takumi Kato, Noriaki Kawaguchi, Takayuki Yanagida, Development of Eu-doped Sr<sub>2</sub>MgSi<sub>2</sub>O<sub>7</sub> single crystalline scintillators, *Optical Materials*, Volume 109, **2020**, 110270, <https://doi.org/10.1016/j.optmat.2020.110270>.
- 45) Lu Lu, Mingzi Sun, Qiuyang Lu, Tong Wu, Bolong Huang, High Energy X-ray Radiation Sensitive Scintillating Materials for Medical Imaging, Cancer Diagnosis and Therapy, *Nano Energy*, **2020**, 105437, <https://doi.org/10.1016/j.nanoen.2020.105437>.
- 46) Onoda, D., Akatsuka, M., Kawano, N. et al. Photoluminescence and scintillation properties of (C<sub>6</sub>H<sub>5</sub>C<sub>2</sub>H<sub>4</sub>NH<sub>3</sub>)<sub>2</sub>Pb<sub>1-x</sub>Zn<sub>x</sub>Br<sub>4</sub> as a two-dimensional quantum-confined scintillator. *J Mater Sci: Mater Electron* (2020). <https://doi.org/10.1007/s10854-020-04592-0>
- 47) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 48) A. F. Bartley et al., "Feasibility of cerium-doped LSO particles as a scintillator for X-ray induced optogenetics," *Journal of Neural Engineering*, **2021**. Available: <https://doi.org/10.1088/1741-2552/abef89>.
- 49) Gramuglia, F.; Frasca, S.; Ripiccini, E.; Venialgo, E.; Gate, V.; Kadiri, H.; Deschermes, N.; Turover, D.; Charbon, E.; Bruschini, C. Light Extraction Enhancement Techniques for Inorganic Scintillators. *Crystals* **2021**, 11, 362. <https://doi.org/10.3390/cryst11040362>
- 50) Okazaki, K., Onoda, D., Fukushima, H. et al. Characterization of scintillation properties of Nd-doped Bi<sub>4</sub>Ge<sub>3</sub>O<sub>12</sub> single crystals with near-infrared luminescence. *J Mater Sci: Mater Electron* 32, 21677–21684 (2021). <https://doi.org/10.1007/s10854-021-06686-9>
- 51) X. Xia and J. Zou, "Scintillator study for improving material separation ability in x-rays computed tomography imaging," *2021 International Conference of Optical Imaging and Measurement (ICOIM)*, **2021**, pp. 140-144, doi: 10.1109/ICOIM52180.2021.9524380.

## Publication

S. David, **C. Michail**, I. Valais, A.Toutountzis, D.Cavouras, I.Kandarakis, G. Panayiotakis (2008) [Investigation of luminescence properties of Lu<sub>2</sub>SiO<sub>5</sub>:Ce \(LSO\) powder scintillator in the x-ray radiography energy range](#) *IEEE Trans. Nucl. Sci.* 55(6):3684-3691.

**(Scitations: 9)**

- 1) S. David, C. Michail, I. Valais, M. Roussou, E. Nirgianaki, A. Toutountzis, G. Fountos, I. Kandarakis, G. Panagiotakis, [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#), IEEE Nuclear Science Symposium, Medical Imaging Conference and 16<sup>th</sup> Room Temperature Semiconductor Detector Workshop 19-25 October **2008** Dresden, Germany, IEEE NSS Conference Record, 2008, page(s): 3950-3953, ISSN: 1082-3654, ISBN: 978-1-4244-2714-7, DOI: [10.1109/NSSMIC.2008.4774148](#).
- 2) S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. Kandarakis, G. Panayiotakis, Luminescence efficiency of fast yttrium aluminum garnet phosphor screens for use in digital breast tomosynthesis detectors, 3rd International Conference on Experiments/Process/System Modeling/Simulation & Optimization 3rd IC-EpsMsO Athens, 8-11 July, **2009**
- 3) [Pixel readout circuit for X-ray imagers](#), Rocha, J.G., Minas, G., Lanceros-Mendez, S., *IEEE Sensors Journal* 10 (11), art. no. 5483229, pp. 1740-1745 (**2010**)
- 4) [The effect of scintillator response on signal difference to noise ratio in X-ray medical imaging](#), Ninos, K., Cavouras, D., Fountos, G., Kandarakis, I., *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 622 (1), pp. 246-255 (**2010**)
- 5) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#) David, S.L., Michail, C.M., Roussou, M., Nirgianaki, E., Toutountzis, A.E., Valais, I.G., Fountos, G., (...), Panayiotakis, G. **2010** *IEEE Transactions on Nuclear Science* 57 (3 PART 1), art. no. 5485157, pp. 951-957
- 6) Experimental evaluation of single-crystal and granular scintillators in medical imaging detectors: application in an experimental prototype imaging system, David S, PhD Thesis, University of Patras, Greece, **2010**.
- 7) S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. S. Kandarakis, G. S. Panayiotakis (**2010**) [Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis](#) *e-Journal of Science & Technology, (e-JST)* 5(2):63-73.
- 8) Sun Chaoming, Ge Jiqiang, Sun Kaihua, Optimization on calibration of flat panel detector in digital radiography, Nuclear Techniques, **2018** 41(9), 090401. DOI: 10.11889/j.0253-3219.2018.hjs.41.090401
- 9) [Burdette MK, Bandera YP, Zhang E, Trofimov A, Dickey A, Foulger I, Kolis JW, Cannon KE, Bartley AF, Dobrunz LE, Bolding MS, McMahon L, Foulger SH](#), Organic Fluorophore Coated Polycrystalline Ceramic LSO:Ce Scintillators for X-ray Bioimaging. [Langmuir](#). **2018**. doi: 10.1021/acs.langmuir.8b03129.

**Publication**

S. David, C. Michail, I. Valais, M. Roussou, E. Nirgianaki, A. Toutountzis, G. Fountos, I. Kandarakis, G. Panagiotakis, [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#), IEEE Nuclear Science Symposium, Medical Imaging Conference and 16<sup>th</sup> Room Temperature Semiconductor Detector Workshop 19-25 October **2008** Dresden, Germany, IEEE NSS Conference Record, 2008, page(s): 3950-3953, ISSN: 1082-3654, ISBN: 978-1-4244-2714-7, DOI: [10.1109/NSSMIC.2008.4774148](#).

**(Scitations: 2)**

- 1) [Initial results on SiPM performance for use in medical imaging](#), Efthimiou, N., Argyropoulos, G., Panayiotakis, G., Georgiou, M., Loudos, G. **2010** *IEEE International Conference on Imaging Systems and Techniques, IST 2010 - Proceedings*, art. no. 5548492, pp. 256-260
- 2) C. R. Varney, M. A. Khamehchi, Jianfeng Ji, and F. A. Selim, X-ray luminescence based spectrometer for investigation of scintillation Properties, Rev. Sci. Instrum. 83, 103112 (**2012**); <http://dx.doi.org/10.1063/1.4764772>

**Publication**

[Valais, I.G., Michail, C.M., David, S.L., Konstantinidis, A., Cavouras, D.A., Kandarakis, I.S., Panayiotakis, G.S. Luminescence emission properties of \(Lu,Y\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LYSO:Ce\) and \(Lu,Y\)AlO<sub>3</sub>:Ce \(LuYAP:Ce\) single crystal scintillators under medical imaging conditions](#) **2008** *IEEE Transactions on Nuclear Science* 55 (2), pp. 785-789

**(Scitations: 38)**

- 1) [Investigation of the performance of Ce<sup>3+</sup> doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions](#) Valais, I., Michail, C., David, S., Panayiotakis, G.S., Fountos, G., Kandarakis, I., Paschalis, T. **2008** *IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings*, art. no. 4659933, pp. 21-24
- 2) [Optical ceramic scintillator for gamma-ray detection](#) Wang, Y., Glodo, J., Rhodes, W.H., Van Loef, E., Brecher, C., Nguyen, L., Baldoni, G., (...), Shah, K.S. **2008** *IEEE Nuclear Science Symposium Conference Record*, art. no. 4774626, pp. 1227-1231
- 3) [A comparative investigation of Ce<sup>3+</sup> doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions](#) Valais, I.G., Michail, C.M., David, S.L., Toutountzis, A.E., Fountos, G.P., Paschalis, T.V., Kandarakis, I.S., Panayiotakis, G.S. **2008** *IEEE Nuclear Science Symposium Conference Record*, art. no. 4774335, pp. 4887-4890

- 4) [Light emission efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu \(GOS:Eu\) powder screens under X-ray mammography conditions Michail, C.M., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Fountos, G.P., David, S.L., Kandarakis, I.S., Panayiotakis, G.S. 2008 \*IEEE Transactions on Nuclear Science\* 55 \(6\), art. no. 4723824, pp. 3703-3709](#)
- 5) [Mejora de la identificación del cristal de interacción en escáneres PET de alta resolución mediante simulaciones](#), Trabajos académicamente dirigidos de la Licenciatura en Física, Autor: Catherine Murphy-O'Connor, Director : José Manuel Udías Moineiro, Samuel España Palomares, Grupo de Física Nuclear, Departamento de Física Atomica, Molecular Y Nuclear, Facultad de Ciencias Fisicas, Universidad Complutense de Madrid, Fecha, **2008**.
- 6) Elisa Papa, Dr Andrei Nomerotski, [Positron emission tomography with silicon photomultipliers](#), University of Oxford, Department of Physics, **2009**.
- 7) [High-speed x-ray imaging of diesel injector needle motion Kastengren, A.L., Powell, C.F., Liu, Z., Fezzaa, K., Wang, J. 2009 \*Proceedings of the Spring Technical Conference of the ASME Internal Combustion Engine Division\* , pp. 247-258](#)
- 8) [Physical properties of LYSO scintillator for NN-PET detectors Du, J., Wang, Y., Zhang, L., Zhou, Z., Xu, Z., Wang, X. 2009 \*Proceedings of the 2009 2nd International Conference on Biomedical Engineering and Informatics, BMEI 2009\* , art. no. 5305107](#)
- 9) [Lu<sub>2</sub>SiO<sub>5</sub>:Ce optical ceramic scintillator Wang, Y., Rhodes, W.H., Baldoni, G., Van Loef, E., Glodo, J., Brecher, C., Nguyen, L., Shah, K.S. 2009 \*Proceedings of SPIE - The International Society for Optical Engineering\* 7393, art. no. 73930H](#)
- 10) [Wang, Y. et al. Lu<sub>2</sub>SiO<sub>5</sub>:Ce optical ceramic scintillator for PET, 2009 \*Nuclear Science, IEEE Transactions on\* \(Volume:56 , Issue: 3, pp 887 – 891.](#)
- 11) [Structural characterization of Lu<sub>0.7</sub>Y<sub>0.3</sub>AlO<sub>3</sub> single crystal by Raman spectroscopy Casu, A., Ricci, P.C., Anedda, A. 2009 \*Journal of Raman Spectroscopy\* 40 \(9\), pp. 1224-1228](#)
- 12) [X-ray spectrometry Tsuji, K., Nakano, K., Takahashi, Y., Hayashi, K., Ro, C.-U. 2010 \*Analytical Chemistry\* 82 \(12\), pp. 4950-4987](#)
- 13) [Comparative investigation of Ce<sup>3+</sup> doped scintillators in a wide range of photon energies covering X-ray CT, nuclear medicine and megavoltage radiation therapy portal imaging applications, Valais, I.G., Michail, C.M., David, S.L., Liaparinos, P.F., Fountos, G.P., Paschalis, T.V., Kandarakis, I.S., Panayiotakis, G.S. 2010 \*IEEE Transactions on Nuclear Science\* 57 \(1 PART 1\), art. no. 5410009, pp. 3-7](#)
- 14) Raman and structural characterization of LuAlO<sub>3</sub>, [Alberto Casua, Pier Carlo Ricci, \*Journal of Solid State Chemistry, Vol. 184\(11\), 2011\*, pp. 3028-3033](#)
- 15) Zhou Ri-feng, Chen Wei-min, and Duan Xiao-jiao, A new solid-conversion gas detector for high energy X-ray industrial computed tomography, *Optoelectronics Letters*, 7(5), **2011** 337-340
- 16) Edward S. Wilman, Sara H. Gardiner, Andrei Nomerotski, Renato Turchetta, Mark Brouard, and Claire Vallance, A new detector for mass spectrometry: Direct detection of low energy ions using a multi-pixel photon counter, *Rev. Sci. Instrum.* 83, 013304 (**2012**)
- 17) Murat Kurudirek, Alpdogan Celik, A simple method to determine effective atomic numbers of some compounds for multi-energetic photons, *Nuclear Instruments and Methods in Physics Research A* 689 (**2012**) 75-78.
- 18) Ane Etxebeste Barrena Caracterización y modelización devdetectores basados en la tecnología Cristal Continuo/SiPM paraescáneres de tomografía por emisión de positrons, MSc Thesis, University of Valencia, Spain, **2012**.
- 19) [M. Aburto-Crespo, G.A. Hirata, J. McKittrick, \*Synthesis and characterization of \(Lu<sub>1-x</sub>Y<sub>x</sub>Ce<sub>y</sub>\)<sub>2</sub>SiO<sub>5</sub> luminescent powders with fast decay time\*, \*Journal of Luminescence\* \(2013\) \*Volume 136\*, Pages 86-89.](#)
- 20) Ana Maria Barragan Montero, Optimization of the parameters in the electronics of a PET detector, PhD Thesis, University of Madrid, Spain, **2013**.
- 21) G. E. Karpetas, **C. M. Michail**, G. P. Fountos, P. N. Valsamaki, I. S. Kandarakis, G. S. Panayiotakis, (**2013**) Towards the optimization of nuclear medicine procedures for better spatial resolution, sensitivity, scan image quality and quantitation measurements by using a new Monte Carlo model featuring PET imaging, *Hell J Nucl Med.* 16(2) :111-120.
- 22) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 23) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 24) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, *J. Phys.: Conf. Ser.* (**2014**) 490 012139.
- 25) [V.C. Teixeira, P.J.R. Montesb, M.E.G. Valerio, Structural and optical characterizations of Ca<sub>2</sub>Al<sub>2</sub>SiO<sub>7</sub>:Ce<sup>3+</sup>, Mn<sup>2+</sup> nanoparticles produced via a hybrid route, \*Optical Materials\* \(2014\) \*Volume 36, Issue 9\*, Pages 1580-1590.](#)
- 26) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (**2014**) *Nucl Med Commun.* 35(9):967-976.
- 27) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012019.

- 28) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 29) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.
- 30) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, [Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG\) crystals under X-ray excitation](#), SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-066.
- 31) [M. J. Oviedo, O. E. Contreras, Y. Rosenstein, R. Vazquez-Duhalt, Z. S. Macedo, G. G. Carbajal-Arizaga, and G. A. Hirata](#). New Bismuth Germanate Oxide Nanoparticle Material for Biolabel Applications in Medicine Journal of Nanomaterials, 2016 (2016), 9782625, <http://dx.doi.org/10.1155/2016/9782625>
- 32) [Krishnakumar Renuka](#), [Scintillation screen materials for beam profile measurements of high energy ion beams](#). Technische Universität Darmstadt, Darmstadt, Ph.D. Thesis (2016).
- 33) [A.F. Martins, J.F.C. Carreira, J. Rodrigues, N. Ben Sedrine, I.F.C. Castro, P.M.M. Correia, J.F.C.A. Veloso, L. Rino, T. Monteiro](#), Spectroscopic analysis of LYSO:Ce crystals, [Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy](#) (2017) 172:163-167. doi:10.1016/j.saa.2016.04.019
- 34) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 35) Wenping Zhou, Zhixin Ma, Yunping Cai, Xiaoguo Bi, Tianxiao Li, Wei Niu, Xudong Sun, Qikang Lu, The Synthesis Temperature Selection of Cerium Doped Lutetium Yttrium Oxyorthosilicate Single Crystal Powder, International Conference Advanced Engineering and Technology Research (AETR 2017) Advances in Engineering Research (AER), 2017 volume 153, pp. 230-234. DOI: 10.2991/aetr-17.2018.44
- 36) [H. Mohammadi, M.R. Abdi, M.H. Habibi](#), [Synthesis and scintillation properties of cerium-doped Gd<sub>2</sub>SiO<sub>5</sub> nanopowders under alpha radiation and the importance of selecting the appropriate calcination temperature](#), [Journal of Luminescence](#) (2019), 116849, doi: <https://doi.org/10.1016/j.jlumin.2019.116849>.
- 37) [Kim, M., Kim, H.J., Cho, J.Y. et al.](#) Characterizations of a New Tl-based Elpasolite Scintillator: Tl<sub>2</sub>LiScCl<sub>6</sub>. *J. Korean Phys. Soc.* 76, 706-709 (2020). <https://doi.org/10.3938/jkps.76.706>
- 38) [Ma, Zhi Xin, et al.](#) "Preliminary Exploration on the Preparation of LYSO:Ce Single Crystal Using Verneuil Method." [Materials Science Forum](#), vol. 1003, Trans Tech Publications, Ltd., 2020, 247-253. doi:10.4028/www.scientific.net/msf.1003.247.

#### Publication

I. G. Valais, **C. M. Michail**, S. L. David, A. E. Toutountzis, G. P. Fountos, G. S. Panayiotakis, I. S. Kandarakis, [A Comparative Investigation of Ce<sup>3+</sup> Doped Single Crystal Scintillators Covering Radiotherapy and PET/CT Imaging Conditions](#), IEEE Nuclear Science Symposium, Medical Imaging Conference and 16<sup>th</sup> Room Temperature Semiconductor Detector Workshop 19-25 October 2008 Dresden, Germany, IEEE NSS Conference Record, 2008, page(s): 4887, ISBN: 978-1-4244-2714-7, DOI: [10.1109/NSSMIC.2008.4774335](https://doi.org/10.1109/NSSMIC.2008.4774335). **(Auk. SC 25)**

**(Scitations: 1)**

- 1) Q. Guo; C. Mou; L. He; W. Luo; S. Huang; G. D. Peng; T. Wang, "SiO<sub>2</sub> glass-cladding YAP:Ce scintillating fiber for remote radiation dosimeter," in *IEEE Photonics Technology Letters*, vol. PP, no.99, pp.1-1, 2016 doi: 10.1109/LPT.2016.2639288

#### Publication

C. Michail, S. David, A. Toutountzis, I. Valais, G. Panayiotakis, G. Fountos, N. Kalyvas, and I. Kandarakis, "A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu phosphor scintillators for use in a medical imaging detectors," in [IST 2008—IEEE Workshop on Imaging Systems and Techniques Proceedings, Chania, Crete, Greece, 10–12 September 2008](#) (IEEE, 2008), pp. 25-28.

**(Scitations: 1)**

- 1) [M. Stokoy, A. Mock, R. Korlacki, S. Knight, V. Darakchieva, S. Schöche, and M. Schubert](#), Infrared active phonons in monoclinic lutetium oxyorthosilicate. *Journal of Applied Physics* 127, 115702 (2020); <https://doi.org/10.1063/1.5135016>

#### Publication

[Michail, C.M., Fountos, G.P., David, S.L., Valais, I.G., Toutountzis, A.E., Kalyvas, N.E., Kandarakis, I.S., Panayiotakis, G.S.](#), [A comparative investigation of Lu<sub>2</sub>SiO<sub>5</sub>:Ce and Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillators for use in x-ray mammography detectors](#) 2009 [Measurement Science and Technology](#) 20(10), art. no. 104008.

**(Scitations: 34)**



- 1) [Light emission efficiency and imaging performance of Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator under x-ray radiography conditions](#) Michail, C.M., Fountos, G.P., Liaparinos, P.F., Kalyvas, N.E., Valais, I., Kandarakis, I.S., Panayiotakis, G.S. **2010** *Medical Physics* 37 (7), pp. 3694-3703.
- 2) [Initial results on SiPM performance for use in medical imaging](#), Efthimiou, N., Argyropoulos, G., Panayiotakis, G., Georgiou, M., Loudos, G. **2010** *IEEE International Conference on Imaging Systems and Techniques, IST 2010 - Proceedings*, art. no. 5548492, pp. 256-260.
- 3) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, **2010**.
- 4) [Valais, I.G. Fountos, G.P. Michail, C.M. Seferis, I. Kalyvas, N.I. Mytafidis, A.K. Kandarakis, I.S. Panayiotakis, G.S.](#), Thin substrate powder scintillator screens for use in digital X-ray medical imaging applications, [Nuclear Science Symposium and Medical Imaging Conference \(NSS/MIC\), 2011 IEEE](#), pp. 2997-3000.
- 5) N Efthimiou, M Georgiou, G Argyropoulos, E Fysikopoulos, S David, G Loudos and G Panayiotakis, Initial results on SiPMs performance for use in medical imaging, **2011** *Meas. Sci. Technol.* 22 114001.
- 6) Ioannis Valais, **Christos M. Michail**, Ioannis Seferis, George Fountos, Nektarios Kalyvas, Ioannis Kandarakis and George S. Panayiotakis (**2012**), [Scintillation screen preparation for use in digital medical systems](#) *e-Journal of Science & Technology, (e-JST)* 7(3):1-5.
- 7) Z. Marton, H. B. Bhandari, C. Brecher, S.R. Miller, B. Singh, V.V. Nagarkar, Fabrication of high-resolution Lu<sub>2</sub>O<sub>3</sub>:Eu X-ray Scintillator by Physical Vapor deposition, *IEEE Trans. Nucl. Sci.* (**2013**) Vol 60(2), pp. 983-987 DOI:10.1109/TNS.2012.2232939.
- 8) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis](#) *Proc. SPIE* 8668, Medical Imaging (**2013**): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 9) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 10) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (**2013**) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 11) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, **2013**.
- 12) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 13) I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystal under X-ray radiographic conditions, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 455-458.
- 14) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stromatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.
- 15) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (**2014**) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu, *J Lumin.* 151:229-234.
- 16) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (**2014**) *J. Phys.: Conf. Ser.* 490 012139.
- 17) Qinhuai Wei, Guanghui Liu, Zhenzhen Zhou, Jieqiong Wan, Hua Yang, Qian Liu Preparation and spectroscopic properties of Ce-doped La<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> as novel scintillator materials, *Materials Letters* (**2014**) [Volume 126](#), 1, Pages 178-180.
- 18) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation.](#) (**2015**) *Radiat Meas.*74:39-46.
- 19) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution.](#) (**2015**) *J. Phys.: Conf. Ser.* 637 012031.
- 20) [D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2.](#) (**2016**) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_5

- 21) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 22) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 23) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 24) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 25) Zhang, B.; Zou, H.; Song, Y.; Guan, H.; Zhou, X.; Shi, Z.; Sheng, Y. Electrospinning fabrication and luminescence properties of Lu<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> fibers. *CrystEngComm* 2017, 19, 699–707, doi:10.1039/C6CE02391F.
- 26) C. Michail I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (2018) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 27) [M.N. Bailey, G.K. Schweitzer, The mechanochemical and solution combustion syntheses of cerium-doped lutetium oxyorthosilicate powder](#), *Journal of Alloys and Compounds* (2018) 734:258-265, doi: 10.1016/j.jallcom.2017.10.290.
- 28) I. Seferis, **C. Michail**, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (2018) *Appl Phys A* 124:604
- 29) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 30) Stefan Herbert, [Short Wavelength Imaging for the Inspection of Nanoscaled Defects](#), PhD Thesis, Rheinisch-Westfälische Technische Hochschule Aachen, 2018.
- 31) [Sapizah Rahim, Muhammad Taqiyuddin Mawardi Ayob, Muhammad Hassyakirin Hasim, Irman Abdul Rahman, Shahidan Radiman](#), Physical and optical studies of Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> nanophosphors by microwave irradiation and  $\gamma$ -irradiation methods, *Luminescence*, 2019, 2019:1-8 <https://doi.org/10.1002/bio.3655>
- 32) E. I. Get'man, S. V. Radio, [Predicting the Substitution of Rare-Earth Elements with Cerium in the Solid Solutions Based on Nanoscale LnSiO \(Ln=Tb–Lu, Y\)](#), *Nanosistemi, Nanomateriali, Nanotehnologii* Issue 4 vol. 17, 2019, 701-710.
- 33) Dongsheng Yuan, Federico Moretti, Didier Perrodin, Gregory Bizarri, Tetiana Shalapska, Christophe Dujardin and Edith Bourret, Modified floating-zone crystal growth of Mg<sub>4</sub>Ta<sub>2</sub>O<sub>9</sub> and its scintillation performance, *Cryst. Eng. Comm.* 2020, 22, 3497-3504 <https://doi.org/10.1039/D0CE00388C>
- 34) Get'man E.I., Oleksii Yu.A., Radio S.V., Ardanova L.I. Determining the phase stability of luminescent materials based on the solid solutions of oxyorthosilicates (Lu<sub>1-x</sub>Ln<sub>x</sub>)[(SiO<sub>4</sub>)<sub>0.5</sub>O<sub>0.5</sub>], where Ln = La–Yb. *Fine Chemical Technologies.* 2020;15(5):54-62. <https://doi.org/10.32362/2410-6593-2020-15-5-54-62>

## Publication

[Michail, C., Toutountzis, A., David, S., Kalyvas, N., Valais, I., Kandarakis, I., Panayiotakis, G.S.](#) Imaging performance and light emission efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce (LSO:Ce) powder scintillator under X-ray mammographic conditions 2009 *Applied Physics B: Lasers and Optics* 95 (1), pp. 131-139.

## (Scitations: 28)

- 1) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, 2010.
- 2) [The effect of scintillator response on signal difference to noise ratio in X-ray medical imaging](#) Ninos, K., Cavouras, D., Fountos, G., Kandarakis, I. 2010 *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 622 (1), pp. 246-255.
- 3) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors](#) David, S.L., Michail, C.M., Roussou, M., Nirgianaki, E., Toutountzis, A.E., Valais, I.G., Fountos, G., (...), Panayiotakis, G. 2010 *IEEE Transactions on Nuclear Science* 57 (3 PART 1), art. no. 5485157, pp. 951-957.
- 4) [Geometrical MTF computation method based on the irradiance model](#), Lin P. - D., Liu C.-S., *Appl Phys B* (2011) 102: 243-249.
- 5) Calculation of MTF for Object Brightness Distribution Function Oriented along Any Direction in Axis-Symmetrical Optical Systems Psang Dain Lin and Wei Wu *Applied Optics*, Vol. 50, Issue 17, pp. 2759-2772 (2011) doi:10.1364/AO.50.002759.

- 6) C. M. Michail, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinos, I. S. Kandarakis, G. S. Panayiotakis (2011) [Evaluation of the red emitting Gd<sub>2</sub>O<sub>3</sub>:Eu powder scintillator for use in indirect X-ray digital mammography detectors](#), *IEEE Trans. Nucl. Sci.* 58(5):2503-2511.
- 7) Nektarios I. Kalyvas, Stratos David, Christos Michail, Panagiotis Liaparinos, George Fountos, Ioannis Valais and Ioannis Kandarakis, investigating the energy dependence of intrinsic conversion efficiency of phosphor materials through analytical models, 4th International Conference on Experiments/Process/System Modeling/Simulation/Optimization 4th IC-EpsMsO Athens, 6-9 July, 2011 IC-EpsMsO.
- 8) D. Wei, Y. Huang, S. Zhang, Y.M. Yu, H.J. Seo, Luminescence spectroscopy of Ce<sup>3+</sup>-doped ABaPO<sub>4</sub> (A = Li, Na, K) phosphors, *Appl Phys B* 2012, 108(2), 447-453.
- 9) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis](#) *Proc. SPIE* 8668, Medical Imaging (2013): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 10) C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 11) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, 2013.
- 12) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013.
- 13) I. E. Seferis, S. L. David, C. M. Michail, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystal under X-ray radiographic conditions, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 455-458
- 14) N. Kalyvas, I. Valais, S. David, Ch. Michail, G. Fountos, P. Liaparinos, and I. Kandarakis, Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation (2014) *Optics and Spectroscopy.* 116(5):95-99.
- 15) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>3</sub>:Eu, *J Lumin.* 151:229-234.
- 16) G E Karpetas, C M Michail, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (2014) *J. Phys.: Conf. Ser.* 490 012139.
- 17) [Gao, F., Zhu, Q., Zhou, Z., Zhao, H.](#), Accurate measurement of MTF based on interpolation floating method, [Nami Jishu yu Jingmi Gongcheng/Nanotechnology and Precision Engineering](#), Vol. 12(2), 2014, pp. 107-116
- 18) Junhua Chen, Weiren Zhao, Jianming Zhong, Licai Lan, Jianqing Wang, Nenghuo Wang, Synthesis and luminescence properties of Ce<sup>3+</sup> - doped RbBaPO<sub>4</sub>, [Ceramics International Volume 40, Issue 9, Part B](#), 2014, Pages 15241-15248.
- 19) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F Powder Scintillators under X-ray radiation](#), (2014) *Radiat Meas.* 70:59-64.
- 20) H. Ping, [X-ray crystal optical properties of optoelectronic integrated test methods](#), *Laser & Optoelectronics Progress* (6), pp 111-116, (2014).
- 21) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, [Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG\) crystals under X-ray excitation](#), *SCinTE* 2015, 5-7 November, Athens, Greece, 162-A01-066.
- 22) [C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos](#), [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CSI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 23) C. M. Michail, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 24) Enhancement of directional broadband luminescence from a scintillation film via guided-mode resonance in a photonic crystal structure Zhichao Zhu, Bo Liu, Chuanwei Cheng, Haifeng Zhang, Hong Chen, Mu Gu, Jinliang Liu, Liang Chen, Xiaoping Ouyang, Chaofan Xue, and Yanqing Wu. *Appl. Phys. Lett.* 110, 051901 (2017); doi: 10.1063/1.4975363
- 25) Beata Sarecka-Hujar, Radoslaw Balwierz, Aneta Ostrozka-Cieslik, Renata Dya, Dariusz Lukowiec and Andrzej Jankowski, Scanning electron microscopy and X-ray energy dispersive spectroscopy – useful tools in the analysis of pharmaceutical products, 2017 *J. Phys.: Conf. Ser.* 931 012008, DOI: <https://doi.org/10.1088/1742-6596/931/1/012008>
- 26) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.

- 27) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 28) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninou, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

#### Publication

**C. Michail**, V. Spyropoulou, N. Kalyvas, I. Valais, N. Dimitropoulos, G. Fountos, I. Kandarakis and G. Panayiotakis (2009) [The influence of software filtering in digital mammography image quality](#) *J. Inst.* 4:P05018.

#### (Scitations: 3)

- 1) Mac Raighne A., Brownlee C., Gebert U., Maneuski D., Milnes J., O'Shea V., Rügheimer T.K., Imaging visible light with Medipix2, Review of Scientific Instruments, Vol. 81(11), **2010**, 113103.
- 2) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (2014) 2014:634856.
- 3) A. Anastasiou, **C. Michail**, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012005

#### Publication

V. Spyropoulou, N. Kalyvas, A. Gaitanis, **C. Michail**, G. Panayiotakis, I. Kandarakis (2009) [Modelling the imaging performance and low contrast detectability in digital mammography](#) *J. Inst.* 4:P06004.

#### (Scitations: 5)

- 1) **C. M. Michail**, V. B. Spyropoulou, G. P. Fountos, N. E. Kalyvas, A. K. Mytafidis, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis [Imaging Performance of a high resolution CMOS sensor under Mammographic and Radiographic conditions](#), IEEE International Workshop on Imaging Systems and Techniques (IST) Thessaloniki, Greece 1-2 July 2010.
- 2) Vasiliki A. Spyropoulou, Nektarios Kalyvas, Anastasios Gaitanis, Ioannis S. Kandarakis, George S. Panayiotakis, Image Quality in Digital Radiography: First Results of an analytical modeling approach, *e-Journal of Science & Technology*, (e-JST) 5(2):55-62 (2010).
- 3) **C. M. Michail**, V. A. Spyropoulou, G. P. Fountos, N. E. Kalyvas, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis, Experimental and theoretical evaluation of a high resolution CMOS based detector under X-ray imaging conditions, *IEEE Trans. Nucl. Sci.* 58(1):314-322 (2011).
- 4) [Tapan K. Gupta](#), Mathematical Modeling of Radiation [Radiation, Ionization, and Detection in Nuclear Medicine](#), 2013, pp 135-185.
- 5) Optical Imaging for Biomedical and Clinical Applications, Edited by Ahmad Fadzil Mohamad Hani and Dileep Kumar, 2018, Boca Raton : Taylor & Francis / CRC Press, ISBN 9781315368351 (ebook)

#### Publication

I. G. Valais, S. David, **C. Michail**, C. D. Nomicos, G. S. Panayiotakis and I. S. Kandarakis (2009) [Comparative evaluation of single crystal scintillators under x-ray imaging conditions](#) *J. Inst.* 4:P06013.

#### (Scitations: 9)

- 1) [Yu Y., Li M.](#), Determination of scintillator PSF for measuring source transverse sizes of synchrotron radiations, [He Jishu/Nuclear Techniques](#), Vol. 34(6), 2011, pp.423-426
- 2) Eigenvector decomposition of full-spectrum x-ray computed tomography, Brian J Gonzales and David S Lalush 2012 *Phys. Med. Biol.* 57 1309
- 3) [J.C.E. Mertens, J.J. Williams, Nikhilesh Chawla](#), Development of a Lab-scale, High-Resolution, Tube-Generated X-Ray Computed-Tomography System for Three-Dimensional (3D) Materials Characterization, [Materials Characterization](#), (2014) [Volume 92](#), Pages 36-48.
- 4) **C. Michail**, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, [Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation](#), (2015) *Radiat Meas.* 80:1-9.
- 5) [Krishnakumar Renuka](#), [Scintillation screen materials for beam profile measurements of high energy ion beams](#). Technische Universität Darmstadt, Darmstadt, Ph.D. Thesis (2016).
- 6) Muad Saleh, Kelvin G. Lynn, John S. McCloy, Evaluation of undoped ZnS single crystal materials for x-ray imaging applications, 2017, Proc. of SPIE Vol. 10179, 1017904-14, doi: 10.1117/12.2262187.
- 7) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (2017).
- 8) Shunsuke Kurosawa, Takahiko Horiai, Rikito Murakami, Yasuhiro Shoji, Pejchal Jan, Akihiro Yamaji, Shohei Kodama,

Yuji Ohashi, Yuui Yokota, Kei Kamada, Akira Yoshikawa, Akimasa Ohnishi, Mamoru Kitaura, Comprehensive study on Ce-doped (La, Gd)<sub>2</sub>Si<sub>2</sub>O<sub>7</sub>, scintillator, *IEEE Transactions on Nuclear Science* **2018**, pp: 1-1, doi: 10.1109/TNS.2018.2841917

- 9) J. Bahout *et al.*, "Remote Measurements of X-rays Dose Rate using a Cerium-doped Air-clad Optical Fiber," *IEEE Transactions on Nuclear Science*. 67(7), art. no. 8985294, pp. 1658-1662, **2020**, DOI: 10.1109/TNS.2020.2972043

#### Publication

G. Fountos, A. Zanglis, **C. Michail**, I. Kalatzis, D. Cavouras, A. Samartzis, E. Kounadi, P. Valsamaki, S. Gerali, G. Nikiforidis and I. Kandarakis, [Assessment of Image Quality in SPECT Systems via the Implementation of a Novel Flood Source Technique](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 802-805, DOI: [10.1007/978-3-642-03879-2\\_224](#).

(Scitations: 4)

- 1) [Hugo de las Heras Gala](#), New Approaches to Quality Assurance, *Imaging in Nuclear Medicine* **2013**, pp 167-186
- 2) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 3) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 4) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.

#### Publication

A. Samartzis, G. Fountos, I. Kalatzis, **C. Michail**, A. Zanglis, D. Cavouras, I. Datsaris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis, [A novel method for the MTF determination in PET/CT scanners](#), World Congress on Medical Physics and Biomedical Engineering, September 7 - 12, 2009, Munich, Germany IFMBE Proceedings, 2009, Volume 25/2, 841-844, DOI: [10.1007/978-3-642-03879-2\\_234](#).

(Scitations: 3)

- 1) [Hugo de las Heras Gala](#), New Approaches to Quality Assurance, *Imaging in Nuclear Medicine* **2013**, pp 167-186
- 2) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 3) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.

#### Publication

A. Toutountzis, **C. Michail**, I. Valais, S. David, G. Nikiforidis and I. Kandarakis (2009) [Light emission efficiency of GdAlO<sub>3</sub>:Ce \(GAP:Ce\) powder screens under X-ray radiography conditions](#) *e-Journal of Science & Technology, (e-JST)* 4(3):23-29.

(Scitations: 1)

- 1) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.

#### Publication

A. Toutountzis, G. Fountos, **C. Michail**, A. Samartzis, I. Kandarakis and G. Nikiforidis, [Dual Energy Subtraction Angiography: a Simulation Study using the Three Material Approach](#), WC 2009, IFMBE Proceedings 25/II, pp. 913-916, **2009**, (Eds) O. Dossel and W.C. Schegel.

(Scitations: 1)

T. Fíla, I. Kumpová, P. Koudelka, P. Zlámal, D. Vavřík, O. Jiroušek and A. Jung, Dual-energy X-ray micro-CT imaging of hybrid Ni/Al open-cell foam, *Journal of Instrumentation*, Volume 11, C01005 **2016**.

#### Publication

I. G. Valais, **C. M. Michail**, S. L. David, P. F. Liaparinos, G. P. Fountos, T. V. Paschalis, I. S. Kandarakis and G. S. Panayiotakis (2010) [Comparative Investigation of Ce<sup>3+</sup> doped Scintillators in a wide Range of Photon Energies covering X-ray CT, Nuclear Medicine and Megavoltage Radiation Therapy Portal Imaging applications](#), *IEEE Trans. Nucl. Sci* 57(1):3-7.

(Scitations: 25)

- 1) Rétot, H., Blahuta, S., Bessière, A., Viana, B., Lacourse, B., Mattmann, E., Improved scintillation time response in (Lu<sub>0.5</sub>Gd<sub>0.5</sub>)<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> compared with Lu<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> transparent ceramics **2011** *Journal of Physics D: Applied Physics* 44 (23), art. no. 235101.

- 2) D. Nikolopoulos, N. Kalyvas, I. Valais, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators, **(2012)** JINST 7 P11021.
- 3) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 4) [Characterization of silicon photomultiplier readout designs for use in positron emission tomography systems](#), Liu, Chen-Y MSc Thesis, Department of Physics and Astronomy, University of Manitoba, Canada, **2013**.
- 5) P. J. Yadav, C. P. Joshi, and S. V. Moharil, Long Lasting Luminescence in Garnet Based Phosphors Prepared by Combustion Synthesis, International Journal of Self Propagating High Temperature Synthesis, **2013**, Vol. 22, No. 3, pp. 157-162.
- 6) N. Kalyvas, I. Valais, S. David, Ch. Michail, G. Fountos, P. Liaparinos, and I. Kandarakis, Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation **(2014)** Optics and Spectroscopy. 116(5):95-99.
- 7) Nektarios Kalyvas, Panagiotis Liaparinos, Ioannis Valais, Christos Michail, Stratos David and Ioannis Kandarakis, Scintillators in X-Ray Imaging: The Miscirlu Project (2014) e-Journal of Science & Technology, (e-JST) 9(4):1-8.
- 8) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, **(2014)** *J. Phys.: Conf. Ser.* 490 012139.
- 9) [C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation](#), **(2015)** *Radiat Meas.* 80:1-9.
- 10) N Efthimiou, P Papadimitroulas, T Kostou and G Loudos, [Design considerations for a C-shaped PET system, dedicated to small animal brain imaging, using GATE Monte Carlo simulations](#), **(2015)** *J. Phys.: Conf. Ser.* 637 012005.
- 11) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), **(2015)** *J. Phys.: Conf. Ser.* 637 012019.
- 12) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), **(2015)** *J. Phys.: Conf. Ser.* 637 012011.
- 13) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) **(2015)** *J. Phys.: Conf. Ser.* 633 012096.
- 14) [I.S. Kandarakis](#), Luminescence in Medical Image Science, *Journal of Luminescence* **2016** 169:553-558.
- 15) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. **(2016)** *Radiat Meas.* 92:19-31
- 16) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis **(2016)** A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 17) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study **(2017)** *Appl. Radiat. Isot.* 125:154-162.
- 18) G.M. Kuz'micheva, I.A. Kaurova, L.I. Ivleva, E.V. Khramov, P.A. Eistrikh-Geller, V.B. Rybakov, T.V. Chukhlovina, S.V. Firstov, Structure and composition peculiarities and spectral-luminescent properties of colorless and pink Bi<sub>4</sub>Ge<sub>3</sub>O<sub>12</sub> scintillation crystals, Arabian Journal of Chemistry **(2017)** 11(8), pp. 1270-1280 <https://doi.org/10.1016/j.arabjc.2017.07.015>
- 19) **Christos Michail**, [George Karpetas](#), [Nektarios Kalyvas](#), [Ioannis Valais](#), [Ioannis Kandarakis](#), [Kyriakos Agavanakis](#), [George Panayiotakis](#) and [George Fountos](#), [Information Capacity of Positron Emission Tomography Scanners](#), **(2018)** *Crystals* 8(12): 459.
- 20) Linhart V., Bren D., Casolari A., (...), Varju J., Vrba V, First Measurement of X-rays Generated by Runaway Electrons in Tokamaks Using a TimePix3 Device with 1 mm thick Silicon Sensor **2018** IEEE Nuclear Science Symposium and Medical Imaging Conference, NSS/MIC 2018 - Proceedings, art. no. 8824534, doi: 10.1109/NSSMIC.2018.8824534
- 21) **Christos Michail**, [Nektarios Kalyvas](#), [Athanasios Bakas](#), [Konstantinos Ninos](#), [Ioannis Sianoudis](#), [George Fountos](#), [Ioannis Kandarakis](#), [George Panayiotakis](#) and [Ioannis Valais](#) **(2019)** [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 22) [G. Saatsakis](#), [C. Michail](#), [C. Fountzoula](#), [N. Kalyvas](#), [A. Bakas](#), [K. Ninos](#), [G. Fountos](#), [I. Sianoudis](#), [I. Kandarakis](#), [G S. Panayiotakis](#) and [I. Valais](#), [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) **(2019)** *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 23) [George Saatsakis](#), **Christos Michail**, [Christina Fountzoula](#), [Nektarios Kalyvas](#), [Konstantinos Ninos](#), [Athanasios Bakas](#), [Ioannis Sianoudis](#), [Ioannis Kandarakis](#), [George Fountos](#), [George Panayiotakis](#) and [Ioannis Valais](#), [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* **2019**, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)

- 24) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 25) Kang, C.G., Kim, S.J., Kim, B.H. et al. Characterization of In-House Fabricated Four-Channel Array Si PIN Photodetectors for Radiation-based Image Systems. *J. Korean Phys. Soc.* 77, 754–758 (2020). <https://doi.org/10.3938/jkps.77.754>

### Publication

**C. M. Michail**, G. P. Fountos, P. F. Liaparinos, N. E. Kalyvas, I. Valais and I. S. Kandarakis, G. S. Panayiotakis (2010) [Light emission efficiency and imaging performance of Gd<sub>2</sub>O<sub>3</sub>:Eu powder scintillator under X-ray Radiography conditions](#), *Med. Phys.* 37( 7):3694-3703.

(Scitations: 65)

- 1) [Implementation and Detection Optimisation of Gold Nanoparticles as Contrast Media in Diagnostic Radiology](#), Price A. Jackson, PhD Thesis, School of Medical Sciences College of Science, Engineering and Health RMIT University, Greece, **2010**.
- 2) [Geometrical MTF computation method based on the irradiance model](#), Lin P. - D., Liu C.-S., *Appl Phys B* (2011) 102: 243-249.
- 3) I. G. Valais, G. P. Fountos, **C. M. Michail**, I. Seferis, N. I. Kalyvas, A. K. Mytafidis, I. S. Kandarakis and G.S. Panayiotakis, [Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications](#), IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October **2011**.
- 4) Thermally stimulated luminescence of polycrystalline CdWO<sub>4</sub> at low temperatures, S.M.V. Novais, R.S. da Silva, Z.S. Macedo *Journal of Luminescence* 131 (2011) 1283-1287 doi:10.1016/j.jlumin.2011.03.019.
- 5) Light collection enhancement of the digital X-ray detector using Gd<sub>2</sub>S<sub>2</sub>:Tb and CsI:Tl phosphors in the aspect of nano-scale light dispersions, Taeho Woo, Taewoo Kim *Radiation Physics and Chemistry* 81 (2012) 12-15.
- 6) N. Kalyvas, P. Liaparinos, **C. Michail**, S. David, G. Fountos, M.Wojtowicz and I. Kandarakis (2012) [Studying the luminescence efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nano-phosphor material for digital X-ray imaging applications](#), *Appl Phys A* 106:131-136
- 7) M. Bertolini, A. Nitrosi, S. Rivetti, N. Lanconelli, P. Pattacini, V. Ginocchi, M. Iori, A comparison of digital radiography systems in terms of effective detective quantum efficiency, *Med. Phys.* 39 (5), 2617-2627, **2012**.
- 8) I. Σεφέρης, Ν. Καλύβας, Ι. Βαλαής, **Χ. Μιχαήλ**, Π. Λιαπαρίνος, Γ. Φούντος, Ι. Κανδαράκης, Γ. Παναγιωτάκης, Φωταύγεια νανοϋλικών: Μελέτη του νανο-φωσφόρου Lu<sub>2</sub>O<sub>3</sub>:Eu για εφαρμογές ιατρικής απεικόνισης, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April **2013**.
- 9) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis](#) *Proc. SPIE* 8668, Medical Imaging (2013): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 10) G. E. Karpetas, **C. M. Michail**, G. P. Fountos, P. N. Valsamaki, I. S. Kandarakis, G. S. Panayiotakis, (2013) Towards the optimization of nuclear medicine procedures for better spatial resolution, sensitivity, scan image quality and quantitation measurements by using a new Monte Carlo model featuring PET imaging, *Hell J Nucl Med.* 16(2) :111-120.
- 11) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 12) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stomatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 13) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, **2013**.
- 14) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
- 15) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Vol 41, **2014**, 459-462.
- 16) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stomatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.
- 17) Vaia Koukou, [Dual energy mammography: X-ray spectra optimization using lanthanide and non filters](#), MSc Thesis, University of Patras, Greece, **2013**.

- 18) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of  $\text{Lu}_2\text{O}_3:\text{Eu}$  nanophosphor under X-ray radiography conditions: Comparison with  $\text{Gd}_2\text{O}_2\text{S}:\text{Eu}$ , *J Lumin.* 151:229-234.
- 19) Hui, Y., Sun, X., Chen, J., Li, X., Huo, D., Liu, S., Zhu, Q., Zhang, M., Li, J.-G., The Fabrication of Monoclinic  $\text{Gd}_2\text{O}_3$  Transparent Microspheres and Scintillator Array via Laser Heating, *Nuclear Science, IEEE Transactions on* (Volume:PP, Issue: 99, pp:367-372, 2014
- 20) C H Lim, S Kam, J C Han, S Yun, H Youn, M -K Moon, H Jeon and H K Kim, Effect of the phosphor screen optics on the Swank noise performance in indirect-conversion x-ray imaging detectors, *JINST*, Vol.9, C05053, 2014.
- 21) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (2014) *Nucl Med Commun.* 35(9):967-976.
- 22) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of  \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Pr,Ce,F}\$  Powder Scintillators under X-ray radiation](#), (2014) *Radiat Meas.* 70:59-64.
- 23) [V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector \(2015\) \*J. Phys.: Conf. Ser.\* 574 012076.](#)
- 24) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) \*J. Phys.: Conf. Ser.\* 574 01207.](#)
- 25) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation, \(2015\) \*Radiat Meas.\* 74:39-46.](#)
- 26) [V. Koukou, N. Martini, C. Michail, P. Sotiropoulou, C. Fountzoula, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Dual energy method for breast imaging: A simulation study. \(2015\) \*Comput. Math. Methods Med\* 2015:574238.](#)
- 27) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 28) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 29) V Koukou, N Martini, **C Michail**, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling \(2015\) \*J. Phys.: Conf. Ser.\* 633 012093.](#)
- 30) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods \(2015\) \*J. Phys.: Conf. Ser.\* 633 012096.](#)
- 31) N. Kalyvas, **C. Michail**, G. Fountos, I. Seferis, I. Valais, P. Liaparinos, S. David, A. Bakas, G. Panayiotakis and I. Kandarakis, [Modeling a CMOS based indirect imaging detector. Effect of bit depth and detector software](#), SCinTE 2015, 5-7 November, Athens, Greece, 111-A01-050.
- 32) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 33) [Rima Chouikrat, Nanoparticules multifonctionnelles excitables par les rayons X pour la thérapie photodynamique, PhD Thesis, Université De Lorraine, 2015.](#)
- 34) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of  \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Pr}\$  granular phosphor properties for X-ray mammography imaging, \(2016\) \*J Lumin.\* 169:706-710.](#)
- 35) [I.S. Kandarakis, Luminescence in Medical Image Science, \*Journal of Luminescence\* 2016 169:553-558.](#)
- 36) [Syue-Liang Lin, Tse-Ying Liu, Chun-Liang Lo, Bo-Sheng Wang, Yi-Jang Lee, Kai-Ying Lin, C. Allen Chang, Synthesis, surface modification, and photophysical studies of  \$\text{Ln}\_2\text{O}\_2\text{S}:\text{Ln}^{3+}\$  \( \$\text{Ln}=\text{Gd}, \text{Tb}, \text{Eu}\$ ;  \$\text{Ln}=\text{Tb}\$  and/ or  \$\text{Eu}\$ \) nanoparticles for luminescence bioimaging, \*Journal of Luminescence\* 175 \(2016\) 165-175.](#)
- 37) [I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, On the response of semitransparent nanoparticulated films of  \$\text{LuPO}\_4:\text{Eu}\$  in polyenergetic X-ray imaging applications \*Applied Physics A\* \(2016\) 122:526](#)
- 38) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 39) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A.* 848:31-38.
- 40) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.
- 41) A Photosensitizer Lanthanide Nanoparticle Formulation that Induces Singlet Oxygen With Direct Light Excitation, But Not By Photon or X-ray Energy Transfer, Rima Chouikrat, Francis Baros, Jean-Claude André, Régis Vanderesse, Bruno



- Viana, Anne-Laure Bulin, Christophe Dujardin, Philippe Arnoux, Marc Verelst, Céline Frochot. Photochemistry and photobiology, **2017**. 93(6): 1439-1448, DOI: 10.1111/php.12799
- 42) Ross I. Berbeco, [Beam's Eye View Imaging in Radiation Oncology](#), CRC Press, **2017**, ISBN 1351647245
  - 43) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (**2017**) J. Phys.: Conf. Ser. 931 012032.
  - 44) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, **C Michail**, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>2</sub>S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology](#), (**2017**) J. Phys.: Conf. Ser. 931 012029.
  - 45) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
  - 46) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.
  - 47) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (**2017**).
  - 48) Daniel Avram and Carmen Tiseanu Thermometry properties of Er, Yb–Gd<sub>2</sub>O<sub>2</sub>S microparticles: dependence on the excitation mode (cw versus pulsed excitation) and excitation wavelength (980 nm versus 1500 nm) **2018** Methods Appl. Fluoresc. 6 025004, <https://doi.org/10.1088/2050-6120/aa9ef9>
  - 49) C. Michail· I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (**2018**) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
  - 50) Yuhui Liu, Xiaoyan Jing, Pu Wang, Taiqi Yin, Debin Ji, and Milin Zhang, Rapid Production of Ln<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup>/Tb<sup>3+</sup> (Ln = Sm, La, Gd, and Y) Phosphors by Molten Salt Electrolysis, ACS Appl. Energy Mater. **2018**, 1(3), pp. 1191-1199. DOI: 10.1021/acsaem.7b00304
  - 51) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DOE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (**2018**) *Appl Phys A* 124:604.
  - 52) *Beam's Eye View Imaging in Radiation Oncology*, Edited by Ross I. Berbeco, CRC Press Taylor & Francis Group, **2018**, ISBN 1498736343
  - 53) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (**2018**) *Crystals* 8(12): 459.
  - 54) Clément Larquet, Djamilia Hourlier, Anh-Minh Nguyen, Almudena Torres-Pardo, Andrea Gauzzi, Clément Sanchez, Sophie Carencó, Thermal stability of Oleate-Stabilized Gd<sub>2</sub>O<sub>2</sub>S Nanoplates in Inert and Oxidizing Atmospheres, *ChemNanoMat*, **2019** <https://doi.org/10.1002/cnma.201800578>
  - 55) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (**2019**) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
  - 56) Saatsakis, G. Kalyvas, N. Michail, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
  - 57) Clément Larquet, Anh-Minh Nguyen, Estelle Glais, Lorenzo Paulatto, Capucine Sassoie, Mohamed Selmane, Pierre Lecante, Clément Maheu, Christophe Geantet, Luis Cardenas, Corinne Chanéac, Andrea Gauzzi, Clément Sanchez, and Sophie Carencó, Band Gap Engineering from Cation Balance: The Case of Lanthanide Oxysulfide Nanoparticles, *Chemistry of Materials* **2019** 31 (14), 5014-5023, DOI: 10.1021/acs.chemmater.9b00450.
  - 58) Larquet C and Carencó S (**2020**) Metal Oxysulfides: From Bulk Compounds to Nanomaterials. *Front. Chem.* 8:179. doi: 10.3389/fchem.2020.00179
  - 59) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
  - 60) Wenhua Zhang, Huamin Kou, Lin Ge, Ying Zhang, Lin Lin and Wei Li. Effects of doping ions on the luminescence performance of terbium doped gadolinium polysulfide phosphor, **2020** J. Phys.: Conf. Ser. 1549 032064, <https://doi.org/10.1088/1742-6596/1549/3/032064>
  - 61) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (**2020**) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>

- 62) Psichis, K., Kalyvas, N., Kandarakis, I. *et al.* MTF of columnar phosphors with a homogenous part: an analytical approach. *Med Biol Eng Comput* (2020). <https://doi.org/10.1007/s11517-020-02243-4>
- 63) Rahim, Sapizah, Hasim, Muhammad Hassyakirin, Ayob, Muhammad Taqiyuddin Mawardi, Rahman, Irman Abdul, Salleh, Khairul Anuar Mohd, & Radiman, Shahidan. (2020). Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> Nanophosphors: Microwave Synthesis and X-ray Imaging Detector Application. *Materials Research*, 22(6), e20190383. <https://doi.org/10.1590/1980-5373-mr-2019-0383>
- 64) P. Liaparinos, C. Michail, I. Valais, A. Karabotsos, A. Bakas, I. Kandarakis, [The effect of the Grain Size Distribution \(GSD\) on the light emission performance of phosphor-based X-ray detectors](#) (2021) *Optical Materials* 119: 111319, doi: <https://doi.org/10.1016/j.optmat.2021.111319>.
- 65) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, C. Michail, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

## Publication

Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, 2010.

(Scitations: 8)

- 1) Ioannis E. Seferis, Christos M. Michail, Ioannis G. Valais, George G. Fountos, Nektarios I. Kalyvas, Fotini Stromatia, Ioannis S. Kandarakis, and George S. Panayiotakis, (2012), [X-ray image degradation passing through thin glass substrate](#), *e-Journal of Science & Technology, (e-JST)* 7(3):29-31.
- 2) I. Σεφέρης, Ν. Καλύβας, Ι. Βαλαής, Χ. Μιχαήλ, Π. Λιαπαρίνος, Γ. Φούντος, Ι. Κανδαράκης, Γ. Παναγιωτάκης, Φωταύγεια νανοϋλικών: Μελέτη του νανο-φωσφόρου Lu<sub>2</sub>O<sub>3</sub>:Eu για εφαρμογές ιατρικής απεικόνισης, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April 2013.
- 3) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis *Proc. SPIE* 8668, Medical Imaging (2013): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 4) C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 5) I. E. Seferis, C. M. Michail, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 6) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, 2013.
- 7) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu, *J Lumin.* 151:229-234.
- 8) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.

## Publication

S. L. David, C. M. Michail, M. Roussou, E. Nirgianaki, A. E. Toutountzis, I. G. Valais, G. Fountos, P. F. Liaparinos, I. Kandarakis, G. Panayiotakis (2010) [Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detector](#) *IEEE Trans. Nucl. Sci.* 57(3):951-957.

(Scitations: 12)

- 1) [Initial results on SiPM performance for use in medical imaging](#), Efthimiou, N., Argyropoulos, G., Panayiotakis, G., Georgiou, M., Loudos, G. 2010 *IEEE International Conference on Imaging Systems and Techniques, IST 2010 - Proceedings*, art. no. 5548492, pp. 256-260.
- 2) Jia, N., Zhang, X., He, W., Hu, W., Meng, X., Du, Y., Jiang, J., Du, Y., Property of YAG: Ce phosphors powder prepared by mixed solvothermal method, *Journal of Alloys and Compounds* 509 (2011) 1848-1853
- 3) Min Jeong Kim, Jong Hoon Park, Keel Yong Lee, Sangwook Lee, Gill-Sang Han, Hee Jo Song, Hyunjung Shin, Tae Kyu Ahn, and Hyun Suk Jung, [Cerium doped Yttrium Aluminum Garnet Hollow Shell Phosphors Synthesized via Kirkendall Effect](#), *ACS Appl. Mater. Interfaces* 2014, 6 (2), pp 1145-1151.
- 4) V. Lojpur, A. Egelja, J. Pantić, V. Đorđević\*, B. Matović, M. D. Dramićanin, Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Re<sup>3+</sup> (Re=Ce, Eu, and Sm) Nanocrystalline Powders Prepared by Modified Glycine Combustion Method, *Science of Sintering*, 46 (2014) 75-82.
- 5) Marcos V. dos S. Rezende, Carlos William A. Paschoal, Radioluminescence enhancement in Eu<sup>3+</sup> doped Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> phosphors by Ga substitution, *Optical Material* 46 (2015) 530-535.

- 6) Daniela A. Hora, Adriano B. Andrade, Nilson S. Ferreira, Veronica C. Teixeira, Marcos V. dos S. Rezende, Effect of the PVA (polyvinyl alcohol) concentration on the optical properties of Eu-doped YAG phosphors, *Optical Materials* 60 (2016) 495-500.
- 7) Iure da S. Carvalho, Amanda I. dos S. Barbosa, Ariosvaldo J.S. Silva, Patresio A. M. Nascimento, Adriano B. Andrade, David V. Sampaio, Danilo O. Junot, Thiago R. da Cunha, Lilian M. Jesus, Ronaldo S. Silva, Marcos V. dos S. Rezende, Structural and photoluminescence properties of Eu<sup>3+</sup>-doped (Y<sub>2.99-x</sub>Gd<sub>x</sub>)Al<sub>5</sub>O<sub>12</sub> phosphors under vacuum ultraviolet and ultraviolet excitation, *Materials Chemistry and Physics*, Vol. 228, 2019, pp. 9-14, <https://doi.org/10.1016/j.matchemphys.2019.02.035>
- 8) A. Boukerika, L. Guerbous, H. Chelef, L. Benharrat, Preparation and characterization of bright high quality YAG: Eu<sup>3+</sup> thin films grown by sol-gel dip-coating technique, *Thin Solid Films* 683, pp. 74-81, 2019, <https://doi.org/10.1016/j.tsf.2019.05.017>
- 9) Yongtao Li, Yongju Li, Chun Li, Xuejian Zhang, Fanming Zeng, Hai Lin, Zhongmin Su, C. K. Mahadevan, Structural, mechanical, thermal and optical properties of NaCl:Ce<sup>3+</sup> single crystals grown in large size by the Czochralski method, *Journal of Alloys and Compounds* 2020, 156592, <https://doi.org/10.1016/j.jallcom.2020.156592>
- 10) Yeom, T.H. Characterization of the <sup>27</sup>Al NMR in a YAG (Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>) Single Crystal. 2020, *New Physics: Sae Mulli*, 70, 731-737, doi:10.3938/NPSM.70.731.
- 11) Li, Y., Li, Y., Li, C., Zhang, X., Zeng, F., Lin, H., Su, Z., Mahadevan, C. K., Luminescent and Mechanical Properties of Cerium Doped Potassium Chloride Single Crystal. *Crystal Research and Technology* 2020, 2000060. <https://doi.org/10.1002/crat.202000060>
- 12) Yongtao Li, Yongji Li, Fujie Liu, Fanming Zeng, Xuejian Zhang, Dexin Huang, Huisheng Liu, Jinghe Liu, C.K. Mahadevan, Effect of Ce concentration on the structural, mechanical, electrical and optical properties of Ce-doped large-sized KCl<sub>0.5</sub>Br<sub>0.5</sub> crystals, *Journal of Alloys and Compounds*, 2021, 161099, <https://doi.org/10.1016/j.jallcom.2021.161099>.

C. M. Michail, V. B. Spyropoulou, G. P. Fountos, N. E. Kalyvas, A. K. Mytafidis, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis [Imaging Performance of a high resolution CMOS sensor under Mammographic and Radiographic conditions](#), IEEE International Workshop on Imaging Systems and Techniques (IST) Thessaloniki, Greece 1-2 July 2010.

(Scitations: 2)

- 1) Anastasios C. Konstantinidis, Evaluation of digital X-ray detectors for medical imaging applications PhD Thesis, Department of Medical Physics and Bioengineering, UCL London 2011.
- 2) Michael F. L'Annunziata, Handbook of Radioactivity Analysis (Third Edition), Chapter 16 – Solid Scintillation Analysis, 2012, Pages 1021-1115.

#### Publication

S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gatsos, A. E. Toutountzis, G. Fountos, I. S. Kandarakis, G. S. Panayiotakis (2010) [Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis](#) *e-Journal of Science & Technology, (e-JST)* 5(2):63-73

(Scitations: 2)

- 1) C. R. Varney, M. A. Khomehchi, Jianfeng Ji, and F. A. Selim, X-ray luminescence based spectrometer for investigation of scintillation Properties, *Rev. Sci. Instrum.* 83, 103112 (2012); doi: 10.1063/1.4764772
- 2) Vishnyakov, A.V., Vishnyakova, E.A., Kiseleva, T.Y. *et al.* Physicochemical Processes in the Synthesis of New Detectors of X-Ray Radiation Based on YAG:Ce-Halide Fluxes. *J. Synch. Investig.* 12, 853–860 (2018). <https://doi.org/10.1134/S1027451018050038>

#### Publication

Samartzis, G. Fountos, I. Kalatzis, C. Michail, A. Zanglis, D. Cavouras, I. Datsaris, E. Kounadi, D. Vattis, I. Kandarakis and G. Nikiforidis (2010) [The use of Modulation Transfer Function as an Overall Quality Control parameter in PET/CT](#) *e-Journal of Science & Technology, (e-JST)* 5(2):41-48.

(Scitations: 1)

- 1) Ednaldo Alexandre Zandoná, Quantificação da resolução do Sistema SPECT- CZT através do uso da Função de Transferência Modulada (MTF) Dissertação (mestrado) Universidade Estadual Paulista, Instituto de Biociências de Botucatu (2013).

#### Publication

M. Liaskos, C. Michail, N. Kalyvas, A. Toutountzis, S. Tsantis, G. Fountos, D. Cavouras and I. Kandarakis (2010) Implementation of a Software Phantom for the Assessment of Contrast Detail in Digital Radiography *e-Journal of Science & Technology, (e-JST)* 5(2):15-23.

(Scitations: 2)

- 1) Aksoy M.E, Kamasak M.E. Akkur E, Ucgul A et al., Evaluation and comparison of image quality for indirect flat panel systems with CsI and GOS scintillators, **2012**. IEEE, [Health Informatics and Bioinformatics \(HIBIT\), 2012 7th International Symposium on Health Informatics and Bioinformatics](#), DOI: [10.1109/HIBIT.2012.6209043](#).
- 2) I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](#), (2017) J. Phys.: Conf. Ser. 931 012026.

#### Publication

**C. M. Michail**, A. Toutountzis, I. G. Valais, I. Seferis, M. Georgousis, G. Fountos, I. S. Kandarakis and G. S. Panayiotakis (2010) [Luminescence Efficiency of Gd<sub>2</sub>O<sub>2</sub>S:Eu Powder Phosphors as X-ray to Light Converter](#) *e-Journal of Science & Technology, (e-JST) 5(2):25-32*.

#### (Scitations: 7)

- 1) Erkinay Abliz, Joshua E. Collins, Howard Bell, Darrell B. Tata, Novel applications of diagnostic X-rays in activating a clinical photodynamic drug: Photofrin II through X-ray induced visible luminescence from "rare-earth" formulated particles, *Journal of X-Ray Science and Technology* 19(4) 521-530, **2011**
- 2) S.N. Ogugua, S.K.K. Shaat, H.C. Swart, O.M. Ntwaeaborwa, Optical properties and chemical composition analyses of mixed rare earth oxyorthosilicate (R<sub>2</sub>SiO<sub>5</sub>, R=La, Gd and Y) doped Dy<sup>3+</sup> phosphors prepared by urea-assisted solution combustion method, *Journal of Physics and Chemistry of Solids* 83 (2015) 109-116
- 3) Ogugua, S.N.; Nyenge, R.L.; Sehogela, P.T.; Swart, H.C.; Ntwaeaborwa, O.M. Influence of deposition atmosphere and substrate temperature on the structure, morphology, and photoluminescence of pulsed laser deposited La<sub>0.5</sub>Gd<sub>1.5</sub>SiO<sub>5</sub>:Dy<sup>3+</sup>. *Journal of Vacuum Science & Technology A* **2016**, 34, 021520, doi:10.1116/1.4942502
- 4) Simon N. Ogugua, Hendrik C. Swart, Odireleng M. Ntwaeaborwa, White light emitting LaGdSiO<sub>5</sub>:Dy<sup>3+</sup> nanophosphors for solid state lighting applications, *Physica B: Condensed Matter*, Volume 480, **2016**, pp 131-136, <https://doi.org/10.1016/j.physb.2015.10.006>.
- 5) Simon N. Ogugua, Samy K.K. Shaat, Hendrik C. Swart, Robin E. Kroon, Odireleng M. Ntwaeaborwa, Structure and optical properties of La<sub>2-x</sub>Gd<sub>x</sub>SiO<sub>5</sub>:Dy<sup>3+</sup> phosphors, *Journal of Alloys and Compounds*, Volume 775, **2019**, pp 950-968, <https://doi.org/10.1016/j.jallcom.2018.10.090>.
- 6) Ogugua, S.N.; Ntwaeaborwa, O.M.; Swart, H.C. Latest Development on Pulsed Laser Deposited Thin Films for Advanced Luminescence Applications. *Coatings* **2020**, 10, 1078, <https://doi.org/10.3390/coatings10111078>
- 7) Rahim, Sapizah, Hasim, Muhammad Hassyakirin, Ayob, Muhammad Taqiyuddin Mawardi, Rahman, Irman Abdul, Salleh, Khairul Anuar Mohd, & Radiman, Shahidan. (2020). Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> Nanophosphors: Microwave Synthesis and X-ray Imaging Detector Application. *Materials Research*, 22(6), e20190383. <https://doi.org/10.1590/1980-5373-mr-2019-0383>

#### Publication

[Evaluation of the co-doped LSO:Ce,Ca scintillator crystal in the X-ray energy range from 50 to 140kVp for medical imaging applications](#), [Stratos, D., Christos, M., George, P., Ioannis, V., George, F., Costantinos, N., Ioannis, K.](#) 2010 *IEEE International Conference on Imaging Systems and Techniques, IST 2010 - Proceedings*, art. no. 5548542, pp. 253-255

#### (Scitations: 1)

- 1) A. F. Bartley et al., "Feasibility of cerium-doped LSO particles as a scintillator for X-ray induced optogenetics," *Journal of Neural Engineering*, **2021**. Available: <https://doi.org/10.1088/1741-2552/abef89>.

#### Publication

**C. M. Michail**, V. A. Spyropoulou, G. P. Fountos, N. E. Kalyvas, I. G. Valais, I. S. Kandarakis and G. S. Panayiotakis (2011), Experimental and theoretical evaluation of a high resolution CMOS based detector under X-ray imaging conditions, *IEEE Trans. Nucl. Sci.* 58(1):314-322.

#### (Scitations: 79)

- 1) Anastasios C. Konstantinidis, Evaluation of digital X-ray detectors for medical imaging applications PhD Thesis, Department of Medical Physics and Bioengineering, UCL London **2011**
- 2) I. G. Valais, G. P. Fountos, **C. M. Michail**, I. Seferis, N. I. Kalyvas, A. K. Mytafidis, I. S. Kandarakis and G.S. Panayiotakis, [Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications](#), IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October **2011**.
- 3) N. I. Kalyvas, **C. M. Michail**, G. P. Fountos, I. G. Valais, P. Liaparinis, I. Seferis, V. Spyropoulou, A. K. Mytafidis, G.S. Panayiotakis and I. S. Kandarakis, [Modelling Noise Properties of a High Resolution CMOS Detector for X-Ray Digital Mammography](#), IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October **2011**.
- 4) Amit Jain, D. R. Bednarek, Ciprian Ionita, S. Rudin, A theoretical and experimental evaluation of the microangiographic fluoroscope: A high-resolution region-of-interest x-ray imager, *Med. Phys.* 38 (7), July **2011**, 4112-4126

- 5) Ioannis Valais, **Christos M. Michail**, Ioannis Seferis, George Fountos, Nektarios Kalyvas, Ioannis Kandarakis and George S. Panayiotakis (2012), [Scintillation screen preparation for use in digital medical systems](#) *e-Journal of Science & Technology, (e-JST)* 7(3):1-5.
- 6) Christoforos Ntales, Nikolaos Kynatidis, **Christos Michail**, Ioannis Seferis, Ioannis Valais, Nektarios Kalyvas, George Fountos and Ioannis Kandarakis (2012), [Image quality assessment in cmos and cr medical imaging systems](#), *e-Journal of Science & Technology, (e-JST)* 7(3):7-13.
- 7) Ioannis E. Seferis, **Christos M. Michail**, Ioannis G. Valais, George G. Fountos, Nektarios I. Kalyvas, Fotini Stromatia, Ioannis S. Kandarakis, and George S. Panayiotakis, (2012), [X-ray image degradation passing through thin glass substrate](#), *e-Journal of Science & Technology, (e-JST)* 7(3):29-31.
- 8) Vaia N. Koukou, Niki D. Martini, Panagiota I. Sotiropoulou, George G. Fountos, **Christos M. Michail**, Ioannis G. Valais, Ioannis S. Kandarakis and George C. Nikiforidis, (2012) [Modified polyenergetic x-ray spectra for dual energy method](#), *e-Journal of Science & Technology, (e-JST)* 7(3). 79-85.
- 9) Panagiota I. Sotiropoulou, George G. Fountos, Vaia N. Koukou, Niki D. Martini, **Christos M. Michail**, Ioannis S. Kandarakis and George C. Nikiforidis, Optimum energy selection for estimating calcium/phosphorus ratio in bones using dual energy x-ray, European Medical Physics and Engineering Conference EMPEC 18-20 October 2012 Sofia, Bulgaria.
- 10) [Michael F. L'Annunziata](#), [Handbook of Radioactivity Analysis \(Third Edition\)](#), Chapter 16 – Solid Scintillation Analysis, 2012, Pages 1021–1115.
- 11) I. Kandarakis, G. Fountos, [new developments in radiation detectors for medical imaging](#), European Medical Physics and Engineering Conference, Sofia, October 18-20, 2012.
- 12) P. Liaparinos, N. Kalyvas, I. Kandarakis, D. Cavouras, [Analysis of the imaging performance in indirect digital mammography detectors by linear systems and signal detection models](#), Nuclear Instruments and Methods in Physics Research Section A, Vol. 697, (2013), pp. 87-98.
- 13) Light emission efficiency of  $\text{Lu}_2\text{O}_3:\text{Eu}$  nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis](#) *Proc. SPIE* 8668, Medical Imaging (2013): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 14) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of  $\text{GdAlO}_3:\text{Ce}$  powder scintillators, *J Lumin.* 144:45-52.
- 15) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stromatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 16) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, 2013.
- 17) Park, Chun Joo, [Optimizing Cone Beam Computed Tomography \(CBCT\) System for Image Guided Radiation Therapy](#), PhD Thesis, University of California, San Diego 2013.
- 18) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013
- 19) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 459-462.
- 20) I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais: Light emission efficiency of  $\text{Gd}_3\text{Al}_2\text{Ga}_3\text{O}_{12}:\text{Ce}$  (GAGG:Ce) single crystal under X-ray radiographic conditions, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 455-458.
- 21) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis, X-ray spectra for bone quality assessment using energy dispersive counting and imaging detectors with dual energy method, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 463-466.
- 22) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stromatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 471-474.
- 23) Niki Martini, [X-ray spectra optimization using lanthanide and non elements for bone quality assessment with dual energy method](#), MSc Thesis, University of Patras, Greece, 2013.
- 24) Vaia Koukou, [Dual energy mammography: X-ray spectra optimization using lanthanide and non filters](#), MSc Thesis, University of Patras, Greece, 2013.

- 25) Nektarios Kalyvas, Panagiotis Liaparinos, Ioannis Valais, Christos Michail, Stratos David and Ioannis Kandarakis, Scintillators in X-Ray Imaging: The Miscirlu Project (2014) e-Journal of Science & Technology, (e-JST) 9(4):1-8.
- 26) [Chang-Won Jeong, Su-Chong Joo, Jong-Hyun Ryu, Jinseok Lee, Kyong-Woo Kim, Kwon-Ha Yoon](#), Development of a Mini-Mobile Digital Radiography System by Using Wireless Smart Devices (2014) Journal of Digital Imaging, Volume 27, Issue 4, pp 443-448.
- 27) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (2014) 2014:634856.
- 28) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>3</sub>:Eu, *J Lumin.* 151:229-234.
- 29) G E Karpetas, C M Michail, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (2014) *J. Phys.: Conf. Ser.* 490 012139.
- 30) E. Seferis, C. M. Michail, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, Imaging performance of a thin Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd<sub>2</sub>O<sub>3</sub>:Eu conventional phosphor screen. Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).
- 31) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F Powder Scintillators under X-ray radiation](#), (2014) *Radiat Meas.* 70:59-64.
- 32) CD Arvanitis, SE Bohndiek, Active Pixel CMOS-Based Radiation Detectors, pp. 271-283, in Comprehensive Biomedical Physics, Volume 8: Radiation Sources and Detectors, Editor-in-Chief: Anders Brahme (2014).
- 33) N. Martini, V. Koukou, C. Michail, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (2015) *Journal of Spectroscopy* 2015:563763.
- 34) N. Kalyvas, I. Valais, C. Michail, G. Fountos, I. Kandarakis, D. Cavouras, [A theoretical study of CsI:Tl columnar scintillator image quality parameters by analytical modeling](#), (2015) *Nucl. Instrum. Meth. Phys. Res. A.* 779:18-24.
- 35) V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector (2015) *J. Phys.: Conf. Ser.* 574 012076.
- 36) N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, [Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications](#), (2015) *J. Phys.: Conf. Ser.* 574 01207.
- 37) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, [Bone calcium/phosphorus ratio determination using Dual Energy X-ray method](#), (2015) *Physica Medica: European Journal of Medical Physics* 31:307-313.
- 38) C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (2015) *Radiat Meas.* 74:39-46.
- 39) Ioannis Vlachos, Xenophon Tsantilas, Nektarios Kalyvas, Harry Delis, Ioannis Kandarakis and George Panayiotakis, Measuring scatter radiation in diagnostic x rays for radiation protection purposes, Radiation Protection Dosimetry (2015), pp. 1-4.
- 40) V. Koukou, N. Martini, C. Michail, P. Sotiropoulou, C. Fountzoula, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Dual energy method for breast imaging: A simulation study. (2015) *Comput. Math. Methods Med* 2015:574238.
- 41) Jong-Woong Lee; Myeong Seong Kim; Eun-Soo Kim; Jiwon Choi; Dae Cheol Kweon, [Image Quality and Dose According to the Type of Image Detector in Digital Mammography Systems](#), Journal of Convergence Information Technology 2015, Vol. 10 Issue 3, p33-39.
- 42) Christos Michail, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F X-ray Sensor](#) (2015) *Journal of Sensors.* 2015:874637.
- 43) V Koukou, N Martini, K Velissarakos, D Gkremos, C Fountzoula, A Bakas, C Michail, I Kandarakis and G Fountos. [PVAL breast phantom for dual energy calcification detection](#), (2015) *J. Phys.: Conf. Ser.* 637 012013.
- 44) I Valais, C Michail, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 45) C M Michail, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018.
- 46) V Koukou, N Martini, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling](#) (2015) *J. Phys.: Conf. Ser.* 633 012093.

- 47) N Kalyvas, N Martini, **V Koukou**, C Michail, P Sotiropoulou, I Valais, I Kandarakis and G Fountos [A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications](#) (2015) *J. Phys.: Conf. Ser.* 633 012095.
- 48) P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions](#) (2015) *J. Phys.: Conf. Ser.* 633 012126.
- 49) N. Kalyvas, **C. Michail**, G. Fountos, I. Seferis, I. Valais, P. Liaparinos, S. David, A. Bakas, G. Panayiotakis and I. Kandarakis, [Modeling a CMOS based indirect imaging detector. Effect of bit depth and detector software](#), SCinTE 2015, 5-7 November, Athens, Greece, 111-A01-050.
- 50) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 51) **S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas**, [Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging.](#) (2016) *J Lumin.* 169:706-710.
- 52) **I.S. Kandarakis**, Luminescence in Medical Image Science, [Journal of Luminescence](#) 2016 169:553-558.
- 53) Ioannis Vlachos, Spectroscopy and dosimetry of secondary radiation for radiology systems, PhD Thesis, University of Patras, Greece, 2016.
- 54) **C. Michail, I. Valais, N.Martini, V.Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos**, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CSi Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 55) **D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis**, [Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2.](#) (2016) **P.J. Kervalishvili, P.H. Yannakopoulos** (eds.), DOI 10.1007/978-94-017-7468-0\_5
- 56) **Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles**, [Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2.](#) (2016) **P.J. Kervalishvili, P.H. Yannakopoulos** (eds.), DOI 10.1007/978-94-017-7468-0\_2
- 57) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A*.848:31-38.
- 58) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.
- 59) Scott D. Bergeson & Michael J. Ware, Jeremy Hawk, On the use of NaI scintillation for high stability nuclear decay rate measurements, Nuclear Instruments and Methods in Physics Research Section A, 2017 rXiv:1707.03392v1 [physics.ins-det].
- 60) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 61) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 62) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 63) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 64) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 65) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains.](#) (2018) *Appl Phys A* 124:604.
- 66) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard.](#) (2018) *Procedia Structural Integrity* 10:326-332.
- 67) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 68) **N. Kalyvas, P. Liaparinos**, Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, [Optical Materials](#), Vol. 88, 2019, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>

- 69) **Christos M. Michail**, [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Nektarios I. Kalyvas](#), [Ioannis G. Valais](#), [Ioannis S. Kandarakis](#), [George S. Panayiotakis](#), [George P. Fountos](#), Information Content in Nuclear Medicine Imaging, [Energy Procedia](#), Volume 157, 2019, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 70) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 71) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](#) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>
- 72) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 73) Scott D. Bergeson, Michael J. Ware, and Jeremy Hawk. CMOS-coupled NaI scintillation detector for gamma decay measurements. *Rev. Sci. Instrum.* 91, 033320 (2020); <https://doi.org/10.1063/1.5138208>
- 74) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 75) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Mineral characterization in human body: A dual energy approach](#) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 76) Ioannis Vlachos, Ioannis Kandarakis, Giorgos Panayiotakis, Secondary Radiation Mapping, PARIPEX - Indian Journal of Research, 2021, Volume 10, Issue 10, DOI: 10.36106/paripex
- 77) Vincent Beaudoux. Dosimétrie pour un examen de mammographie avec rayons-X produits par laser. Bio-informatique [q-bio.QM]. Université de Bordeaux, 2021. Français. ffnNT: 2021BORD0202ff. fftel03414947
- 78) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 79) N. Martini, V. Koukou, **C. Michail** and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](#), *Procedia Structural Integrity* (2021) 33C, pp. 295-303, doi: <https://doi.org/10.1016/j.prostr.2021.10.036>.

## Publication

**C. M. Michail**, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinos, I. S. Kandarakis, G. S. Panayiotakis (2011) [Evaluation of the red emitting Gd<sub>2</sub>O<sub>3</sub>:Eu powder scintillator for use in indirect X-ray digital mammography detectors](#), *IEEE Trans. Nucl. Sci.* 58(5):2503-2511.

## (Scitations: 31)

- 1) G. Valais, G. P. Fountos, **C. M. Michail**, I. Seferis, N. I. Kalyvas, A. K. Mytafidis, I. S. Kandarakis and G.S. Panayiotakis, Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications, IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain 23-29 October 2011 DOI: [10.1109/NSSMIC.2011.6152537](https://doi.org/10.1109/NSSMIC.2011.6152537) pp: 2997-3000.
- 2) Ioannis Valais, **Christos M. Michail**, Ioannis Seferis, George Fountos, Nektarios Kalyvas, Ioannis Kandarakis and George S. Panayiotakis (2012), [Scintillation screen preparation for use in digital medical systems](#) *e-Journal of Science & Technology, (e-JST)* 7(3):1-5.
- 3) N. Kalyvas, I. Kandarakis, G. Fountos, I. Valais, P. Liaparinos, Ch. Michail, S. David, Studying the effect of the activator material on detective quantum efficiency of indirect digital detectors, [5<sup>th</sup> Panhellenic Conference on Biomedical Technology](#), Athens, Greece, 4-6 April 2013.
- 4) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis](#) *Proc. SPIE* 8668, Medical Imaging (2013): Physics of Medical Imaging, 86683W (March 6, 2013); doi:10.1117/12.2015265.
- 5) **C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) On the response of GdAlO<sub>3</sub>:Ce powder scintillators, *J Lumin.* 144:45-52.
- 6) I. E. Seferis, **C. M. Michail**, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stomatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A.* 729:307-315.
- 7) [Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen](#), Seferis I, MSc Thesis, University of Patras, Greece, 2013.
- 8) **C. M. Michail**, I. G. Valais, I. E. Seferis, F. Stomatia, E. Kounadi, G. P. Fountos and I. S. Kandarakis, Experimental Evaluation of a High Resolution CMOS Digital Imaging Detector Coupled to Structured CsI Scintillators for Medical



Imaging Applications, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 471-474.

- 9) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (**2014**) 2014:634856.
- 10) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (**2014**) Light emission efficiency and imaging performance of  $\text{Lu}_2\text{O}_3:\text{Eu}$  nanophosphor under X-ray radiography conditions: Comparison with  $\text{Gd}_2\text{O}_2\text{S}:\text{Eu}$ , *J Lumin.* 151:229-234.
- 11) L. C. Dixie, A. Edgar, C. M. Bartle (**2014**) Samarium doped calcium fluoride: A red scintillator and X-ray phosphor, *Nucl. Instrum. Meth. Phys. Res. A.* [Volume 753](#), 21, Pages 131-137.
- 12) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of  \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Pr,Ce,F}\$  Powder Scintillators under X-ray radiation](#), (**2014**) *Radiat Meas.* 70:59-64.
- 13) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (**2015**) *Journal of Spectroscopy* 2015:563763.
- 14) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications](#), (**2015**) *J. Phys.: Conf. Ser.* 574 01207.
- 15) [P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, Bone calcium/phosphorus ratio determination using Dual Energy X-ray method](#), (**2015**) *Physica Medica: European Journal of Medical Physics* 31:307-313.
- 16) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (**2015**) *Radiat Meas.* 74:39-46.
- 17) [C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, Luminescence Efficiency of  \$\(\text{Lu,Gd}\)\_2\text{SiO}\_5:\text{Ce}\$  \(LGSO:Ce\) crystals under X-ray radiation](#), (**2015**) *Radiat Meas.* 80:1-9.
- 18) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/ \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Pr,Ce,F}\$  X-ray Sensor](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012018.
- 19) P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions](#) (**2015**) *J. Phys.: Conf. Ser.* 633 012126.
- 20) Luting Wang, Shuanglong Yuan, Yunxia Yang, Francois Chevire, Franck Tessier, and Guorong Chen, Luminescent properties of novel red-emitting phosphor: $\text{Gd}_2\text{O}_2\text{CN}_2:\text{Eu}^{3+}$ , *Optical Materials Express*, Vol. 5, No. 11, **2015**.
- 21) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of  \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Pr}\$  granular phosphor properties for X-ray mammography imaging](#), (**2016**) *J Lumin.* 169:706-710.
- 22) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (**2016**) *Radiat Meas.* 92:19-31
- 23) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (**2017**) *Phys. Med. Biol.* 62:7741-7764.
- 24) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 25) C. Michail: I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \( \$\text{CaWO}\_4\$ \) under X-ray radiation: Comparison with  \$\text{Gd}\_2\text{O}\_2\text{S}:\text{Tb}\$](#)  (**2018**) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 26) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.
- 27) Joon Young Kim, Hyeon Seung Lim, Nam Ho Heo, Hong Joo Kim, Karl Seff, Identification and structures of the X-ray induced luminescence centers in the zeolites Zr,X,Cs,Na-LTA, X = Cl, Br, and I, [Microporous and Mesoporous Materials](#), 278, pp. 443-454, **2019**, <https://doi.org/10.1016/j.micromeso.2019.01.008>
- 28) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a  \$\text{CaWO}\_4\$ /CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 29) Shohei Kodama, Shunsuke Kurosawa, Maki Ohno, Yuki Morishita, Hiroshi Usai, Masateru Hayashi, Makoto Sasano, Tetsushi Azuma, Hiroki Tanaka, Vladimir Kochurikhin, Akihiro Yamaji, Masao Yoshino, Satoshi Toyoda, Hiroki Sato, Yuji OHASHI, Kei Kamada, Yuui Yokota, Akira Yoshikawa and Tatsuo Torii, Fiber-read radiation monitoring system using an optical fiber and red-emitting scintillator for ultra-high dose condition, *Applied Physics Express*, **2020**, 13(4), 047002 <https://doi.org/10.35848/1882-0786/ab77f7>

- 30) Ηλίας Αναγνώστου, Σχεδιασμός Ομοιώματος Για Χρήση Στην Κτηνιατρική Απεικόνιση Ακτίνων-X, [A phantom design for Veterinary X-ray imaging](#), MSc Thesis, **2021**, Department of Biomedical Engineering, University of West Attica.
- 31) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

N. Kalyvas, S. David, C. Michail, P. Liaparinos, G. Fountos, I. Valais, and I. Kandarakis, Proceedings of 4th IC-EpsMsO (ISBN 978-960-98941-8-0), Athens 06-09 July 2011. 2, 338 (**2011**).

#### (Scitations: 1)

- 1) N. Kalyvas, I. Valais, S. David, Ch. Michail, G. Fountos, P. Liaparinos, and I. Kandarakis, Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation (**2014**) *Optics and Spectroscopy*. 116(5):95-99.

#### Publication

G. P. Fountos, **C. M. Michail**, A. Zanglis, A. Samartzis, N. Martini, V. Koukou, I. Kalatzis and I. Kandarakis (**2012**) [A novel easy-to-use phantom for the determination of MTF in SPECT scanners](#), *Med Phys* 39(3):1561-1570.

#### (Scitations: 33)

- 1) Hyun-Ju Ryu, Young-Jin Lee, Seung-Wan Lee, Hyo-Min Cho, Yu-Na Choi and Hee-Joung Kim, Design of a High-resolution Small-animal SPECT-CT System Sharing a CdTe Semiconductor Detector, *Journal of the Korean Physical Society*, Vol. 61, No. 1, July **2012**, pp. 130-134.
- 2) S. David, M. Georgiou, G. Loudos, **C. Michail**, G.Fountos and I. Kandarakis, (**2013**) [Evaluation of powder/granular Gd<sub>2</sub>O<sub>2</sub>S:Pr scintillator screens in single photon counting mode under 140keV excitation](#), *J. Inst.* 8: P01006.
- 3) Ednaldo Alexandre Zandoná, Quantificação da resolução do Sistema SPECT- CZT através do uso da Função de Transferência Modulada (MTF) Dissertação (mestrado) Universidade Estadual Paulista, Instituto de Biociências de Botucatu (**2013**).
- 4) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**.
- 5) V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 459-462.
- 6) Vaia Koukou, [Dual energy mammography: X-ray spectra optimization using lanthanide and non filters](#), MSc Thesis, University of Patras, Greece, **2013**.
- 7) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (**2014**) 2014:634856.
- 8) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (**2014**) *J. Phys.: Conf. Ser.* 490 012139.
- 9) Niki D. Martini, George G. Fountos, Vaia N. Koukou, Panagiota I. Sotiropoulou, **Christos M. Michail**, A. Bakas, Ioannis S. Kandarakis and George C. Nikiforidis, [X-Ray Spectra Optimization for the Hydroxyapatite/Collagen Ratio Determination-A New Approach in Osteoporosis Diagnosis](#) (**2014**) *e-Journal of Science & Technology, (e-JST)* 9(3):29-34.
- 10) [Young-Jin Lee; Dae-Hong Kim; Ye-seul Kim; Hee-Joung Kim](#), Optimization using detective quantum efficiency (DQE) of the high-resolution parallel-hole collimators with CdTe pixelated semiconductor SPECT system *Proc. SPIE* 9033, Medical Imaging 2014: Physics of Medical Imaging, 90334J (March 19, **2014**); doi:10.1117/12.2043006.
- 11) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (**2014**) *Nucl Med Commun.* **35**(9):967-976.
- 12) Alexandros P. Samartzis, George P. Fountos, Ioannis S. Kandarakis, Evangelia P. Kounadi, Emmanuel N. Zoros, Evangelia Skoura, Ioannis E. Datsieris, George H. Nikiforides, A robust method, based on a novel source, for performance and diagnostic capabilities assessment of the positron emission tomography system, *Hell J Nucl Med* 2014; 17(2): 97-105.
- 13) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (**2015**) *Journal of Spectroscopy* 2015:563763.
- 14) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012019.

- 15) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 16) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.
- 17) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 18) Comparación del desempeño de dos equipos de CBCT odontológico. Lázaro Reyes Veiglia, trabajo de diploma, Universidad Central “Marta Abreu” de Las Villas, Facultad de Ingeniería Eléctrica Centro de Estudios de Electrónica y Tecnologías de la Información, Santa Clara, 2015.
- 19) **C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos**, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CSI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 20) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 21) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.
- 22) Mpumelelo N. Determination of Optimum Planar Imaging Parameters for Small Structures with Diameters Less Than the Resolution of the Gamma Camera. *Iran J Med Phys* 2017; 14: 219-228. 10.22038/ijmp.2017.24559.1246.
- 23) H Tunnicliffe M Georgiou, G K Loudos, A Simcox and C Tsoumpas, 3D tomographic imaging with the  $\gamma$ -eye planar scintigraphic gamma camera, 2017 *J. Phys.: Conf. Ser.* 931 012002, DOI: <https://doi.org/10.1088/1742-6596/931/1/012002>.
- 24) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 25) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 26) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 27) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 28) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 29) **Christos M. Michail**, Kyriakos N. Agavanakis, George E. Karpetas, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis, George S. Panayiotakis, George P. Fountos, Information Content in Nuclear Medicine Imaging, [Energy Procedia, Volume 157, 2019](#), pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 30) Jing Wu and Chi Liu Recent advances in cardiac SPECT instrumentation and imaging methods. *Phys. Med. Biol.* 64 06TR01 2019. <https://doi.org/10.1088/1361-6560/ab04de>.
- 31) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 32) Sharah Nataz Shilfa, M. Roslan Abdul Gani, Intan Apriliani Syaridatul Mu'minah, Fery Ardiansyah, Lukmanda Evan Lubis, dan Djarwani Soeharso Soejoko, Pengukuran MTF (Modulation Transfer Function) berdasarkan LSF (Line Spread Function) dan PSF (Point Spread Function) pada pesawat PET/CT dan SPECT/CT *Journal of Medical Physics and Biophysics*, Vol. 6, No. 1, 2019.
- 33) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>

#### Publication

N. Kalyvas, P. Liapinos, **C. Michail**, S. David, G. Fountos, M. Wojtowicz and I. Kandarakis (2012) [Studying the luminescence efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nano-phosphor material for digital X-ray imaging applications](#), *Appl Phys A* 106:131-136.

(Scitations: 30)

- 1) Dongmei Chen, Shouping Zhu, Huangjian Yi, Xianghan Zhang, Duofang Chen, Jimin Liang, and Jie Tian, Cone beam x-ray luminescence computed tomography: A feasibility study *Med Phys* **2013** 40(3):031111. doi: 10.1118/1.4790694.
- 2) I. Kandarakis, G. Fountos, [new developments in radiation detectors for medical imaging](#), European Medical Physics and Engineering Conference, Sofia, October 18-20, 2012.
- 3) Neng-Li Wang, Xi-Yan Zhang, Peng-He Wang, Fabrication and spectroscopic characterization of Er<sup>3+</sup>:Lu<sub>2</sub>O<sub>3</sub> transparent ceramics, *Materials Letters* 94 (2013) 5-7.
- 4) Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, [I. E. Seferis ; N. I. Kalyvas ; I. G. Valais ; C. M. Michail ; P. F. Liaparinos ; G. P. Fountos ; E. Zych ; I. S. Kandarakis ; G. S. Panayiotakis Proc. SPIE 8668, Medical Imaging \(2013\): Physics of Medical Imaging, 86683W \(March 6, 2013\); doi:10.1117/12.2015265.](#)
- 5) [Investigating the optical diffusion capabilities of nanophosphors for use in medical imaging, P. F. Liaparinos ; I. S. Kandarakis, Proc. SPIE 8668, Medical Imaging 2013: Physics of Medical Imaging, 86683V \(March 6, 2013\); doi:10.1117/12.2015263.](#)
- 6) [P. F. Liaparinos](#), Light wavelength effects in submicrometer phosphor materials using Mie scattering and Monte Carlo simulation, *Med. Phys.* 40, 101911 (2013).
- 7) I. E. Seferis, **C. M. Michail**, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, Imaging performance of a thin Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu conventional phosphor screen. *Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).*
- 8) Nektarios Kalyvas, Panagiotis Liaparinos, Ioannis Valais, **Christos Michail**, Stratos David and Ioannis Kandarakis, [Scintillators in X-Ray Imaging: The Miscirlu Project \(2014\) e-Journal of Science & Technology, \(e-JST\) 9\(4\):1-8.](#)
- 9) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stomatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu, *J Lumin.* 151:229-234.
- 10) Roman Kubrin, Nanophosphor Coatings: Technology and Applications, Opportunities and Challenges, Review article, *KONA Powder and Particle Journal* No. 31 (2014) 22-52.
- 11) [N. Kalyvas, P. Liaparinos](#), Comparing analytical and Monte Carlo optical diffusion models in phosphor-based X-ray detectors, *Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 90333W (March 19, 2014); doi:10.1117/12.2042148.*
- 12) Xiang-Yang Chen, Zhi-Jun Zhang, Lin-Lin Zhu, Meng Xu, Hong Wang, Qing-Hua Wen, Qian Li, Ai-Guo Li, Jing-Tai Zhao, Preparation, and characterizations of a novel luminescence Lu<sub>2</sub>WO<sub>6</sub>: Eu<sup>3+</sup> film as potential scintillator, *Applied Surface Science* (2014) 317:730-736 <https://doi.org/10.1016/j.apsusc.2014.07.207>
- 13) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) J. Phys.: Conf. Ser. 574 01207.](#)
- 14) [P. Liaparinos ; I. Kandarakis, Examination of the variation of the optical diffusion properties in nanophosphor materials for use in biomedical imaging and instrumentation, Proc. SPIE Vol. 9531, Biophotonics South America, 95314H \(June 19, 2015\); doi:10.1117/12.2180591.](#)
- 15) [Hassan Ait Ahsaine, Mohamed Ezahri, Abdeljalil Benlhachemi, Bahcine Bakiz, Sylvie Villain, Jean-Christophe Valmalette, Frederic Guinneton, Madjid Arab and Jean Raymond Gavarrri, Structural, vibrational study and UV photoluminescence properties of the system Bi<sub>\(2-x\)Lu\(x\)WO<sub>6</sub> \(0.1≤x≤1\), RSC Adv., 2015 5:96242, doi: 10.1039/C5RA19424E</sub>](#)
- 16) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging, \(2016\) J Lumin. 169:706-710.](#)
- 17) [I.S. Kandarakis](#), Luminescence in Medical Image Science, **2016** 169:553-558.
- 18) P. F. Liaparinos, Anisotropic optical distribution of powder phosphor materials applied in medical imaging instrumentation, *Appl. Phys. A* (2016) 122:93.
- 19) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 20) P. Liaparinos, N. Kalyvas, E. Katsiotis and I. Kandarakis, Investigating the particle packing of powder phosphors for imaging instrumentation technology: an examination of Gd<sub>2</sub>O<sub>2</sub>S:Tb phosphor, **2016** JINST 11 P10001.
- 21) LI Shang-bin, HUANG Bo-yang, LI Guo-qiang, CHEN Ming, LUO Jiang-hua, XU Zheng-yuan, Enhancement of Frequency Responsibility of Si PIN-PD via Additional Red Phosphor Film, *Advances In New And Renewable Energy*, Vol. 4 No. 5, **2016**. doi:10.3969/j.issn.2095-560X.2016.05.001.

- 22) Kai Zheng ; Jie Li ; Chun Lei Tu ; Xing Song Wang, Two opposite sides synchronous tracking X-ray based robotic system for welding inspection, IEEE, **2017** Mechatronics and Machine Vision in Practice (M2VIP), 23rd International Conference on, 10.1109/M2VIP.2016.7827334
- 23) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.
- 24) Andrii Shyichuk, Eugeniusz Zych, Defect states in cubic lutetium oxide caused by oxygen or lutetium inclusions or vacancies, Journal of Luminescence, 197: 324-330, **2018**, <https://doi.org/10.1016/j.jlumin.2018.01.019>
- 25) [Juliana Oliveira, Vitor Correia, Enrico Sowade, Ikerne Etxebarria, Raul D. Rodriguez, Kalyan Y. Mitra, Reinhard R. Baumann](#), and [Senentxu Lanceros-Mendez](#), Indirect X-ray Detectors Based on Inkjet-Printed Photodetectors with a Screen-Printed Scintillator Layer, *ACS Appl. Mater. Interfaces*, 10(15), pp. 12904-12912. **2018**, DOI: 10.1021/acsami.8b00828
- 26) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (**2018**) *Appl Phys A* 124:604.
- 27) Saatsakis, G. Kalyvas, N. Michail, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 28) Liaparinos, P.; David, S. The Surface-Roughness Effects on Light Beam Interactions between the CsI Phosphor and Optical Sensing Materials. *Crystals* **2020**, 10, 174. <https://doi.org/10.3390/cryst10030174>.
- 29) Fellner, M.; Soppelsa, A.; Lauria, A. Heat-Induced Transformation of Luminescent, Size Tuneable, Anisotropic Eu:Lu(OH)<sub>2</sub>Cl Microparticles to Micro-Structurally Controlled Eu:Lu<sub>2</sub>O<sub>3</sub> Microplatelets. *Crystals* **2021**, 11, 992. <https://doi.org/10.3390/cryst11080992>
- 30) Jian-bang MAO, Peng-hui WANG, Jing-yuan WANG, Jian-hua LI, Wei WEI. Detection of solar blind ultraviolet communication based on fluorescent wavelength conversion. *Optics and Precision Engineering*, **2021**, 29(10): 2296-2305. doi: 10.37188/OPE.2021.0277

#### Publication

Vaia N. Koukou, Niki D. Martini, Panagiota I. Sotiropoulou, George G. Fountos, **Christos M. Michail**, Ioannis G. Valais, Ioannis S. Kandarakis and George C. Nikiforidis, (**2012**) [Modified polyenergetic x-ray spectra for dual energy method](#), *e-Journal of Science & Technology, (e-JST)* 7(3):79-85.

#### (Scitations: 4)

- 1) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (**2015**) *Journal of Spectroscopy* 2015:563763.
- 2) [V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis](#), [Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector](#) (**2015**) *J. Phys.: Conf. Ser.* 574 012076.
- 3) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 4) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.

#### Publication

Karpetas G, Michail C, Fountos G et al. 2013 Towards the optimization of nuclear medicine procedures for better spatial resolution, sensitivity, scan image quality and quantitation measurements by using a new Monte Carlo model featuring PET imaging Hell. J. Nucl. Med. 16(2):111-120.

#### (Scitations: 16)

- 1) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**.
- 2) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (**2014**) 2014:634856.
- 3) G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, (**2014**) *J. Phys.: Conf. Ser.* 490 012139.
- 4) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (**2014**) *Nucl Med Commun.* 35(9):967-976.

- 5) D. Nikolopoulos, **C. Michail**, I. Valais, P. Yannakopoulos, S. Kottou, G. Karpetas, G. Panayiotakis, [GATE Simulation of the Biograph 2 PET/CT Scanner](#), (2014) *J Nucl Med Radiat Ther* 5:201.
- 6) [H Sheen, K Chun Im, Y Choi, H Shin, Y Han, K Chung, J Cho, S Hee Ahn](#): GATE Monte Carlo simulation of GE Discovery 600 and a uniformity phantom, *Journal of the Korean Physical Society* (2014) 65(11), pp 1802-1808.
- 7) N Efthimiou, P Papadimitroulas, T Kostou and G Loudos, [Design considerations for a C-shaped PET system, dedicated to small animal brain imaging, using GATE Monte Carlo simulations](#), (2015) *J. Phys.: Conf. Ser.* 637 012005.
- 8) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 9) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 10) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.
- 11) Konstantinos Karaoglanis, Irene Polycarpou, Nikos Efthimiou, Charalampos Tsoumpas (2015) Appropriately regularized OSEM can improve the reconstructed PET images of data with low count statistics, *Hell J Nucl Med*; 18(2): 140-145.
- 12) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 13) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.
- 14) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 15) **Christos M. Michail**, [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Nektarios I. Kalyvas](#), [Ioannis G. Valais](#), [Ioannis S. Kandarakis](#), [George S. Panayiotakis](#), [George P. Fountos](#), Information Content in Nuclear Medicine Imaging, [Energy Procedia](#), Volume 157, 2019, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 16) [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Michael Taylor](#), [Evangelia Pappa](#), [Christos M. Michail](#), [John Filos](#), [Varvara Trachana](#) and [Lamprini Kontopoulou](#), [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* 2019, 2123, 020096, <https://doi.org/10.1063/1.5117023>.

### Publication

Seferis I. E., Kalyvas N. I., Valais I. G., Michail C. M., Liaparinos P. F., Fountos G. P., Zych E., Kandarakis I. S., Panayiotakis G. S., Light emission efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen under x-ray radiographic conditions, Proc. SPIE 8668, Medical Imaging 2013: Physics of Medical Imaging, 86683W-86683W-8 (2013)

(Scitations: 3)

- 1) I. E. Seferis, **C. M. Michail**, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, Imaging performance of a thin Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu conventional phosphor screen. Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).
- 2) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu, *J Lumin.* 151:229-234.
- 3) [Daniel Avram](#), [Ion Tiseanu](#), [Bogdan S. Vasile](#), [Mihaela Florea](#) & [Carmen Tiseanu](#), Near infrared emission properties of Er doped cubic sesquioxides in the second/third biological windows, *Scientific Reports*, volume 8, Article number: 18033 (2018).

### Publication

**C. Michail**, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (2013) [On the response of GdAlO<sub>3</sub>:Ce powder scintillators](#), *J Lumin.* 144:45-52.

(Scitations: 38)

- 1) Feng Zhang, Weifeng Zhang, Zhiya Zhang, Yan Huang, Ye Tao, Luminescent characteristics and energy transfer of a red-emitting YVO<sub>4</sub>:Sm<sup>3+</sup>, Eu<sup>3+</sup> phosphor, *Journal of Luminescence*, Vol.152, 2014, Pages 160-164.
- 2) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr.Ce.F Powder Scintillators under X-ray radiation](#), (2014) *Radiat Meas.* 70:59-64.
- 3) [P. Sotiropoulou](#), [G. Fountos](#), [N. Martini](#), [V. Koukou](#), **C. Michail**, [I. Kandarakis](#) and [G. Nikiforidis](#), [Bone calcium/phosphorus ratio determination using Dual Energy X-ray method](#), (2015) *Physica Medica: European Journal of Medical Physics* 31:307-313.

- 4) [C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation, \(2015\) \*Radiat Meas.\* 80:1-9.](#)
- 5) S L David, I G Valais, **C M Michail** and I S Kandarakis, [X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems \(2015\) \*J. Phys.: Conf. Ser.\* 637 012004.](#)
- 6) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution, \(2015\) \*J. Phys.: Conf. Ser.\* 637 012031.](#)
- 7) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor, \(2015\) \*J. Phys.: Conf. Ser.\* 637 012018.](#)
- 8) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods, \(2015\) \*J. Phys.: Conf. Ser.\* 637 012019.](#)
- 9) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution, \(2015\) \*J. Phys.: Conf. Ser.\* 637 012011.](#)
- 10) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods \(2015\) \*J. Phys.: Conf. Ser.\* 633 012096.](#)
- 11) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, [Investigation of luminescence properties of Lutetium Fine Silicate \(LFS-3\) scintillation crystals under X-ray radiographic conditions, SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-067.](#)
- 12) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, [Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG\) crystals under X-ray excitation, SCinTE 2015, 5-7 November, Athens, Greece, 162-A01-066.](#)
- 13) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging, \(2016\) \*J Lumin.\* 169:706-710.](#)
- 14) [I.S. Kandarakis, Luminescence in Medical Image Science, \*Journal of Luminescence\* 2016 169:553-558.](#)
- 15) [Vesna Lojpur, Sanja Čulubrk, Mina Medić, Miroslav Dramicanin, Luminescence Thermometry with Eu<sup>3+</sup> doped GdAlO<sub>3</sub>, \(2016\) \*Journal of Luminescence Vol 170\(2\)\*, 467-471.](#)
- 16) [D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_5](#)
- 17) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease. Sotirpoulou P. PhD Thesis, University of Patras, Greece, 2016.](#)
- 18) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 19) Vijay Singh, G. Sivaramaiah, M. Mohapatra, J. L. Rao, N. Singh, M. S. Pathak, P. K. Singh, S. J. Dhoble, Probing the Thermodynamic and Magnetic Properties of UV-B-Emitting GdAlO<sub>3</sub> Phosphors by ESR and Optical Techniques, [Journal of Electronic Materials](#), pp 1–8, 2017. DOI: 10.1007/s11664-016-5083-3
- 20) Temperature Dependent Electrical Properties of Combustion Synthesized GdAlO<sub>3</sub> Perovskite, S. K. Saji, T. Jeyasingh, R. Vinodkumar, P. R. S. Warier, and Radhakrishnan, AIP Conference Proceedings 1859, 020015 (2017); doi: 10.1063/1.499016.
- 21) Tang, Q., Qiu, K., Li, J. et al. Synthesis and photoluminescence enhancement of Ca<sub>3</sub>Sr<sub>3</sub>(VO<sub>4</sub>)<sub>4</sub>:Eu<sup>3+</sup> red phosphors by Sm<sup>3+</sup> doping for white LEDs, *J Mater Sci: Mater Electron* 2017 28(24):18686-18696. <https://doi.org/10.1007/s10854-017-7818-1>
- 22) Sajwan, R.K., Tiwari, S., Harshit, T. et al. Recent progress in multicolor tuning of rare earth-doped gadolinium aluminate phosphors GdAlO<sub>3</sub> Opt Quant Electron (2017) 49: 344. <https://doi.org/10.1007/s11082-017-1158-5>
- 23) P.K. Jisha, Ramachandra Naik, S.C. Prashantha, C.R Ravikumar, H.P Nagaswarupa, H. Nagabhushana, D.M. Jnaneshwara, Synthesis, Diffuse reflectance, Electrical and Photoluminescence properties of nanocrystalline Eu<sup>3+</sup> doped GdAlO<sub>3</sub> via Combustion method, *Materials Today: Proceedings 4* (2017) 11706-11712.
- 24) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation, \(2017\) \*J. Phys.: Conf. Ser.\* 931 012030.](#)
- 25) C. Michail: I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb \(2018\) \*Measur.\* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>](#)
- 26) [Qi Chen, Jinkai Li, Wenzhi Wang, Synthesis and luminescence properties of Tb<sup>3+</sup>/Eu<sup>3+</sup> co-doped GdAlO<sub>3</sub> phosphors with enhanced red emission, \*Journal of Rare Earths\*, 2018 <https://doi.org/10.1016/j.jre.2018.01.014>](#)

- 27) G. Pilania, S. K. Yadav, M. Nikl, B. P. Uberuaga and C. R. Stanek, Role of Multiple Charge States of Ce in the Scintillation of  $ABO_3$  Perovskites, *Physical Review Applied* 10, 024026 (2018).
- 28) Zhu Liu, Kehui Qiu, QinxueTangYangting Wub, JunlanWang, Synthesis of  $Ag^+/CaTiO_3:Pr^{3+}$  with luminescence and antibacterial properties, *Advanced Powder Technology*, 2018, <https://doi.org/10.1016/j.apt.2018.10.003>
- 29) Raunak Kumar Tamrakar, Samit Tiwari, Kanchan Upadhyay, C. S. Robinson Synthesis, Structural and Luminescent Properties of  $Eu^{2+}/Dy^{3+}$  Activated  $GdAlO_3$  Phosphors by Solid State Reaction Method Under Nitrogen Atmosphere, *Optik*, (2019) Volume 181, Pages 1158-1162, <https://doi.org/10.1016/j.ijleo.2018.12.076>
- 30) N. Kalyvas, P. Liaparinos, Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, *Optical Materials*, Vol. 88, 2019, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>
- 31) Jinkai Li, Wenzhi Wang, Zongming Liu, The luminescent properties of  $GdAlO_3:Tb^{3+}$  phosphors based on molten salts addition, *Int. J. Nanomanufacturing*, Vol. 15(1-2), 2019, pp.25-34, DOI: 10.1504/IJNM.2019.097236
- 32) Christos Michail, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride ( $CaF_2:Eu$ ) Single Crystals under X-ray Excitation. *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 33) R Venkatesh, Pratibha S, Dhananjaya N, S.R Manohar and G. N. Nagaraju, Study of optical and dielectric properties of alkali metal cation ( $Li^+$ ,  $Na^+$ ,  $K^+$ ) codoped  $Eu^{3+}$  activated gadolinium aluminate nanoparticles, 2019 *Mater. Res. Express*, 6(9), art. no. 095008. <https://doi.org/10.1088/2053-1591/ab268b>
- 34) George Saatsakis, Christos Michail, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films, *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 35) Etienne Lachaud. Maîtrise des propriétés optiques de céramiques transparentes par le contrôle des paramètres physicochimiques des précurseurs et des techniques d'élaboration. Cas du YAG. Matériaux. PhD Thesis. Université de Lyon, 2019. Français. NNT: 2019LYSE1019
- 36) Liaparinos, P.; David, S. The Surface-Roughness Effects on Light Beam Interactions between the CsI Phosphor and Optical Sensing Materials. *Crystals* 2020, 10, 174. <https://doi.org/10.3390/cryst10030174>.
- 37) Kawano, N., Akatsuka, M., Kimura, H. et al. Scintillation properties of Mn-doped methylammonium lead chloride crystals. *J Mater Sci: Mater Electron* (2020) 27(6):1-8. <https://doi.org/10.1007/s10854-020-04480-7>
- 38) Idrissi, S., Labrim, H., Bahmad, L. et al. Structural, Electronic, and Magnetic Properties of the Rare Earth-Based Solar Perovskites:  $GdAlO_3$ ,  $DyAlO_3$ , and  $HoAlO_3$ . *J Supercond Nov Magn* (2021). <https://doi.org/10.1007/s10948-021-05900-3>

## Publication

I. E. Seferis, C. M. Michail, I. G. Valais, G. P. Fountos, N. I. Kalyvas, F. Stomatia, G. Oikonomou, I.S. Kandarakis, G. S. Panayiotakis (2013) On the response of a europium doped phosphor-coated CMOS digital imaging detector, *Nucl. Instrum. Meth. Phys. Res. A*. 729:307-315.

(Scitations: 38)

- 1) Nektarios Kalyvas, Panagiotis Liaparinos, Ioannis Valais, Christos Michail, Stratos David and Ioannis Kandarakis, Scintillators in X-Ray Imaging: The Miscirlu Project (2014) *e-Journal of Science & Technology*, (e-JST) 9(4):1-8.
- 2) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (2014) 2014:634856.
- 3) I. Seferis, C. Michail, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stomatia, E. Zych, I. Kandarakis and G. Panayiotakis (2014) Light emission efficiency and imaging performance of  $Lu_2O_3:Eu$  nanophosphor under X-ray radiography conditions: Comparison with  $Gd_2O_2S:Eu$ , *J Lumin.* 151:229-234.
- 4) I. E. Seferis, C. M. Michail, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, Imaging performance of a thin  $Lu_2O_3:Eu$  nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with  $Gd_2O_2S:Eu$  conventional phosphor screen. *Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging*, 9033W (February 15-20, 2014).
- 5) A. Gabrielli, Fast Readout Architectures for Large Arrays of Digital Pixels: Examples and Applications, *The Scientific World Journal*, Vol 2014 (2014), 523429.
- 6) N. Martini, V. Koukou, C. Michail, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications, (2015) *Journal of Spectroscopy* 2015:563763.



- 7) [V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector \(2015\) J. Phys.: Conf. Ser. 574 012076.](#)
- 8) [N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) J. Phys.: Conf. Ser. 574 01207.](#)
- 9) [C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation, \(2015\) Radiat Meas.74:39-46.](#)
- 10) [Christos Michail, Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor \(2015\) Journal of Sensors, 2015:874637.](#)
- 11) [V Koukou, N Martini, K Velissarakos, D Gkremos, C Fountzoula, A Bakas, C Michail, I Kandarakis and G Fountos, PVAL breast phantom for dual energy calcification detection, \(2015\) J. Phys.: Conf. Ser. 637 012013.](#)
- 12) [I Valais, C Michail, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution, \(2015\) J. Phys.: Conf. Ser. 637 012031.](#)
- 13) [C M Michail, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor, \(2015\) J. Phys.: Conf. Ser. 637 012018.](#)
- 14) [V Koukou, N Martini, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling \(2015\) J. Phys.: Conf. Ser. 633 012093.](#)
- 15) [P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions \(2015\) J. Phys.: Conf. Ser. 633 012126.](#)
- 16) [N. Kalyvas, C. Michail, G. Fountos, I. Seferis, I. Valais, P. Liaparinos, S. David, A. Bakas, G. Panayiotakis and I. Kandarakis, Modeling a CMOS based indirect imaging detector. Effect of bit depth and detector software, SCinTE 2015, 5-7 November, Athens, Greece, 111-A01-050.](#)
- 17) [I. Valais, C. Michail, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, Measurement of the Optical Response of a High Resolution CMOS Imaging Detector, SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.](#)
- 18) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging, \(2016\) J Lumin. 169:706-710.](#)
- 19) [I.S. Kandarakis, Luminescence in Medical Image Science, Journal of Luminescence 2016 169:553-558.](#)
- 20) [I.E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, Preparation and imaging performance of nanoparticulated LuPO<sub>4</sub>:Eu semitransparent films under x-ray radiation, Proc. SPIE 9668, SPIE Micro+Nano Materials, Devices, and Systems, 96682H \(December 22, 2015\); doi:10.1117/12.2202535.](#)
- 21) [D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_5](#)
- 22) [C. Michail, I. Valais, N.Martini, V.Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard \(2016\) Radiat Meas. 94:8-17.](#)
- 23) [I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications Applied Physics A \(2016\) 122:526.](#)
- 24) [D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. \(2016\) Radiat Meas. 92:19-31](#)
- 25) [Vaia Koukou, Niki Martini, George Fountos, Christos Michail, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis \(2017\) Dual energy subtraction method for breast calcification imaging, Nucl. Instrum. Meth. Phys. Res. A.848:31-38.](#)
- 26) [I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu, \(2017\) J. Phys.: Conf. Ser. 931 012032.](#)
- 27) [A. Anastasiou, C. Michail, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, Examining the Spatial Frequency Components of a Digital Dental Detector, \(2017\) J. Phys.: Conf. Ser. 931 012005](#)
- 28) [G. Saatsakis, I. Valais, C. Michail, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation, \(2017\) J. Phys.: Conf. Ser. 931 012030.](#)

- 29) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 30) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.
- 31) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 32) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 33) **N. Kalyvas**, **P. Liaparinos**, Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, [Optical Materials](#), Vol. 88, **2019**, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>
- 34) **Christos M. Michail**, **Kyriakos N. Agavanakis**, **George E. Karpetas**, **Nektarios I. Kalyvas**, **Ioannis G. Valais**, **Ioannis S. Kandarakis**, **George S. Panayiotakis**, **George P. Fountos**, Information Content in Nuclear Medicine Imaging, [Energy Procedia](#), Volume 157, **2019**, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 35) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](#) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>
- 36) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 37) Ηλίας Αναγνώστου, Σχεδιασμός Ομοιώματος Για Χρήση Στην Κτηνιατρική Απεικόνιση Ακτίνων-X, [A phantom design for Veterinary X-ray imaging](#), MSc Thesis, **2021**, Department of Biomedical Engineering, University of West Attica.
- 38) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

S. David, M. Georgiou, G. Loudos, **C. Michail**, G. Fountos and I. Kandarakis, (2013) [Evaluation of powder/granular Gd<sub>2</sub>O<sub>3</sub>:Pr scintillator screens in single photon counting mode under 140keV excitation](#), *J. Inst.* 8: P01006.

#### (Scitations: 4)

- 1) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (2014) *Nucl Med Commun.* 35(9):967-976.
- 2) **S. David**, **C. Michail**, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, [Evaluation of Gd<sub>2</sub>O<sub>3</sub>:Pr granular phosphor properties for X-ray mammography imaging](#), (2016) *J Lumin.* 169:706-710.
- 3) **Yongji Yan**, **Xu Zhang**, **Haopeng Li**, **Yu Ma**, **Tianci Xie**, **Zhuang Qin**, **Shuangqiang Liu**, **Weimin Sun** and **Elfed Lewis**, An Optical Fiber Sensor Based on La<sub>2</sub>O<sub>3</sub>:Eu Scintillator for Detecting Ultraviolet Radiation in Real-Time, *Sensors* **2018**, 18(11), 3754; <https://doi.org/10.3390/s18113754>
- 4) R. Sun, L. Chen, W. Wei et al., A detector system for a high-energy phase-contrast human computed tomography experimental device, *Nuclear Inst. and Methods in Physics Research*, A (2019), doi: <https://doi.org/10.1016/j.nima.2019.162681>

#### Publication

I. E. Seferis, S. L. David, **C. M. Michail**, A. Bakas, N. I. Kalivas, G. P. Fountos, G. S. Panayiotakis, K. Kourkoutas, I. S. Kandarakis and I. G. Valais, [Light emission efficiency of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG:Ce\) single crystal under X-ray radiographic conditions](#), XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevilla Spain **2013**.

#### (Scitations: 5)

- 1) Mohammad Khoshakhlagh, Jalil Pirayesh Islamian, Seyed Mohammad Abedi, Babak Mahmoudian, Development of Scintillators in Nuclear Medicine, **2015**, Volume : 14(3), 156-159.
- 2) S L David, I G Valais, **C M Michail** and I S Kandarakis, [X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems](#) (2015) *J. Phys.: Conf. Ser.* 637 012004.
- 3) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Ioannis Seferis, Athanasios Bakas, Alexander Gektin and Ioannis Kandarakis, [Luminescent and scintillation properties of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce \(GAGG\) crystals under X-ray excitation](#), SCinTE **2015**, 5-7 November, Athens, Greece, 162-A01-066.

- 4) [Kaitlyn A. McDonald](#) and [George K. Schweitzer](#), Synthesis of GAGG:Ce<sup>3+</sup> powder for ceramics using mechanochemical and solution combustion methods, *Journal of the American Ceramic Society*, **2018**; 101:3837-3849, <https://doi.org/10.1111/jace.15563>
- 5) Ia Gerasymov, T. Nepokupnaya, A. Boyarintsev, O. Sidletskiy, D. Kurtsev, O. Voloshyna, O. Trubaieva, Y. Boyarintseva, T. Sibilieva, A. Shaposhnyk, O. Opolonin, S. Tretyak, GAGG:Ce composite scintillator for X-ray imaging, *Optical Materials*, Volume 109, **2020**, 110305, <https://doi.org/10.1016/j.optmat.2020.110305>.

### Publication

I. Seferis, **C. Michail**, I. Valais, J. Zeler, P. Liaparinos, G. Fountos, N. Kalyvas, S. David, F. Stromatia, E. Zych, I. Kandarakis and G. Panayiotakis (**2014**) [Light emission efficiency and imaging performance of Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor under X-ray radiography conditions: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu](#), *J Lumin.* 151:229-234.

(Scitations: 36)

- 1) C. Michail, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F Powder Scintillators under X-ray radiation](#), (**2014**) *Radiat Meas.* 70:59-64.
- 2) R Andrew Davidson, Chad Sugiyama and Ting Guo, Determination of Absolute Quantum Efficiency of X-ray Nano Phosphors by Thin Film Photovoltaic Cells, *Anal. Chem* (**2014**) 86(20):10492-6 doi: 10.1021/ac5032594.
- 3) [N Martini](#), [V Koukou](#), [N Kalyvas](#), [P Sotiropoulou](#), **C Michail**, [I Valais](#), [A Bakas](#), [I Kandarakis](#), [G Nikiforidis](#) and [G Fountos](#), [Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications](#), (**2015**) *J. Phys.: Conf. Ser.* 574 01207.
- 4) **C. Michail**, [I. Valais](#), [I. Seferis](#), [N. Kalyvas](#), [G. Fountos](#) and [I. Kandarakis](#), [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (**2015**) *Radiat Meas.* 74:39-46.
- 5) [Christos Michail](#), [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (**2015**) *Journal of Sensors*.
- 6) [I Valais](#), **C Michail**, [D Nikolopoulos](#), [C Fountzoula](#), [A Bakas](#), [P Yannakopoulos](#), [G Fountos](#), [G Panayiotakis](#) and [I Kandarakis](#), [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012031.
- 7) **C M Michail**, [I E Seferis](#), [T Sideras](#), [I G Valais](#), [G P Fountos](#), [A Bakas](#), [G S Panayiotakis](#) and [I S Kandarakis](#), [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012018.
- 8) [I. Konstantinou](#), [N. Kalyvas](#), [G. Fountos](#), **C. Michail**, [I. Valais](#), [A. Bakas](#) and [I. Kandarakis](#), [Studying the effect of digitization and quantization in noise power spectra of X-ray medical imaging detectors](#), *SCinTE 2015*, 5-7 November, Athens, Greece, 111-A06-047.
- 9) [I. Valais](#), **C. Michail**, [S. Karfitsas](#), [N. Kalyvas](#), [G. Fountos](#) and [I. Kandarakis](#), [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), *SCinTE 2015*, 5-7 November, Athens, Greece, 124-A06-069.
- 10) [S. David](#), **C. Michail**, [I. Seferis](#), [I. Valais](#), [G. Fountos](#), [P. Liaparinos](#), [I. Kandarakis](#) and [N. Kalyvas](#), [Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging](#), (**2016**) *J Lumin.* 169:706-710.
- 11) [I.S. Kandarakis](#), Luminescence in Medical Image Science, *Journal of Luminescence* **2016** 169:553-558.
- 12) [Jiao Duan](#), [Yan Liu](#), [Xiuhong Pan](#), [Yanjing Gu](#), [Xiaojie Zheng](#), [WeiLi](#), [Wei Wang](#), [Chaoyue Wang](#), [Jianding Yu](#), [Transparency, photoluminescence and X-ray luminescence study of Eu<sup>3+</sup> doped mayenite glass](#), *Materials Letters* 173(**2016**)102-106.
- 13) [D. Nikolopoulos](#), [I. Valais](#), [Panayotis H. Yannakopoulos](#), [C. Michail](#), [C. Fountzoula](#), [A. Bakas](#), [I. Kandarakis](#), [G. Panayiotakis](#), [Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation](#), *Nuclear Radiation Nanosensors and Nanosensory Systems*, Chapter 2, (**2016**) [P.J. Kervalishvili](#), [P.H. Yannakopoulos](#) (eds.), doi 10.1007/978-94-017-7468-0\_5
- 14) **C. Michail**, [I. Valais](#), [N. Martini](#), [V. Koukou](#), [N. Kalyvas](#), [A. Bakas](#), [I. Kandarakis](#) and [G. Fountos](#), [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (**2016**) *Radiat Meas.* 94:8-17.
- 15) [I. E. Seferis](#), [J. Zeler](#), **C. Michail**, [I. Valais](#), [G. Fountos](#), [N. Kalyvas](#), [A. Bakas](#), [I. Kandarakis](#), [E. Zych](#), [On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications](#) *Applied Physics A* (**2016**) 122:526
- 16) [D. Nikolopoulos](#), [I. Valais](#), **C. Michail**, [A. Bakas](#), [C. Fountzoula](#), [D. Cantzos](#), [D. Bhattacharyya](#), [I. Sianoudis](#), [G. Fountos](#), [P. Yannakopoulos](#), [G. Panayiotakis](#) and [I. Kandarakis](#), [Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends](#), (**2016**) *Radiat Meas.* 92:19-31
- 17) [P. Liaparinos](#), [N. Kalyvas](#), [E. Katsiotis](#) and [I. Kandarakis](#), [Investigating the particle packing of powder phosphors for imaging instrumentation technology: an examination of Gd<sub>2</sub>O<sub>2</sub>S:Tb phosphor](#), **2016** *Jinst* 11 P10001.
- 18) [I. E. Seferis](#), [J. Zeler](#), **C. Michail**, [S. David](#), [I. Valais](#), [G. Fountos](#), [N. Kalyvas](#), [A. Bakas](#), [I. Kandarakis](#), [E. Zych](#), [G. S. Panayiotakis](#) (**2017**) [Grains size and shape dependence of light efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu thin screens](#), *Result. Phys.* 7:980-981.
- 19) [I. Valais](#), [C. Michail](#), [C. Fountzoula](#), [G. Fountos](#), [G. Saatsakis](#), [A. Karabotsos](#), [G.S. Panayiotakis](#) and [I. Kandarakis](#), [Polymer Based Thin Film Screen Preparation Technique](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012035.

- 20) A. Anastasiou, **C. Michail**, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012005
- 21) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 22) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 23) Takayuki Yanagida, Inorganic scintillating materials and scintillation detectors, *Proc. Jpn. Acad., Ser. B*(94) (2018) 75-97. doi: 10.2183/pjab.94.007
- 24) [Juliana Oliveira](#), [Vitor Correia](#), [Enrico Sowade](#), [Ikerne Etxebarria](#), [Raul D. Rodriguez](#), [Kalyan Y. Mitra](#), [Reinhard R. Baumann](#), and [Senentxu Lanceros-Mendez](#), Indirect X-ray Detectors Based on Inkjet-Printed Photodetectors with a Screen-Printed Scintillator Layer, *ACS Appl. Mater. Interfaces*, 10(15), pp. 12904-12912. 2018, DOI: 10.1021/acsami.8b00828
- 25) Muhammad Hassyakirin Hasim, Irman Abdul Rahman, Sapizah Rahim, Muhammad Taqiyuddin Mawardi Ayob, Liyana Mohd Ali Napia & Shahidan Radiman, Synthesis and Characterization of Gd<sub>2</sub>O<sub>3</sub>:Pr<sup>3+</sup> Nanophosphors using Gamma Irradiation Method *Sains Malaysiana* 47(8)(2018): 1861-1866, <http://dx.doi.org/10.17576/jsm-2018-4708-26>
- 26) Yahua Hu, Mu Gu, Xiaolin Liu, Juannan Zhang, Shiming Huang and Bo Liu, Sol-Gel Template Synthesis and Characterization of Lu<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> Nanowire Arrays, *Micromachines* 2018, 9, 601; doi:10.3390/mi9110601
- 27) [Daniel Avram](#), [Ion Tiseanu](#), [Bogdan S. Vasile](#), [Mihaela Florea](#) & [Carmen Tiseanu](#), Near infrared emission properties of Er doped cubic sesquioxides in the second/third biological windows, *Scientific Reports*, volume 8, Article number: 18033 (2018).
- 28) **N. Kalyvas**, **P. Liaparinos**, Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, *Optical Materials*, Vol. 88, 2019, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>
- 29) T Thor, K Rubesova, V Jakes, J Cajzl, L Nadherny, D Mikolasova, A Beitlerova and M Nikl, Europium-doped Lu<sub>2</sub>O<sub>3</sub> phosphors prepared by a sol-gel method, *IOP Conf. Series: Materials Science and Engineering* 465 (2019) 012009, doi:10.1088/1757-899X/465/1/012009
- 30) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpeta, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 31) T. Thoř, K. Rubeřova, V. Jakeř, J. Cajzl, L. Nadherny, D. Mikolařova, R. Kučerkova, M. Nikl, Lanthanide-doped Lu<sub>2</sub>O<sub>3</sub> phosphors and scintillators with green-to-red emission, *Journal of Luminescence*, 2019, 215: 116647 <https://doi.org/10.1016/j.jlumin.2019.116647>
- 32) Xinxin Xu, Bin, Lu, Jianxu Hu, Zhigang Sun, Hongbing Chen, Controlled synthesis and photoluminescence behaviors of Lu<sub>2</sub>O<sub>3</sub>:Eu and Lu<sub>2</sub>O<sub>2</sub>S:Eu phosphor particles, *Journal of Luminescence*, Vol. 215, 2019, 116702, <https://doi.org/10.1016/j.jlumin.2019.116702>
- 33) Photometric features and typical white light emanation via combustion derived trivalent dysprosium doped ternary aluminate oxide based nanophosphor for WLEDs, Anju Hooda, Avni Khatkar, Sangeeta Chahar, Sonika Singh, Priyanka Dhankhar, S. P. Khatkara V. B. Taxak, *Ceramics International*, 46(4) 2019, <https://doi.org/10.1016/j.ceramint.2019.10.139>
- 34) Yahua Hu, Mu Gu, Qianli Li, Xiaolin Liu, Juannan Zhang, Shiming Huang, Bo Liu, "Influence of Annealing Temperature on the Performance of Lu<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> Nanowire Arrays Synthesized by Sol-gel Method Using AAO Template," *IEEE Transactions on Nuclear Science*, 2020, 67(8), art. no. 9140028, pp. 1899-1903, doi: 10.1109/TNS.2020.3009296.
- 35) Ze Wang, Benfu Qian, Hongyang Wang, Di Wang, Haifeng Zou, Yanhua Song, Xiuqing Zhou, Ye Sheng, The synthesis and luminescence properties of Lu<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> rods and its comparative analysis with Lu<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> rods, *Optical Materials*, Volume 109, 2020, 110355, <https://doi.org/10.1016/j.optmat.2020.110355>.
- 36) Rahim, Sapizah, Hasim, Muhammad Hassyakirin, Ayob, Muhammad Taqiyuddin Mawardi, Rahman, Irman Abdul, Salleh, Khairul Anuar Mohd, & Radiman, Shahidan. (2020). Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> Nanophosphors: Microwave Synthesis and X-ray Imaging Detector Application. *Materials Research*, 22(6), e20190383. <https://doi.org/10.1590/1980-5373-mr-2019-0383>

#### Publication

**Christos M. Michail**, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, [Figure of Image Quality and Information Capacity in Digital Mammography](#), (2014) *Biomed Research International* 2014:634856.

(Scitations: 18)

- 1) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (2015) *Journal of Spectroscopy* 2015:563763.
- 2) **C. Michail**, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (2015) *Radiat Meas.* 74:39-46.
- 3) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 4) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>3</sub>:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018.
- 5) Mark Borg, [The Use Of A Figure-Of-Merit \(FOM\) For Optimization In Digital Mammography: An Exploratory Study in Malta](#), PhD Thesis, UCL London, 2015.
- 6) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 7) [Mello, Juliana Mariano da Rocha Bandeira de, Qualidade de imagem radiológica: calculando sensibilidade e especificidade em mamografias digitais diagnósticas do HCPA – auditoria interna](#), Universidade Federal do Rio Grande do Sul, Master Thesis, 2015.
- 8) D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, [Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation](#), *Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2*, (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_5
- 9) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 10) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A* 848:31-38.
- 11) J Wang, RM Nishikawa, Y Yang - Quantitative comparison of clustered microcalcifications in for-presentation and for-processing mammograms in full-field digital mammography, *Med Phys.* 2017 44(7):3726-3738. doi: 10.1002/mp.12316.
- 12) A. Anastasiou, **C. Michail**, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012005
- 13) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 14) Leigh Russell Stanger, Thomas Charles Wilkes, Nicholas Andrew Boone, Andrew John Samuel McGonigle and Jon Raffae Willmott, Thermal Imaging Metrology with a Smartphone Sensor, *Sensors* 2018, 18(7), 2169; <https://doi.org/10.3390/s18072169>
- 15) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 16) **Christos M. Michail**, Kyriakos N. Agavanakis, George E. Karpetas, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis, George S. Panayiotakis, George P. Fountos, Information Content in Nuclear Medicine Imaging, [Energy Procedia, Volume 157, 2019](#), pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 17) [Meng Lyu, Hao Wang, Guowei Li, Shanshan Zheng, and Guohai Situ](#) "Learning-based lensless imaging through optically thick scattering media," *Advanced Photonics* 1(3), 036002, 2019. <https://doi.org/10.1117/1.AP.1.3.036002>
- 18) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

V. Koukou, N. Martini, G. Fountos, P. Sotiropoulou, **C. Michail**, I. Valais, E. Kounadi, I. Kandarakis and G. Nikiforidis, Calcification Detection Optimization in Dual Energy Mammography: Influence of the X-ray spectra, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, 2014, pp 459-462.

#### (Scitations: 9)

- 1) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (2015) *Journal of Spectroscopy* 2015:563763.

- 2) [V Koukou, G Fountos, N Martini, P Sotiropoulou, C Michail, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector \(2015\) J. Phys.: Conf. Ser. 574 012076.](#)
- 3) [P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, Bone calcium/phosphorus ratio determination using Dual Energy X-ray method, \(2015\) Physica Medica: European Journal of Medical Physics 31:307-313.](#)
- 4) N Martini, V Koukou, **C Michail**, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Modeling of the Calcium/Phosphorus Mass ratio for Breast Imaging \(2015\) J. Phys.: Conf. Ser. 633 012094.](#)
- 5) Tiffany C. Lewis, DO Victor J. Pizzitola, Marina E. Giurescu, William G. Eversman, Roxanne Lorans, Kristin A. Robinson and Bhavika K. Patel, Contrast-enhanced Digital Mammography: A Single-Institution Experience of the First 208 Cases The Breast Journal, Volume 23 Number 1, **2017** 67-76.
- 6) Tiffany C. Lewis, Bhavika K. Patel and Victor J. Pizzitola, Navigating contrast-enhanced digital mammography, Applied Radiology, 21-28, **2017**.
- 7) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 8) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 9) Hannsun, G., Saponaro, S., Sylvan, P. *et al.* Contrast-Enhanced Mammography: Technique, Indications, and Review of Current Literature. *Curr Radiol Rep* 9, 12 (2021). <https://doi.org/10.1007/s40134-021-00387-1>

### Publication

P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, **C. Michail**, I. Valais, I. Kandarakis and G. Nikiforidis, X-ray spectra for bone quality assessment using energy dispersive counting and imaging detectors with dual energy method, [XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings](#) Volume 41, **2014**, pp 463-466.

### (Scitations: 6)

- 1) N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (2015) *Journal of Spectroscopy* 2015:563763.
- 2) [P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, Bone calcium/phosphorus ratio determination using Dual Energy X-ray method, \(2015\) Physica Medica: European Journal of Medical Physics 31:307-313.](#)
- 3) [P I Sotiropoulou, G P Fountos, N D Martini, V N Koukou, C M Michail, I G Valais, I S Kandarakis and G C Nikiforidis, X-ray dual energy spectral parameter optimization for bone Calcium/Phosphorus mass ratio estimation, \(2015\) J. Phys.: Conf. Ser. 637 012025.](#)
- 4) P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions \(2015\) J. Phys.: Conf. Ser. 633 012126.](#)
- 5) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 6) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.

### Publication

Kalyvas N., Valais I., David S., Michail Ch., Fountos G., Liaparinos P and Kandarakis I.: "Studying the Energy Dependence of Intrinsic Conversion Efficiency of Single Crystal Scintillators Under X-ray Excitation" *Optics and Spectroscopy*, 116(5), 743-747, **2014**

### (Scitations: 5)

- 1) [N. Kalyvas, I. Valais, C. Michail, G. Fountos, I. Kandarakis, D. Cavouras, A theoretical study of CsI:Tl columnar scintillator image quality parameters by analytical modeling, \(2015\) Nucl. Instrum. Meth. Phys. Res. A. 779:18-24.](#)
- 2) S L David, I G Valais, **C M Michail** and I S Kandarakis, [X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems \(2015\) J. Phys.: Conf. Ser. 637 012004.](#)
- 3) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE **2015**, 5-7 November, Athens, Greece, 124-A06-069.
- 4) [S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging, \(2016\) J Lumin. 169:706-710.](#)
- 5) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation. Crystals 2019, 9, 343, https://doi.org/10.3390/cryst9070343](#)

### Publication

**C. Michail**, I. Valais, I. Seferis, N. Kalyvas, S. David, G. Fountos and I. Kandarakis, [Measurement of the Luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F Powder Scintillators under X-ray radiation](#), (2014) *Radiat Meas.* 70:59-64.

(Scitations: 32)

- 1) **C. Michail**, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (2015) *Radiat Meas.* 74:39-46.
- 2) **C. Michail**, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, [Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation](#), (2015) *Radiat Meas.* 80:1-9.
- 3) **Christos Michail**, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#) (2015) *Journal of Sensors* 2015:874637.
- 4) S L David, I G Valais, **C M Michail** and I S Kandarakis, [X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems](#) (2015) *J. Phys.: Conf. Ser.* 637 012004.
- 5) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 6) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018.
- 7) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 8) **D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis**, [Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation](#), *Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2*, (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_5
- 9) **C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos**, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 10) **Takayuki Yanagida, Masanori Koshimizu, Go Okada, Takahiro Kojima, Junya Osada, Noriaki Kawaguchi**, [Comparative study of nondoped and Eu-doped SrI<sub>2</sub> scintillator](#), *Optical Materials*, 2016, 61:119-124, doi:10.1016/j.optmat.2016.05.030
- 11) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, [Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends](#). (2016) *Radiat Meas.* 92:19-31
- 12) Sadek Kara, Lazhar Bouhdjer, Miloud Sebais, Ouahiba Halimi, Boubaker Boudine, [Elaboration and characterization of a KCl single crystal doped with Er<sup>3+</sup>](#), *Optik - International Journal for Light and Electron Optics*, Volume 127, Issue 20, 2016, Pages 9264-9268.
- 13) Guoqing Wu, Haiming Qin, Shaowei Feng, Xiaojian Tan, Zhaohua Luo, Yongfu Liu, Jun Jiang, Haochuan Jiang, [Ultrafine Gd<sub>2</sub>O<sub>2</sub>S:Pr powders prepared via urea precipitation method using SO<sub>2</sub>/SO<sub>2</sub><sup>-4</sup> as sulfuration agent-A comparative study](#). *Powder Technology* 305 (2017) 382-388.
- 14) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 15) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 16) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 17) **C. Michail**, I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (2018) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 18) **Xuejiao Wang, Xiaojun Wang, Zhihao Wang, Qi Zhu, Ge Zhu, Chuang Wang, Shuangyu Xin, Ji-Guang Li**, [Photo/cathodoluminescence and stability of Gd<sub>2</sub>O<sub>2</sub>S:Tb,Pr green phosphor hexagons calcined from layered hydroxide sulfate](#), *Journal of the American Ceramic Society*, 2018, 101(12), pp. 5477-5486, <https://doi.org/10.1111/jace.15797>
- 19) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 20) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.

- 21) [N. Kalyvas, P. Liaparinos](#), Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, *Optical Materials*, Vol. 88, 2019, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>
- 22) [Christos Michail](#), Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) *Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride (CaF<sub>2</sub>:Eu) Single Crystals under X-ray Excitation*. *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 23) Daniele panetta, Luca Labate, Lucia Billeci, Nicole Di Lascio, Giuseppina esposito, Francesco Faita, Giovanni Mettievier, Daniele palla, Luciano Pandola, pietro pisciotta, Giorgio Russo, Antonio sarno, paolo tomassini, piero A. Salvadori, Leonida A. Gizzi & Paolo Russo, Numerical simulation of novel concept 4D cardiac microtomography for small rodents based on all-optical Thomson scattering X-ray sources, *Nature Scientific RepoRts* (2019) 9:8439, <https://doi.org/10.1038/s41598-019-44779-y>
- 24) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, C. Michail, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, *Imaging performance of a CaWO<sub>4</sub>/CMOS sensor*, *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 25) K. Byrne, M. Alharbi, N. Esplen, P. Woulfe, S. O’Keeffe, M. Bazalova-Carter, M. Foley, Initial evaluation of the performance of novel inorganic scintillating detectors for small animal irradiation dosimetry, *IEEE Sensors Journal*, 20(9), art. no. 8952618, pp. 4704-4712, 2020, 10.1109/JSEN.2020.2964989.
- 26) Wenhua Zhang, Huamin Kou, Lin Ge, Ying Zhang, Lin Lin and Wei Li. Effects of doping ions on the luminescence performance of terbium doped gadolinium polysulfide phosphor, 2020 J. Phys.: Conf. Ser. 1549 032064, <https://doi.org/10.1088/1742-6596/1549/3/032064>
- 27) Jeong, H.Y.; Lim, H.S.; Lee, J.H.; Heo, J.; Kim, H.N.; Cho, S.O. ZnWO<sub>4</sub> Nanoparticle Scintillators for High Resolution X-ray Imaging. *Nanomaterials* 2020, 10, 1721, <https://doi.org/10.3390/nano10091721>
- 28) Булавская Ангелина Александровна, РАЗРАБОТКА И ПРИМЕНЕНИЕ МЕТОДА МНОГОУГЛОВОГО СКАНИРОВАНИЯ ДЛЯ РЕГИСТРАЦИИ ПРОСТРАНСТВЕННОГО ЭНЕРГЕТИЧЕСКОГО РАСПРЕДЕЛЕНИЯ ИОНИЗИРУЮЩЕГО ИЗЛУЧЕНИЯ В ПОПЕРЕЧНОМ СЕЧЕНИИ ПУЧКА, PhD Thesis, Tomsk Politechnic University, 2020.
- 29) Jeong, H. Y. et al. *The Size Effect of Powdered Scintillator on High-Resolution X-ray Imaging System*, Transactions of the Korean Nuclear Society Virtual Autumn Meeting December 17-18. (2020).
- 30) LI Jiang, DING Jiyang, HUANG Xinyou. Rare Earth Doped Gd<sub>2</sub>O<sub>3</sub>S Scintillation Ceramics. *Journal of Inorganic Materials* 2021, DOI: 10.15541/jim20200544.
- 31) Tarasenko, M.S., Ryadun, A.A., Orazov, Z.K. et al. The Concentration Quenching of Photoluminescence and the Quantum Yield in (Y<sub>1-x</sub>Pr<sub>x</sub>)<sub>2</sub>O<sub>2</sub>Se Solid Solutions. *Inorg Mater* 57, 830–834 (2021). <https://doi.org/10.1134/S002016852108015X>
- 32) Bipin Singh, Vivek V. Nagarkar, Double - Pulsed X - Ray Source and Applications, United States Patent, Patent No.: US 11,103,207 B1, 2021.

## Publication

George E. Karpetas, **Christos M. Michail**, George P. Fountos, Ioannis S. Kandarakis and George S. Panayiotakis, [A new PET resolution measurement method through Monte Carlo simulations](#), (2014) *Nuclear Medicine Communications*. 35(9):967-976. (Scitations: 16)

- 1) N Efthimiou, P Papadimitroulas, T Kostou and G Loudos, [Design considerations for a C-shaped PET system, dedicated to small animal brain imaging, using GATE Monte Carlo simulations](#), (2015) *J. Phys.: Conf. Ser.* 637 012005.
- 2) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 3) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 4) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.
- 5) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 6) **C. Michail**, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CSI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 7) **S. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 8) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.



- 9) Mpumelelo N. Determination of Optimum Planar Imaging Parameters for Small Structures with Diameters Less Than the Resolution of the Gamma Camera. *Iran J Med Phys* **2017**; 14: 219-228. [10.22038/ijmp.2017.24559.1246](https://doi.org/10.22038/ijmp.2017.24559.1246).
- 10) G P Fountos and C M Michail, Towards the Experimental Assessment of the DQE in SPECT Scanners, (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 11) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 12) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 13) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 14) **Christos M. Michail**, Kyriakos N. Agavanakis, George E. Karpetas, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis, George S. Panayiotakis, George P. Fountos, Information Content in Nuclear Medicine Imaging, [Energy Procedia, Volume 157, 2019](#), pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 15) Kyriakos N. Agavanakis, George E. Karpetas, Michael Taylor, Evangelia Pappa, **Christos M. Michail**, John Filos, Varvara Trachana and Lamprini Kontopoulou, [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* **2019**, 2123, 020096, <https://doi.org/10.1063/1.5117023>.
- 16) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

#### Publication

G E Karpetas, **C M Michail**, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, [A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator](#), (2014) *J. Phys.: Conf. Ser.* 490 012139.

#### (Scitations: 4)

- 1) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 2) G E Karpetas, **C M Michail**, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.
- 3) **C M Michail**, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.
- 4) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.

#### Publication

I. E. Seferis, **C. M. Michail**, I. G. Valais, Panagiotis F. Liaparinos, Nektarios I. Kalyvas, G. P. Fountos, Eugeniusz Zych, I. S. Kandarakis, George Panayiotakis, [Imaging performance of a thin Lu<sub>2</sub>O<sub>3</sub>:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd<sub>2</sub>O<sub>2</sub>S:Eu conventional phosphor screen](#). Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).

#### (Scitations: 5)

- 1) He Xiaowei, Jin Chen, Yi Huangjian, Zhang Haibo, Hou Yuqing. X-Ray Luminescence Computed Tomography Based on Split Augmented Lagrangian Shrinkage Algorithm [J]. *Acta Optica Sinica*, **2016**, 36(3): 0317001. DOI 10.3788/aos201636.0317001
- 2) Hou Y.-Q., Qu X., Zhang H.-B., Yi H.-J., He X.-W. [Single-view XLCT imaging based on fast Bayesian matching pursuit](#), *Guangxue Jingmi Gongcheng/Optics and Precision Engineering*, **2017**, 25(5), pp.1159-1170.
- 3) Huangjian Yi, Xuan Qu, Yi Sun, Jinye Peng, Yuqing Hou, Xiaowei He, A permissible region extraction based on a knowledge priori for X-ray luminescence computed tomography, *Multimedia Systems* (2017) 2017:147-154. <https://doi.org/10.1007/s00530-017-0576-3>
- 4) Justyna Zeler, Paulina Bolek, Dagmara Kulesza, Eugeniusz Zych, On Thermoluminescence Mechanism and Energy Leakage in Lu<sub>2</sub>O<sub>3</sub>:Tb,V Storage Phosphor, *Optical Materials: X*, (2019) 1, art. no. 100001 <https://doi.org/10.1016/j.omx.2018.100001>

- 5) Hou, Y., Tang, Z., Yi, H., hongbo, G., Yu, J., & He, X. (2021). Three-term conjugate gradient method for X-ray luminescence computed tomography. *Journal of the Optical Society of America A* 38(7), 985-991. doi:10.1364/josaa.423149

#### Publication

Nikolopoulos D, Valais I, **Michail C**, Chatzisavvas N, Yannakopoulos P, Malaxianakis B (2014) Modelling biograph 2 PET/CT scanner with GATE. *Phys Med* 30(S1), e94. doi:10.1016/j.ejmp.2014.07.269

(Scitations: 1)

- 1) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_2](#)

#### Publication

Nikolopoulos D, **Michail C**, Valais I, Yannakopoulos P, Kottou S, Karpetas G, Panayiotakis G (2014) GATE simulation of the biograph 2 PET/CT scanner. *J Nucl Med Radiat Ther* 5:201. doi:10.4172/2155-9619.1000201

(Scitations: 9)

- 1) [Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, \(2016\) P.J. Kervalishvili, P.H. Yannakopoulos \(eds.\), DOI 10.1007/978-94-017-7468-0\\_2](#)
- 2) [Lingcong Fan, Debao Lin, Ying Shi, Jieyu Zhang, Jianjun Xie, Fang Lei, Lei Zhang, Effects of Air Annealing on Luminescent Properties of Cerium-Doped Lutetium Oxyorthosilicate Scintillation Ceramics, IEEE Transactions on Nuclear Science, Volume 63\(2\), pp480-485, 2016.](#)
- 3) [Lingcong Fan, Menghan Jiang, Debao Lin, Ying Shi, Yiquan Wu, Li Pi, Jun Fang, Jianjun Xie, Fang Lei, Lei Zhang, Yunbo Zhong, Jieyu Zhang, Grain orientation control of cerium doped lutetium oxyorthosilicate ceramics in a strong magnetic field, Materials Letters, 198\(1\) 2017, 85-88.](#)
- 4) [Musa S. Musa, Dilber U. Ozsahin, Ilker Ozsahin. Simulation and evaluation of a cost-effective high-performance brain PET scanner. J Biomed Imag Bioeng 2017 1\(2\):53-59.](#)
- 5) M.S. Musa, D. Uzun Ozsahin and I. Ozsahin, Simulation and evaluation of high-performance cost-effective positron emission mammography scanner **2018** *JINST* 13 C11023 <https://doi.org/10.1088/1748-0221/13/11/C11023>
- 6) Larissa Njejmama, Conception d'un système temps réel d'acquisition de données dédié à l'imagerie TEP à haute résolution et haute sensibilité, PhD Thesis, Université de Sherbrooke, Sherbrooke (Québec) Canada, **2019**.
- 7) Kashian E, Ahangari HT, Dehlaghi V, Khoshgard K, Ghafarian P, Ghorbani R. Monte Carlo simulation and performance assessment of GE Discovery 690 VCT positron emission tomography/computed tomography scanner. *World J Nucl Med* **2020**; 19:366-75, doi:10.4103/wjnm.WJNM\_4\_20.
- 8) Leonid L. Nkuba, Innocent J. Lugendo and Idrissa S. Amour, A GATE-based Monte Carlo Simulation of a Dual-layer Pixelized Gadolinium Oxyorthosilicate (GSO) Detector Performance and Response for Micro PET Scanner, *Tanzania Journal of Science* 47(2): 507-519, **2021**.
- 9) G. Razdevšek *et al.*, "Multi-panel limited angle PET system with 50 ps FWHM coincidence time resolution: a simulation study," in *IEEE Transactions on Radiation and Plasma Medical Sciences*, doi: 10.1109/TRPMS.2021.3115704 **2021**.

#### Publication

I. Valais, G. Koulouras, G. Fountos, **C. Michail**, D. Kandris and S. Athinaios, [Design and Construction of a Prototype ECG Simulator](#) (2014) *e-Journal of Science & Technology, (e-JST)* 9(3):11-18.

(Scitations: 10)

- 1) Kholood Mohammed Salim Yagoub, Mayada Rahmtalla Mohammed, Tagwa Mohammed Mohammed Ali, Microcontroller Based ECG Arrhythmia Biosimulator for Testing ECG Machines, Sudan University of Science & Technology, College of Engineering, Biomedical Engineering Department, **2016**.
- 2) Muhammad Shafique, Ayesha Naeem, Design And Development Of An Efficient And Cost Effective ECG Simulator Capable Of Generating Normal And Pathological ECG Signals, *International Journal of Simulation Systems, Science & Technology*, Volume 19, Number 1, **2018** DOI 10.5013/IJSSST.a.19.01.01
- 3) Korovesis, N.; Kandris, D.; Koulouras, G.; Alexandridis, A. Robot Motion Control via an EEG-Based Brain-Computer Interface by Using Neural Networks and Alpha Brainwaves. *Electronics* **2019**, 8, 1387. <https://doi.org/10.3390/electronics8121387>
- 4) Catur Suharto, Anwar Budianto, Nugroho Tri Sanyoto, Design of Electrocardiograph Signal Simulator, *Indonesian Journal of Electronics, Electromedical Engineering, and Medical Informatics*, Vol. 2, No. 1, **2020**, 43-47, doi: <https://doi.org/10.35882/ijeemi.v2i1.9>
- 5) Yan Chen, Design of electrocardiograph signal simulator, *International Journal of Electronics and Microcircuits* **2020**; 1(1): 01-05

- 6) I Dewa Gede Budi Whinangun, Andjar Pudji, M. Ridha Makruf, [ECG Simulator dengan Digital To Analog Converter 12-Bit](#), Prosiding Seminar Nasional Kesehatan, Politeknik Kesehatan Kementerian Kesehatan Surabaya, Surabaya, 28 Nopember 2020, ISSN: 2656-8624, [semnas.poltekkesdepkes-sby.ac.id](#).
- 7) S. Stephe, T. Jayasankar, Biomedical Healthcare Robot Movement Control Using an EEG-Based Brain-Computer Interface with an Optimized Kernel Extreme Learning Machine, in: *Robotic Technologies in Biomedical and Healthcare Engineering*, Edited By, Deepak Gupta, Moolchand Sharma, Vikas Chaudhary, Ashish Khanna, 1st Edition, 2021, Boca Raton, CRC Press, DOI: <https://doi.org/10.1201/9781003112273>, ISBN: 9781003112273.
- 8) F. Azizah, B. Irianto, and E. Yulianto, "Twelve Channel ECG Phantom Based on MEGA2560 and DAC-MCP4921", *Jurnal Teknokes*, vol. 14, no. 2, pp. 73-79, 2021. DOI: <https://doi.org/10.35882/teknokes.v14i2.5>
- 9) Sella Octa Ardila, Endro Yulianto, and Sumber, Phantom ECG, *International Journal of Advanced Health Science and Technology*, Vol. 1 No. 1 (2021) <https://doi.org/10.35882/ijahst.v1i1.3>
- 10) Karataş, F., Koyuncu, İ., Tuna, M. *et al.* Design and implementation of arrhythmic ECG signals for biomedical engineering applications on FPGA. *Eur. Phys. J. Spec. Top.* (2021). <https://doi.org/10.1140/epjs/s11734-021-00334-3>

#### Publication

Niki D. Martini, George G. Fountos, Vaia N. Koukou, Panagiota I. Sotiropoulou, **Christos M. Michail**, A. Bakas, Ioannis S. Kandarakis and George C. Nikiforidis, [X-Ray Spectra Optimization for the Hydroxyapatite/Collagen Ratio Determination-A New Approach in Osteoporosis Diagnosis](#) (2014) *e-Journal of Science & Technology, (e-JST)* 9(3):29-34.

(Scitations: 2)

- 1) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 2) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.

#### Publication

N. Kalyvas, **C. Michail**, G. Fountos, I. Valais, I. Kandarakis, D. Cavouras, [Investigating columnar scintillators through analytical modeling. A semiempirical approach](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, 2014.

(Scitations: 1)

- 1) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (2017).

#### Publication

A. Skouroliakou, I. Seferis, **C. Michail**, I. Sianoudis, D. Mathes, I. Valais, [Thermographic blood flow variation relative to lower limb position](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, 2014.

(Scitations: 1)

- 1) Vladan Bernard, Vladimír Čan, Erik Staffa, Martina Farkašová, Michaela Němcová, Marek Dostál, Zdeněk Kala, Vojtěch Mornstein, *Infrared thermal imaging: a potential tool used in open colorectal surgery* *Minerva Chirurgica* 2017;72(5):442-6, DOI: [10.23736/S0026-4733.17.07366-7](https://doi.org/10.23736/S0026-4733.17.07366-7)

#### Publication

I. E. Seferis, **C. M. Michail**, J. Zeler, I. G. Valais, T. Sideras, P. F. Liaparinos, N. I. Kalyvas, G. P. Fountos, A. Bakas, I. S. Kandarakis, E. Zych, [X-ray Luminescence Efficiency and Detector Quantum Gain of LuPO<sub>4</sub>:Eu nanophosphor](#), *Phys. Medica*, 2014, 30, e96, 2014 [doi:10.1016/j.ejmp.2014.07.275](https://doi.org/10.1016/j.ejmp.2014.07.275).

(Scitations: 1)

- 1) V. V. Laguta, M. Buryi, M. Nikl, J. Zeler, E. Zych and M. Bettinelli, Electron and hole trapping in Eu- or Eu, Hf-doped LuPO<sub>4</sub> and YPO<sub>4</sub> tracked by EPR and TSL spectroscopy, *J. Mater. Chem. C*, 2019, DOI: 10.1039/C9TC03507A.

#### Publication

N. Martini, V. Koukou, P. Sotiropoulou, **C. Michail**, I. Kandarakis, G. Nikiforidis, and G. Fountos, [A novel non-invasive method substituting breast cancer biopsies](#), 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September 11-13, 2014, [doi:10.1016/j.ejmp.2014.07.242](https://doi.org/10.1016/j.ejmp.2014.07.242).

(Scitations: 1)

- 1) Rezaee, K., Rezaee, A., Shaikhi, N. et al. Multi-mass breast cancer classification based on hybrid descriptors and memetic meta-heuristic learning. *SN Appl. Sci.* 2, 1297 (2020). <https://doi.org/10.1007/s42452-020-3103-7>

#### Publication

Panagiota I. Sotiropoulou, George G. Fountos, Niki D. Martini, Vaia N. Koukou, **Christos M. Michail**, Ioannis G. Valais, Ioannis S. Kandarakis and George C. Nikiforidis, [Dual Energy Inverse Mapping Technique to Estimate Calcium to-Phosphorus Mass Ratio in Bone Quality Assessment](#) (2014) *e-Journal of Science & Technology*, (*e-JST*) 9(4):15-24.

**(Scitations: 1)**

- 1) Z.K. Maimekov, J. B. Izakov, T. Z. Maimekov, N. T. Shaikieva, K. A. Kemelov, M. B. Moldobaev, T. Akimov, D. A. Sambaeva, Prediction of the Calcium and Phosphorus-Containing Substances, Formation During the Destruction of Bone Waste in Slaughterhouses, 81-87, Vol 2, **2020**, doi: 10.24411/1816-1863-2020-12081.

**Publication**

N. Martini, V. Koukou, **C. Michail**, P. Sotiropoulou, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, [Pencil beam spectral measurements of Ce, Ho, Yb and Ba powders for potential use in Medical applications](#), (2015) *Journal of Spectroscopy* 2015:563763.

**(Scitations: 21)**

- 1) [V. Koukou, N. Martini, C. Michail, P. Sotiropoulou, C. Fountzoula, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Dual energy method for breast imaging: A simulation study.](#) (2015) *Comput. Math. Methods Med* 2015:574238.
- 2) [I Vlachos, X Tsantilas, G Fountos, H Delis, I Kandarakis and G Panayiotakis, Effect of common building materials in narrow shaped X-ray fields transmission.](#) (2015) *J. Phys.: Conf. Ser.* 637 012034.
- 3) [P I Sotiropoulou, G P Fountos, N D Martini, V N Koukou, C M Michail, I G Valais, I S Kandarakis and G C Nikiforidis, X-ray dual energy spectral parameter optimization for bone Calcium/Phosphorus mass ratio estimation.](#) (2015) *J. Phys.: Conf. Ser.* 637 012025.
- 4) [V Koukou, N Martini, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling](#) (2015) *J. Phys.: Conf. Ser.* 633 012093.
- 5) [N Kalyvas, N Martini, V Koukou, C Michail, P Sotiropoulou, I Valais, I Kandarakis and G Fountos A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications](#) (2015) *J. Phys.: Conf. Ser.* 633 012095.
- 6) [P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions](#) (2015) *J. Phys.: Conf. Ser.* 633 012126.
- 7) [N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Fountos and G. Nikiforidis, Calcium-to-Phosphorus mass ratio determination for breast calcification characterization using dual energy method](#), SCinTE **2015**, 5-7 November, Athens, Greece, 209-A01-125.
- 8) [Ioannis Vlachos, Nektarios Kalyvas, Xenophon Tsantilas, George Fountos, Harry Delis, Ioannis Kandarakis, George Panayiotakis, Secondary radiation transmission from common building materials for radiation protection in dental and veterinary radiographic applications](#), SCinTE **2015**, 5-7 November, Athens, Greece, 138-A01-039.
- 9) [Dana Kurková, Libor Judas, X-ray tube spectra measurement and correction using a CdTe detector and an analytic response matrix for photon energies up to 160 keV, Radiation Measurements](#) (2016) **85**:64-72.
- 10) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease.](#) Sotiropoulou P. PhD Thesis, University of Patras, Greece, **2016**.
- 11) [Ioannis Vlachos, Spectroscopy and dosimetry of secondary radiation for radiology systems](#), PhD Thesis, University of Patras, Greece, **2016**.
- 12) [D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends.](#) (2016) *Radiat Meas.* 92:19-31
- 13) [P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Nikiforidis, Polynomial dual energy inverse functions for bone Calcium/Phosphorus ratio determination and experimental evaluation.](#) (2016) *Appl. Radiat. Isot.* **118**:18-24.
- 14) [Vaia Koukou, Niki Martini, George Fountos, Christos Michail, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis](#) (2017) *Dual energy subtraction method for breast calcification imaging*, *Nucl. Instrum. Meth. Phys. Res. A*.848:31-38.
- 15) [N Martini, V Koukou, G Fountos, C Michail, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method.](#) (2017) *Phys. Med. Biol.* 62:7741-7764.
- 16) [Niki Martini, Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 17) [Vaia Koukou, Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 18) [Alexander G. Turyanskiy, Sergey S. Gizha, Band-reject-filtering X-ray spectra by mosaic structures of pyrolytic graphite](#), *X-Ray Spectrometry*. **2020**; 49:434-441. DOI: 10.1002/xrs.3137

- 19) C. Michail, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#), (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 20) Niki Martini, Vaia Koukou, Christos Michail and George Fountos, [Mineral characterization in human body: A dual energy approach](#) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 21) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, C. Michail, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

## Publication

[P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis and G. Nikiforidis, Bone calcium/phosphorus ratio determination using Dual Energy X-ray method](#), (2015) *Physica Medica: European Journal of Medical Physics* 31:307-313.

## (Scitations: 26)

- 1) Gabriel Armencea, Cristian Berce, Horatiu Rotaru, Simion Bran, dan Leordean, Camelia Coadă, Milica Todea, Camelia Augusta Jula, Dan Gheban, Grigore Baciut, Mihaela Baciut, Radu Septimiu Campian, Micro-CT And Histological Analysis Of Ti<sub>6</sub>Al<sub>7</sub>Nb Custom Made Implants With Hydroxyapatite And SiO<sub>2</sub>-TiO<sub>2</sub> Coatings In A Rabbit Model, Clujul Medical 2015 Vol. 88 - no.3 DOI: <http://dx.doi.org/10.15386/cjmed-479>
- 2) P I Sotiropoulou, G P Fountos, N D Martini, V N Koukou, C M Michail, I G Valais, I S Kandarakis and G C Nikiforidis, [X-ray dual energy spectral parameter optimization for bone Calcium/Phosphorus mass ratio estimation](#), (2015) *J. Phys.: Conf. Ser.* 637 012025.
- 3) N Martini, V Koukou, C Michail, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Modeling of the Calcium/Phosphorus Mass ratio for Breast Imaging](#) (2015) *J. Phys.: Conf. Ser.* 633 012094.
- 4) N Kalyvas, N Martini, V Koukou, C Michail, P Sotiropoulou, I Valais, I Kandarakis and G Fountos [A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications](#) (2015) *J. Phys.: Conf. Ser.* 633 012095.
- 5) P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions](#) (2015) *J. Phys.: Conf. Ser.* 633 012126.
- 6) A. Hadjipanteli, N. Kourkoumelis, P. Fromme, J. Huang, R.D. Speller, Evaluation of the 3D spatial distribution of the Calcium/Phosphorus ratio in bone using computed-tomography dual-energy analysis (2016) *Phys Med.* 2016 Jan;32(1):162-8. doi: 10.1016/j.ejmp.2015.11.004
- 7) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](#). Sotiropoulou P. PhD Thesis, University of Patras, Greece, 2016.
- 8) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Nikiforidis, [Polynomial dual energy inverse functions for bone Calcium/Phosphorus ratio determination and experimental evaluation](#), (2016) *Appl. Radiat. Isot.* 118:18-24.
- 9) Vaia Koukou, Niki Martini, George Fountos, Christos Michail, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A*.848:31-38.
- 10) N Martini, V Koukou, G Fountos, C Michail, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.
- 11) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 12) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 13) Sparks NRL, Martinez IKC, Soto CH, Zur Nieden NI, Low Osteogenic Yield in Human Pluripotent Stem Cells Associates with Differential Neural Crest Promoter Methylation. *Stem Cells*. 2018 36(3):349-362. doi: 10.1002/stem.2746.
- 14) M. Suarez, A. Rivarola, L. Grinschpun, C. Oldani, S. Maturana, J. Bianchi, J. Amietta, L. Boezio Consideraciones sobre la experimentación *in vivo* en Argentina. Aplicación a un caso particular: implantes de titanio, titanio poroso y composite de titanio-hidroxiapatita. *Revista Argentina De Bioingeniería*, VOL. 22 (3), 2018, pp.75-82.
- 15) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and Christos Michail, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 16) Lei Zhao, Muyang Li, Hui Sun, Effects of dietary calcium to available phosphorus ratios on bone metabolism and osteoclast activity of the OPG /RANK/RANKL signalling pathway in piglets, *J Anim Physiol Anim Nutr.* 2019; 00:1–9, <https://doi.org/10.1111/jpn.13115>.

- 17) D<sup>a</sup> María Susana Sánchez Carrillo, Técnicas de Imagen Aplicadas al Estudio de la Regeneración Ósea y del Efecto de la Deferoxamina en un Modelo in vivo de Ratas Wistar, Universidad De Murcia, Escuela Internacional De Doctorado, PhD Thesis, **2019**.
- 18) Yumei Yao, Mengyan Wang, Ye Liu, Lujia Han, Xian Liu, Insights into the improvement of the enzymatic hydrolysis of bovine bone protein using lipase pretreatment, Food Chemistry, **2019** <https://doi.org/10.1016/j.foodchem.2019.125199>
- 19) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>3</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 20) Francielly Andressa Felipetti, Juliana dos Santos Neves, Ingrid Grazielle Sousa, Pedro Duarte Novaes, APLICAÇÃO LOCAL DO LÁTEX DA HANCORNIA SPECIOSA GOMES A 2.5% NÃO FAVORECE A NEOFORMAÇÃO E NEM A MINERALIZAÇÃO ÓSSEA EM RATOS, In book: Comunicação Científica e Técnica em Odontologia **2019**, DOI: 10.22533/at.ed.2961901045.
- 21) Z.K. Maimekov, J. B. Izakov, T. Z. Maimekov, N. T. Shaikieva, K. A. Kemelov, M. B. Moldobaev, T. Akimov, D. A. Sambaeva, Prediction of the Calcium and Phosphorus-Containing Substances, Formation During the Destruction of Bone Waste in Slaughterhouses, 81-87, Vol 2, **2020**, doi: 10.24411/1816-1863-2020-12081.
- 22) Nesserli, E., Boyatzis, S.C., Boukos, N. *et al.* Optimizing the biomimetic synthesis of hydroxyapatite for the consolidation of bone using diammonium phosphate, simulated body fluid, and gelatin. *SN Appl. Sci.* **2**, 1892 (2020). <https://doi.org/10.1007/s42452-020-03547-8>
- 23) Fourie, J., Taute, F., du Preez, L. et al. Chitosan Composite Biomaterials for Bone Tissue Engineering—a Review. *Regen. Eng. Transl. Med.* (2020). <https://doi.org/10.1007/s40883-020-00187-7>
- 24) Bahraminasab, M., Doostmohammadi, N. and Alizadeh, A. (2020), Low-cost synthesis of nano-hydroxyapatite from carp bone waste: Effect of calcination time and temperature. *Int J Appl Ceram Technol.* <https://doi.org/10.1111/ijac.13678>
- 25) Marjan Bahraminasab, Samaneh Arab, Somaye Ghaffari, Osteoblastic cell response to Al<sub>2</sub>O<sub>3</sub>-Ti composites as bone implant materials, *BioImpacts*, **2021**, 11(5), x-x, doi: [10.34172/bi.2021.2330](https://doi.org/10.34172/bi.2021.2330)
- 26) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

## Publication

**C. Michail**, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, [Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation](#), (2015) *Radiat Meas* 74:39-46.

(Scitations: 39)

- 1) **Christos Michail**, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#) (2015) *Journal of Sensors*, 2015:874637.
- 2) I Valais, **C Michail**, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, [Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Solution](#), (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 3) **C M Michail**, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (2015) *J. Phys.: Conf. Ser.* 637 012018.
- 4) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), *SCinTE* **2015**, 5-7 November, Athens, Greece, 124-A06-069.
- 5) I.E. Seferis, J. Zeler, **C. Michail**, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, [Preparation and imaging performance of nanoparticulated LuPO<sub>4</sub>:Eu semitransparent films under x-ray radiation](#), *Proc. SPIE* 9668, SPIE Micro+Nano Materials, Devices, and Systems, 96682H (December 22, **2015**); doi:10.1117/12.2202535.
- 6) **C. C. Scott, A. Parsafar ; A. El-Falou ; P. M. Levine ; K. S. Karim**, [High dose efficiency, ultra-high resolution amorphous selenium/CMOS hybrid digital X-ray imager](#) **2015** *IEEE International Electron Devices Meeting (IEDM)*, pp: 30.6.1 - 30.6.4, DOI:10.1109/IEDM.2015.7409803
- 7) **Dana Kurková, Libor Judas**, X-ray tube spectra measurement and correction using a CdTe detector and an analytic response matrix for photon energies up to 160 keV, [Radiat. Meas.](#) (2016) *Vol.85*:64-72. <https://doi.org/10.1016/j.radmeas.2015.12.008>
- 8) **D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis**, [Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide \(CdSe/ZnS\) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2](#), (2016) *P.J. Kervalishvili, P.H. Yannakopoulos (eds.)*, Doi 10.1007/978-94-017-7468-0\_5
- 9) **C. Michail, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos**, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.

- 10) [I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications \*Applied Physics A\* \(2016\) 122:526](#)
- 11) D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 12) Phannee Saengkaew., Sakuntam Sanorpim, Manit Jitpukdee, Kulthawat Cheewajaroen, Chadet Yenchai, Decho Thongaram, Visittapong Yordsri, Chanchana Thanachayanont, Noppadon Nuntawong, Impact of precursor purity on optical properties and radiation detection of CsI:Tl scintillators, *Applied Physics A*, 2016, 122:729.
- 13) Akihiro Koyama, Kenji Shimazoe, Hiroyuki Takahashi, Ryutaro Hamasaki, Tadashi Orita, Yoshiyuki Onuki, Wataru Otani, Tohru Takeshita, Ikuo Kurachi, Toshinobu Miyoshi, Isamu Nakamura, Yasuo Arai, Development of Pixelated Linear Avalanche Integration Detector using Silicon on Insulator Technology, JPS Conf. Proc. 11, 030006 (2016) <https://doi.org/10.7566/JSPSC.11.030006>.
- 14) Salman M. Arnab and M. Z. Kabir, Impact of Lubberts Effect on Amorphous Selenium Indirect Conversion Avalanche Detector for Medical X-ray Imaging, IEEE Transactions on Radiation and Plasma Medical Sciences (Volume: PP, Issue: 99) 2017, doi: 10.1109/TRPMS.2017.2692752
- 15) Chumin Zhao, and Jerzy Kanicki, Task-Based Modeling of an 5k Ultra-High Resolution Medical Imaging System for Digital Breast Tomosynthesis, IEEE Transactions on Medical Imaging 2017, doi 10.1109/TMI.2017.2695982.
- 16) Zhao, Chumin, High Resolution Active Pixel Sensor X-Ray Detectors for Digital Breast Tomosynthesis, University of Michigan, PhD Thesis, 2017.
- 17) E Monachesi, A Dezi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, G Loudos and S David Comparative Evaluation of Cesium Iodide Scintillators Coupled to a Silicon Photomultiplier (SiPM): Effect of Thickness and Doping on the scintillators 2017 J. Phys.: Conf. Ser. 931 012013
- 18) I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (2017) J. Phys.: Conf. Ser. 931 012035.
- 19) I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) J. Phys.: Conf. Ser. 931 012032.
- 20) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) J. Phys.: Conf. Ser. 931 012027.
- 21) G. Saatsakis, I. Valais, C. Michail, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) J. Phys.: Conf. Ser. 931 012030.
- 22) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (2017).
- 23) Congzheng Wang, Song Hu, Chunming Gao and Chang Feng, Nuclear Radiation Degradation Study on HD Camera Based on CMOS Image Sensor at Different Dose Rates, *Sensors* 2018, 18, 514; doi:10.3390/s18020514
- 24) Xiaotong Wu, Weidong Song, Qian Li, Xixia Zhao, Dongsheng He, and Zewei Quan Synthesis of lead-free CsGeI<sub>3</sub> perovskite colloidal nanocrystals and electron beam-induced transformations, *Chem. Asian J.* 2018 <http://dx.doi.org/10.1002/asia.201800573>
- 25) Elenasophie Monachesi, Cesium Iodide scintillators in Nuclear Medicine instrumentation: effect of thickness and doping on scintillators coupled to a Silicon Photomultiplier (SiPM), MSc Thesis, 2018, Universita Politecnica delle Marche, Italy.
- 26) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 27) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 28) [Imron Wadeng, Phannee Saengkaew, Visittapong Yordsri, Chanchana Thanachayanont, and Noppadon Nuntawong](#) "Growth and characterization of calcium-doped cesium iodide (CsI:Ca) optical crystals for radiation detection", Proc. SPIE 11028, Optical Sensors 2019, 1102838 (11 April 2019); doi: 10.1117/12.2523311; <https://doi.org/10.1117/12.2523311>
- 29) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, C. Michail, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

- 30) Hanan Alzahrani; Sion Richards; Iain Sedgwick; Paul Seller; Anastasios Konstantinidis; Gary Royle; Kate Ricketts, Image Quality Determination of a Novel Low Energy X-ray Detector, **2018** IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC), DOI: 10.1109/NSSMIC.2018.8824596.
- 31) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](https://doi.org/10.1016/j.measurement.2019.107171) (**2020**) *Measur.* 151: 107171-12019. <https://doi.org/10.1016/j.measurement.2019.107171>
- 32) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](https://doi.org/10.3390/cryst10030198) (**2020**) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 33) H. Alzahrani, S. Richards, I. Sedgwick et al., Image quality determination of a novel digital detector for X-ray imaging and cone-beam computed tomography applications, *Nuclear Inst. and Methods in Physics Research, A* (**2020**), doi: <https://doi.org/10.1016/j.nima.2020.163914>.
- 34) Kim, K.J.; Furuya, Y.; Kamada, K.; Murakami, R.; Kochurikhin, V.V.; Yoshino, M.; Chiba, H.; Kurosawa, S.; Yamaji, A.; Shoji, Y.; Toyoda, S.; Sato, H.; Yokota, Y.; Ohashi, Y.; Yoshikawa, A. Growth and Scintillation Properties of Directionally Solidified Ce:LaBr<sub>3</sub>/AEBr<sub>2</sub> (AE=Mg, Ca, Sr, Ba) Eutectic System. *Crystals* **2020**, 10, 584. <https://doi.org/10.3390/cryst10070584>
- 35) Psichis, K., Kalyvas, N., Kandarakis, I. et al. MTF of columnar phosphors with a homogenous part: an analytical approach. *Med Biol Eng Comput* (**2020**). <https://doi.org/10.1007/s11517-020-02243-4>
- 36) Q. Xu et al., "Vertical Nanowires Enhanced Spatial Resolution of X-Ray Imaging," in *IEEE Photonics Technology Letters*, vol. 33, no. 2, pp. 73-76, **2021**, doi: 10.1109/LPT.2020.3045110.
- 37) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](https://doi.org/10.3390/ma14040888), (**2021**) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 38) Deyan Gradinarov, Yuri Bijev, Iliyan Atanasov, Stoil Todorov, Study on HD cameras with CMOS sensor degradation upon ionizing radiation exposition, *Innovations*, Vol. 9 (**2021**), Issue 3, pp: 126-128
- 39) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (**2021**) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

[V. Koukou, N. Martini, C. Michail, P. Sotiropoulou, C. Fountzoula, N. Kalyvas, I. Kandarakis, G. Nikiforidis and G. Fountos, Dual energy method for breast imaging: A simulation study. \(2015\) Comput. Math. Methods Med 2015:574238.](#)

#### (Scitations: 28)

- 1) V Koukou, N Martini, K Velissarakos, D Gkremos, C Fountzoula, A Bakas, **C Michail**, I Kandarakis and G Fountos. [PVAL breast phantom for dual energy calcification detection](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012013.
- 2) N. Martini, V. Koukou, **C. Michail**, I. Kandarakis, G. Fountos and G. Nikiforidis, [Calcium-to-Phosphorus mass ratio determination for breast calcification characterization using dual energy method](#), SCinTE **2015**, 5-7 November, Athens, Greece, 209-A01-125.
- 3) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](#). Sotiropoulou P. PhD Thesis, University of Patras, Greece, **2016**.
- 4) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Nikiforidis, [Polynomial dual energy inverse functions for bone Calcium/Phosphorus ratio determination and experimental evaluation](#), (**2016**) *Appl. Radiat. Isot.* **118**:18-24.
- 5) Justin Varghese, Adaptive threshold based frequency domain filter for periodic noise reduction, *Int. J. Electron. Commun. (AEU)* (**2016**) **70(12)**:1692-1701.
- 6) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (**2017**) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A*.848:31-38.
- 7) Andrew M. Hernandez, J. Anthony Seibert, Anita Nosratieh, John M. Boone, Generation and analysis of clinically relevant breast imaging x-ray spectra, *Medical Physics*, **2017** 44(6):2148-2160 doi: 10.1002/mp.12222.
- 8) V. Koukou, N. Martini, G. Fountos, **C. Michail**, A. Bakas, G. Oikonomou, I. Kandarakis, G. Nikiforidis, Application of a Dual Energy X-ray imaging method on breast specimen, (**2017**) *Result. Phys.* 7 1634:1636.
- 9) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (**2017**) *Phys. Med. Biol.* 62:7741-7764.
- 10) V Koukou, N Martini, G Fountos, G Messaris, **C Michail**, I Kandarakis and G Nikiforidis, [Dual Energy Tomosynthesis breast phantom imaging](#) (**2017**) *J. Phys.: Conf. Ser.* 936 012044.
- 11) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.



- 12) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 13) Debolina Chakraborty, Anirban Chakraborty, Ayan Banerjee, Sekhar R. Bhadra Chaudhuri, Automated spectral domain approach of quasi-periodic denoising in natural images using notch filtration with exact noise profile, IEEE, IET Image Processing Vol. 12(7), **2018**, 1150-1163.
- 14) D. Chakraborty, M. K. Tarafder, A. Banerjee, S. R. Bhadra Chaudhuri, Gabor-based spectral domain automated notch-reject filter for quasi-periodic noise reduction from digital images, *Multimed Tools Appl*, **2018**, pp.1-27. <https://doi.org/10.1007/s11042-018-6194-z>
- 15) [Najmeh Alibabaie, Alimohammad Latif, Fuzzy Notch Filter for Periodic Noise Reduction in Digital Images](#), *Machine Vision and Image Processing*, **2018**.
- 16) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (**2018**) *Procedia Structural Integrity* 10:326-332.
- 17) S. P. Osipov, E. Yu. Usachev, S. V. Chakhlov, S. A. Shchetinkin and E. N. Kamysheva, Selecting Parameters of Detectors When Recognizing Materials Based on the Separation of Soft and Hard X-Ray Components, *Russian Journal of Nondestructive Testing*, **2018**, Vol. 54, No. 11, pp. 797–810, Doi: 10.1134/S1061830918110074.
- 18) D. Chakraborty, A. Chakraborty, A. Banerjee, S. R. Bhadra Chaudhuri, A unified block-based sparse domain solution for quasi-periodic de-noising from different genres of images with iterative filtering, *Multimed Tools Appl* (**2019**). <https://doi.org/10.1007/s11042-019-7502-y>
- 19) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 20) Osipov, S.P., Chakhlov, S.V., Udod, V.A., Usachev, E.J.U., Schetinkin, S.A., Kamysheva, E.N., Estimation of the effective mass thickness and effective atomic number of the test object material by the dual energy method, *Radiation Physics and Chemistry* (**2019**), 168, art. no. 108543, doi: <https://doi.org/10.1016/j.radphyschem.2019.108543>.
- 21) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (**2020**) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 22) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (**2020**) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 23) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (**2020**) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 24) Alibabaie, N., Latif, A. Adaptive Periodic Noise Reduction in Digital Images Using Fuzzy Transform. *J Math Imaging Vis* (**2021**). <https://doi.org/10.1007/s10851-020-01004-0>
- 25) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Mineral characterization in human body: A dual energy approach](#) (**2021**) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 26) Vincent Beaudoux. Dosimétrie pour un examen de mammographie avec rayons-X produits par laser. Bio-informatique [q-bio.QM]. Université de Bordeaux, **2021**. Français. ffnNT: 2021BORD0202ff. fftel03414947
- 27) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 28) N. Martini, V. Koukou, **C. Michail** and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 295-303, doi: <https://doi.org/10.1016/j.prostr.2021.10.036>.

## Publication

[N Martini, V Koukou, N Kalyvas, P Sotiropoulou, C Michail, I Valais, A Bakas, I Kandarakis, G Nikiforidis and G Fountos, Modeling indirect detectors for performance optimization of a digital mammographic detector for dual energy applications, \(2015\) J. Phys.: Conf. Ser. 574 012075.](#)

## (Scitations: 5)

- 1) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012019.

- 2) **C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods](#), (2015) *J. Phys.: Conf. Ser.* 637 012019.
- 3) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](#), Sotiropoulou P. PhD Thesis, University of Patras, Greece, 2016.
- 4) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 5) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.

#### Publication

V Koukou, N Martini, **C Michail**, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Optimum filter selection for Dual Energy X-ray Applications through Analytical Modeling](#) (2015) *J. Phys.: Conf. Ser.* 633 012093.

(Scitations: 3)

- 1) N Kalyvas, N Martini, **V Koukou**, C Michail, P Sotiropoulou, I Valais, I Kandarakis and G Fountos [A theoretical investigation of spectra utilization for a CMOS based indirect detector for dual energy applications](#) (2015) *J. Phys.: Conf. Ser.* 633 012095.
- 2) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 3) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.

#### Publication

**Christos Michail**, [Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor](#), (2015) *Journal of Sensors* 2015:874637.

(Scitations: 13)

- 1) I. Valais, **C. Michail**, S. Karfitsas, N. Kalyvas, G. Fountos and I. Kandarakis, [Measurement of the Optical Response of a High Resolution CMOS Imaging Detector](#), SCinTE 2015, 5-7 November, Athens, Greece, 124-A06-069.
- 2) Kulvinder Singh, Suman Singh, Electrical Conduction in Pmma-Mx2 Composite Materials Under X-Rays Illumination, International Journal of Scientific Reseach, Vol 5, No 2 (2016).
- 3) **C. Michail**, I. Valais, N.Martini, V.Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 4) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 5) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 6) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 7) Lingxia Chen, Sinead O'Keeffe, Shuilin Chen, Peter Woulfe, Sean Gillespie, Benxue Jiang, Elfed Lewis, Investigation of YAG:Ce Based Optical Fibre Sensor for Use in Ultra-Fast External Beam Radiotherapy Dosimetry. IEEE Journal of Lightwave Technology (2019) Doi:10.1109/JLT.2019.2919605.
- 8) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 9) Jeong, H.Y.; Lim, H.S.; Lee, J.H.; Heo, J.; Kim, H.N.; Cho, S.O. ZnWO<sub>4</sub> Nanoparticle Scintillators for High Resolution X-ray Imaging. *Nanomaterials* 2020, 10, 1721, <https://doi.org/10.3390/nano10091721>
- 10) Helmenkamp, J., Bujila, R., Poludniowski, G., 2020. Diagnostic Radiology Physics with MATLAB®: A Problem-Solving Approach. CRC Press.
- 11) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 12) Cees Ronda, Andries Meijerink, On the mechanism leading to afterglow in Gd<sub>2</sub>O<sub>2</sub>S:Pr, *Optical Materials: X*, Volume 12, 2021, 100091, ISSN 2590-1478, <https://doi.org/10.1016/j.omx.2021.100091>.

- 13) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

C. Michail, S. David, A. Bakas, N. Kalyvas, G. Fountos, I. Kandarakis, I. Valais, [Luminescence Efficiency of \(Lu,Gd\)<sub>2</sub>SiO<sub>5</sub>:Ce \(LGSO:Ce\) crystals under X-ray radiation](#), (2015) *Radiat Meas.* 80:1-9.

#### (Scitations: 9)

- 1) Stratos David, **Christos Michail**, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Alexander Gektin, Ioannis Kandarakis and Kostantinos Kourkoutas, [Investigation of luminescence properties of Lutetium Fine Silicate \(LFS-3\) scintillation crystals under X-ray radiographic conditions](#), SCinTE **2015**, 5-7 November, Athens, Greece, 162-A01-067.
- 2) [Takayuki Yanagida, Masanori Koshimizu, Go Okada, Takahiro Kojima, Junya Osada, Noriaki Kawaguchi, Comparative study of nondoped and Eu-doped SrI<sub>2</sub> scintillator](#), *Optical Materials*, 2016, doi:10.1016/j.optmat.2016.05.030
- 3) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 4) I. Valais, **C. Michail**, C. Fountzoula, D. Tseles, P. Yannakopoulos, D. Nikolopoulos, A. Bakas, G. Fountos, G. Saatsakis, I. Sianoudis, I. Kandarakis and G. Panayiotakis, On the response of alloyed ZnCdSeS Quantum Dot films, (2017) *Result. Phys.* 7:1734-1736.
- 5) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, **C Michail**, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>2</sub>S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology](#), (2017) *J. Phys.: Conf. Ser.* 931 012029.
- 6) C. Michail, I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (2018) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 7) Stefan Herbert, [Short Wavelength Imaging for the Inspection of Nanoscaled Defects](#), PhD Thesis, Rheinisch-Westfälische Technische Hochschule Aachen, 2018.
- 8) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 9) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

#### Publication

N. Kalyvas, I. Valais, **C. Michail**, G. Fountos, I. Kandarakis, D. Cavouras, [A theoretical study of CsI:Tl columnar scintillator image quality parameters by analytical modeling](#), (2015) *Nucl. Instrum. Meth. Phys. Res. A.* 779:18-24.

#### (Scitations: 13)

- 1) P Monnin, H Bosmans, F R Verdun and N W Marshall, A comprehensive model for quantum noise characterization in digital mammography (2016) [Physics in Medicine and Biology, Volume 61, Number 5](#).
- 2) **C. Michail**, I. Valais, N. Martini, V. Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard](#) (2016) *Radiat Meas.* 94:8-17.
- 3) [Jakob C. Larsson, Ulf Lundström and Hans M. Hertz, Characterization of scintillator-based detectors for few-ten-keV high-spatial-resolution x-ray imaging](#), *Med. Phys.* 43, 2731 (2016).
- 4) Konstantinos Psichis, Nektarios Kalyvas, Ioannis Kandarakis, George Panayiotakis, An analytical approach to the light transport in columnar phosphors. Detector Optical Gain, angular distribution and the CsI:Tl paradigm. *Physica Medica* 2017 <http://dx.doi.org/10.1016/j.ejmp.2017.02.008>.
- 5) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (2017).
- 6) Saatsakis, G. Kalyvas, N. Michail, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 7) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.

- 8) Psichis, K., Kalyvas, N., Kandarakis, I. *et al.* MTF of columnar phosphors with a homogenous part: an analytical approach. *Med Biol Eng Comput* (2020). <https://doi.org/10.1007/s11517-020-02243-4>
- 9) Maruyama, S. Visualization of blurring process due to analog components in a digital radiography system using a simple method. *Phys Eng Sci Med* (2020). <https://doi.org/10.1007/s13246-020-00939-3>
- 10) Ken Chen, Mu Gu, Zhixiang Sun, Xiaolin Liu, Bo Liu, Shiming Huang, Juannan Zhang, Chen Ni, Influence of preparation process on the transparency of CsI microcolumns in the structured CsI scintillation screen based on oxidized silicon micropore array template, *Nucl. Instrum. Methods Phys. Res.*, **2021**, 164999, <https://doi.org/10.1016/j.nima.2020.164999>.
- 11) Hosein Moayedi, Soheil Hajibaba, Hossein Afarideh, Mitra Ghergherehchi & Masoumeh Mohamadian (2021) Optimization of Beta Radioluminescent Batteries with Different Radioisotopes: A Theoretical Study, *Nuclear Science and Engineering*, doi: [10.1080/00295639.2020.1848199](https://doi.org/10.1080/00295639.2020.1848199)
- 12) César Augusto Silva Cardoso Assis, [Estudo Do Desempenho Do Receptor De Imagem Em Mamografia Digital Contrastada Utilizando Simulações Monte Carlo](https://doi.org/10.1007/978-95-01-13246-0_10), Universidade Federal De Uberlândia, **2021**.
- 13) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

### Publication

V Koukou, G Fountos, N Martini, P Sotiropoulou, **C Michail**, N Kalyvas, I Valais, A Bakas, E Kounadi, I Kandarakis and G Nikiforidis, [Optimization of breast cancer detection in Dual Energy X-ray Mammography using a CMOS imaging detector \(2015\) J. Phys.: Conf. Ser. 574 012076](https://doi.org/10.1016/j.physconf.2015.05.012).

(Scitations: 6)

- 1) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](https://doi.org/10.1007/978-95-01-13246-0_10). Sotiropoulou P. PhD Thesis, University of Patras, Greece, **2016**.
- 2) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (2017) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A*.848:31-38.
- 3) Niki Martini, [Breast composition study using ionizing radiation](https://doi.org/10.1007/978-95-01-13246-0_10), PhD Thesis, University of Patras, Greece, **2017**.
- 4) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](https://doi.org/10.1007/978-95-01-13246-0_10), PhD Thesis, University of Patras, Greece, **2017**.
- 5) Franca Oyiwoja Okoh, Mohd Fahmi Mohd Yusof and Siti Nor Azizah Abdullah, Potential use of polyvinyl alcohol (PVAL) gel materials as mammography phantoms for the detection of calcifications **2021** IOP Conf. Ser.: Mater. Sci. Eng. 1106 012012, <https://doi.org/10.1088/1757-899X/1106/1/012012>
- 6) Franca Oyiwoja Okoh, Mohd Fahmi Mohd Yusof and Siti Nor Azizah Abdullah, Potential use of polyvinyl alcohol (PVAL) gel materials as mammography phantoms for the detection of calcifications, **2021** IOP Conf. Ser.: Mater. Sci. Eng. 1106 012012

### Publication

P I Sotiropoulou, G P Fountos, N D Martini, V N Koukou, **C M Michail**, I G Valais, I S Kandarakis and G C Nikiforidis, [X-ray dual energy spectral parameter optimization for bone Calcium/Phosphorus mass ratio estimation, \(2015\) J. Phys.: Conf. Ser. 637 012025](https://doi.org/10.1016/j.physconf.2015.05.012).

(Scitations: 3)

- 1) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](https://doi.org/10.1007/978-95-01-13246-0_10). Sotiropoulou P. PhD Thesis, University of Patras, Greece, **2016**.
- 2) Niki Martini, [Breast composition study using ionizing radiation](https://doi.org/10.1007/978-95-01-13246-0_10), PhD Thesis, University of Patras, Greece, **2017**.
- 3) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](https://doi.org/10.1007/978-95-01-13246-0_10), PhD Thesis, University of Patras, Greece, **2017**.

### Publication

P Sotiropoulou, V Koukou, N Martini, C Michail, E Kounadi, I Kandarakis, G Nikiforidis and G Fountos, [Estimation of bone Calcium-to-Phosphorous mass ratio using dual-energy nonlinear polynomial functions \(2015\) J. Phys.: Conf. Ser. 633 012126](https://doi.org/10.1016/j.physconf.2015.05.012).

(Scitations: 3)

- 1) [Mathematical Methodology Analysis for determining new characteristic Parameters of Osteoporosis using X-ray Dual Energy to optimize Diagnosis and Time Monitoring of the Disease](https://doi.org/10.1007/978-95-01-13246-0_10). Sotiropoulou P. PhD Thesis, University of Patras, Greece, **2016**.
- 2) Niki Martini, [Breast composition study using ionizing radiation](https://doi.org/10.1007/978-95-01-13246-0_10), PhD Thesis, University of Patras, Greece, **2017**.

- 3) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.

#### Publication

I.E. Seferis, J. Zeler, **C. Michail**, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, [Preparation and imaging performance of nanoparticulated LuPO<sub>4</sub>:Eu semitransparent films under x-ray radiation](#), Proc. SPIE 9668, SPIE Micro+Nano Materials, Devices, and Systems, 96682H (December 22, **2015**); doi:10.1117/12.2202535.

(Scitations: 1)

- 1) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (**2016**) *Radiat Meas.* 92:19-31

#### Publication

Valais, I., Michail, C., Nikolopoulos, D., Fountzoula, C., Bakas, A., Yannakopoulos, P., Fountos, G., Panayiotakis, G., Kandarakis, I., 2015. Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide (CdSe/ZnS) Quantum Dot Nanoparticle Solution. *J. Phys. Conf. Ser.* 637, 012031.

(Scitations: 5)

- 1) D. Nikolopoulos, I. Valais, **C. Michail**, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (**2016**) *Radiat Meas.* 92:19-31
- 2) I. Valais, **C. Michail**, C. Fountzoula, D. Tseles, P. Yannakopoulos, D. Nikolopoulos, A. Bakas, G. Fountos, G. Saatsakis, I. Sianoudis, I. Kandarakis and G Panayiotakis, On the response of alloyed ZnCdSeS Quantum Dot films, (**2017**) *Result. Phys.* 7:1734-1736.
- 3) I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012035.
- 4) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012030.
- 5) Xiaofeng Chen, Jibin Song, Xiaoyuan Chen and Huanghao Yang, X-ray-activated nanosystems for theranostic applications *Chem. Soc. Rev.* **2019**, doi:10.1039/C8CS00921J.

#### Publication

Stathopoulos, K Skouroliakou, **C Michail** and I Valais, [Dynamic Infrared Thermography Study of Blood Flow Relative to Lower Limb Position](#), (**2015**) *J. Phys.: Conf. Ser.* 637 012027.

(Scitations: 4)

- 1) [Maryam Asrar, Amin Al-Habaibeh, and Mohammed Houda, Innovative algorithm to evaluate the capabilities of visual, near infrared, and infrared technologies for the detection of veins for intravenous cannulation, \*Applied Optics\*, Vol. 55, Issue 34, pp. D67-D75 \(2016\).](#)
- 2) Yousefi, B.; Memarzadeh Sharifipour, H.; Eskandari, M.; Ibarra-Castanedo, C.; Laurendeau, D.; Watts, R.; Klein, M.; Maldague, X.P.V. Incremental Low Rank Noise Reduction for Robust Infrared Tracking of Body Temperature during Medical Imaging. *Electronics* **2019**, 8, 1301. <https://doi.org/10.3390/electronics8111301>
- 3) G. S. Kumar, R. G. Roy and S. Rajesh, "A study on various thermographic methods for the detection of diseases," *2021 Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV)*, Tirunelveli, India, **2021**, pp. 906-916, doi: 10.1109/ICICV50876.2021.9388617.
- 4) Arroyo, J.A.M., Cambronero, J.R., Vargas, L.F.A. Acute physiological response to exercising with a piece of home equipment [Efectos fisiológicos agudos de un dispositivo para ejercitarse en casa] (**2021**) *Retos*, 43, pp. 544-549. DOI: 10.47197/RETOS.V43I0.79860

#### Publication

N Martini, V Koukou, **C Michail**, P Sotiropoulou, N Kalyvas, I Kandarakis, G Nikiforidis and G Fountos, [Modeling of the Calcium/Phosphorus Mass ratio for Breast Imaging \(2015\) J. Phys.: Conf. Ser.](#) 633 012094.

(Scitations: 5)

- 1) [Robert Scott, Catherine Kendall, Nicholas Stone, Keith Rogers, Elemental vs. phase composition of breast calcifications, \*Nature Scientific RepoRts\* | 7: 136 2017 | DOI:10.1038/s41598-017-00183-y](#)
- 2) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 3) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.

- 4) Joanna Gałęzowski, Interactions between Clinically Used Bisphosphonates and Bone Mineral: from Coordination Chemistry to Biomedical Applications and Beyond, *ChemMedChem*, Review article, Volume 13, Issue 4, **2018**, pp. 289-302, DOI: 10.1002/cmdc.201700769
- 5) G. R. Jothilakshmi, Arun Raaza, V. Rajendran, Y. Sreenivasa Varma, R. Guru Nirmal Raj, Pattern Recognition and Size Prediction of Microcalcification Based on Physical Characteristics by Using Digital Mammogram Images, *Journal of Digital Imaging*, **2018**, 31(6), pp. 912-922, <https://doi.org/10.1007/s10278-018-0075-x>.

#### Publication

S L David, I G Valais, **C M Michail** and I S Kandarakis, [X-ray Luminescence Efficiency of GAGG:Ce Single Crystal Scintillators for use in Tomographic Medical Imaging Systems \(2015\) J. Phys.: Conf. Ser.](#) 637 012004.

#### (Scitations: 8)

- 1) [E Kefalidis, I Kandarakis and S David Performance characteristics of a personal gamma spectrometer based on a SiPM array for radiation monitoring applications 2017 J. Phys.: Conf. Ser. 931 012019](#)
- 2) A Metallinos, E Kefalidis, I Kandarakis and S David, Experimental evaluation of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystals coupled to a silicon photomultiplier (SiPM) under high gamma ray irradiation conditions, **2017 J. Phys.: Conf. Ser.** **931** 012040
- 3) [Kaitlyn A. McDonald and George K. Schweitzer](#), Synthesis of GAGG:Ce<sup>3+</sup> powder for ceramics using mechanochemical and solution combustion methods, *Journal of the American Ceramic Society*, **2018**; 101:3837-3849, <https://doi.org/10.1111/jace.15563>
- 4) Kaitlyn A. McDonald, Matthew R. McDonald, Melissa N. Bailey and George K. Schweitzer, Parametric study on the production of the GAGG:Ce and LSO:Ce multicomponent oxide scintillator materials through use of a planetary ball mill, *Dalton Transactions* **2018**, DOI: 10.1039/c8dt00637g
- 5) Jae-Hong Lim, Kyungjin Park, Heun-Duck Kim, Jung-Ho So, Jong Hyun Kim, Potential of GAGG:Ce scintillation crystals for synchrotron X-Ray micro-imaging, *Current Applied Physics*, **2018**, <https://doi.org/10.1016/j.cap.2018.12.011>
- 6) Ia Gerasymov, T. Nepokupnaya, A. Boyarintsev, O. Sidletskiy, D. Kurtsev, O. Voloshyna, O. Trubaieva, Y. Boyarintseva, T. Sibilieva, A. Shaposhnyk, O. Opolonin, S. Tretyak, GAGG:Ce composite scintillator for X-ray imaging, *Optical Materials*, Volume 109, **2020**, 110305, <https://doi.org/10.1016/j.optmat.2020.110305>.
- 7) Qi, Q., Meng, M., Ding, D.-Z., Zhao, S.-W., Shi, J.-J., Ren, G.-H. Effects of Trace MgO Addition on Optical and Scintillation Properties of GAGG: Ce Crystal, *Faguang Xuebao/Chinese Journal of Luminescence*, Volume 42, Issue 1, **2021**, pp. 28-36, doi: 10.37188/CJL.20200331
- 8) T. Gao H. Yang, Y. Zhou, J. Yang, Y. He, H. Duan, Y. Feng, S. Yu, Z. Shen, Q. Pan, Study of waveform characteristics of scintillator detector excited by ultraviolet light-emitting diodes, **2021 JINST** 16 T10007.

#### Publication

David S, **Michail C**, Valais I, Kalyvas N, Bakas A, Gektin A, Kandarakis I and Kourkoutas K 2015 Proceedings of the SCinTE 2015 international conference, Athens, Greece, November 5-7: ISBN: 978-960-98739-8-7

#### (Scitations: 2)

- 1) A Metallinos, E Kefalidis, I Kandarakis and S David, Experimental evaluation of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystals coupled to a silicon photomultiplier (SiPM) under high gamma ray irradiation conditions, **2017 J. Phys.: Conf. Ser.** **931** 012040
- 2) David S, **Michail C**, Valais I, Kalyvas N, Bakas A, Gektin A, Kandarakis I and Kourkoutas K 2015 Proceedings of the SCinTE 2015 international conference, Athens, Greece, November 5-7, ISBN: 978-960-98739-8-7

#### Publication

**C M Michail**, G E Karpetas, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Assessment of the Contrast to Noise Ratio in PET Scanners with Monte Carlo Methods, \(2015\) J. Phys.: Conf. Ser.](#) 637 012019.

#### (Scitations: 3)

- 1) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 2) Lee BJ, Watkins RD, Lee KS, Chang C-M, Levin CS. Performance evaluation of RF coils integrated with an RF-penetrable PET insert for simultaneous PET/MRI. *Magn Reson Med.* **2018**; 81(2):1434–1446. <https://doi.org/10.1002/mrm.27444>
- 3) Kim, Jung-Soo; Park, Chan-Rok; Yoon, Seok-Hwan; Lee, Joo-Ah; Kim, Tae-Yoon; Yang, Hyung-Jin. Improvement of image quality using amplitude-based respiratory gating in PET-computed tomography scanning, *Nuclear Medicine Communications*: **2021** - Volume 42 - Issue 5 - p 553-565. doi: 10.1097/MNM.0000000000001368

#### Publication

C M Michail, G E Karpetas, G P Fountos, N I Kalyvas, Niki Martini, Vaia Koukou, I G Valais and I S Kandarakis, [Medical Imaging Image Quality Assessment with Monte Carlo Methods](#) (2015) *J. Phys.: Conf. Ser.* 633 012096.

(Scitations: 1)

- 1) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.

#### Publication

G E Karpetas, C M Michail, G P Fountos, I G Valais, D Nikolopoulos, I S Kandarakis and G S Panayiotakis, [Influence of Iterative Reconstruction Algorithms on PET Image Resolution](#), (2015) *J. Phys.: Conf. Ser.* 637 012011.

(Scitations: 1)

- 1) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.

#### Publication

V Koukou, N Martini, K Velissarakos, D Gkremos, C Fountzoula, A Bakas, C Michail, I Kandarakis and G Fountos. [PVAL breast phantom for dual energy calcification detection](#), (2015) *J. Phys.: Conf. Ser.* 637 012013.

(Scitations: 2)

- 1) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 2) Norlaili A. Kabir, Franca Oyiwoja Okoh, Mohd Fahmi Mohd Yusof, Radiological and Physical Properties of Tissue Equivalent Mammography Phantom: Characterization and Analysis Methods, Radiation Physics and Chemistry, 2020, 109271, <https://doi.org/10.1016/j.radphyschem.2020.109271>.

#### Publication

S. David, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas, [Evaluation of Gd<sub>2</sub>O<sub>3</sub>:Pr granular phosphor properties for X-ray mammography imaging](#), (2016) *J Lumin.* 169:706-710.

(Scitations: 17)

- 1) I. E. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, [On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications](#) *Applied Physics A* (2016) 122:526
- 2) D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 3) Xuejiao Wang, Ji-Guang Li, Maxim S. Molokeyev, Xiaojun Wang, Weigang Liu, Qi Zhu, Hidehiko Tanaka, Keiko Suzuta, Byung-Nam Kim and Yoshio Sakka, Hydrothermal crystallization of a Ln<sub>2</sub>(OH)<sub>4</sub>SO<sub>4</sub>nH<sub>2</sub>O layered compound for a wide range of Ln (Ln=La–Dy), thermolysis, and facile transformation into oxysulfate and oxysulfide phosphors, *RSC Adv.*, 2017, 7, 13331-13339.
- 4) Francesca Cova, Mauro Fasoli, Federico Moretti, Norberto Chiodini, Kristof Pauwels, Etienne Auffray, Marco Toliman Lucchini, Edith Bourret, Ivan Veronese, Eduardo d'Ippolito, Anna Vedda, [Optical properties and radiation hardness of Pr-doped Sol-Gel silica: influence of fiber drawing process](#), *Journal of Luminescence*, 2017, 192 pp.661-667. <https://doi.org/10.1016/j.jlumin.2017.07.045>.
- 5) A Metallinos, E Kefalidis, I Kandarakis and S David, Experimental evaluation of Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) single crystals coupled to a silicon photomultiplier (SiPM) under high gamma ray irradiation conditions, 2017 *J. Phys.: Conf. Ser.* 931 012040
- 6) I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 7) A Dezi, E Monachesi, M D'Ignazio, L Scalise, L Montalto, N Paone, D Rinaldi, P Mengucci, G Loudos, A Bakas, C Michail, I Valais, C Fountzoula, G Fountos and S David, [Structural Characterization and Absolute Luminescence Efficiency Evaluation of Gd<sub>2</sub>O<sub>3</sub>:S High Packing Density Ceramic Screens Doped with Tb<sup>3+</sup> and Eu<sup>3+</sup> for further Applications in Radiology](#), (2017) *J. Phys.: Conf. Ser.* 931 012029.
- 8) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (2017).
- 9) Xiaotong Sang, Guangxi Xu, Jingbao Lian, Nianchu Wu, Xue Zhang, Jiao He, A template-free solvothermal synthesis and photoluminescence properties of multicolor Gd<sub>2</sub>O<sub>3</sub>:xTb<sup>3+</sup>,yEu<sup>3+</sup> hollow spheres, *Solid State Sciences*, Volume 80, 2018, Pages 15-21.

- 10) Zhang J., Xie J., Ma W., Liang Q., Li Z. [High Temperature Solid Phase Synthesis and Characterization of Gd<sub>2</sub>O<sub>3</sub>:Tb<sup>3+</sup> Micro/Submicro Crystals](#), *Yingxiang Kexue yu Guanghuaxue/Imaging Science and Photochemistry*, **2017**, 35(6), pp. 824-832.
- 11) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DOE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 12) N. Kalyvas, P. Liaparinos, Analytical and Monte Carlo comparisons on the optical transport mechanisms of powder phosphors, *Optical Materials*, Vol. 88, 2019, pp. 396-405, <https://doi.org/10.1016/j.optmat.2018.12.006>
- 13) G. X. Xu et al., "Solvothermal Synthesis and Luminescence Properties of Gd<sub>2</sub>O<sub>3</sub>:RE<sup>3+</sup> (RE<sup>3+</sup>=Eu<sup>3+</sup>/Tb<sup>3+</sup>) Hollow Sphere", *Key Engineering Materials*, Vol. 807, pp. 1-10, 2019, <https://doi.org/10.4028/www.scientific.net/KEM.807.1>
- 14) Saatsakis, G. Kalyvas, N. Michail, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 15) Sapizah Rahim, Muhammad Taqiyuddin Mawardi Ayob, Muhammad Hassyakirin Hasim, Irman Abdul Rahman, Shahidan Radiman, Physical and optical studies of Gd<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> nanophosphors by microwave irradiation and  $\gamma$ -irradiation methods, *Luminescence*, **2019**, 2019:1-8 <https://doi.org/10.1002/bio.3655>
- 16) Wenhua Zhang, Huamin Kou, Lin Ge, Ying Zhang, Lin Lin and Wei Li. Effects of doping ions on the luminescence performance of terbium doped gadolinium polysulfide phosphor, **2020** *J. Phys.: Conf. Ser.* 1549 032064, <https://doi.org/10.1088/1742-6596/1549/3/032064>
- 17) Sun, Z.; Lu, B.; Ren, G.; Chen, H. Synthesis of Green-Emitting Gd<sub>2</sub>O<sub>3</sub>:Pr<sup>3+</sup> Phosphor Nanoparticles and Fabrication of Translucent Gd<sub>2</sub>O<sub>3</sub>:Pr<sup>3+</sup> Scintillation Ceramics. *Nanomaterials* **2020**, 10, 1639, <https://doi.org/10.3390/nano10091639>

#### Publication

[IE. Seferis, J. Zeler, C. Michail, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, On the response of semitransparent nanoparticulated films of LuPO<sub>4</sub>:Eu in polyenergetic X-ray imaging applications \*Applied Physics A\* \(2016\) 122:526](#)

#### (Citations: 15)

- 1) D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) *Radiat Meas.* 92:19-31
- 2) I. E. Seferis, J. Zeler, C. Michail, S. David, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis (2017) Grains size and shape dependence of light efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu thin screens, *Result. Phys.* 7:980-981.
- 3) Liang, Z., Mu, Z., Wang, Q. et al. The synthesis and luminescence properties of a novel red-emitting phosphor: Eu<sup>3+</sup>-doped Ca<sub>9</sub>La(PO<sub>4</sub>)<sub>7</sub>, *Appl. Phys. A* (2017) 123: 612. <https://doi.org/10.1007/s00339-017-1226-5>
- 4) I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (2017) *J. Phys.: Conf. Ser.* 931 012035.
- 5) I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 6) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 7) Justyna Zeler, Joanna Cybińska, Eugeniusz Zych, Luminescence Properties of Translucent Nano- and Micro-Crystalline LuPO<sub>4</sub>:Ce<sup>3+</sup> Films in the 20-700 K Range of Temperatures, *Journal of Luminescence*, 200:50-58, 2018 <https://doi.org/10.1016/j.jlumin.2018.04.008>.
- 8) Hailong Xiong, Xuemei Li, Junfeng Yang, Yali Liu, Chunming Yang, Jianchao Dong, Shucai Gan, Chemical conversion synthesis of mesoporous LuPO<sub>4</sub>:Ln<sup>3+</sup> (Ln = Eu, Tb, Dy, Sm) phosphors and tunable luminescent properties, *Journal of Luminescence*, 2018, <https://doi.org/10.1016/j.jlumin.2018.07.006>
- 9) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano- and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 10) Justyna Zeler, Andries Meijerink, Dagmara Kulesza, Eugeniusz Zych, Fine structure in high resolution 4f<sup>7</sup>-4f<sup>6</sup>5d excitation and emission spectra of X-ray induced Eu<sup>2+</sup> centers in LuPO<sub>4</sub>:Eu sintered ceramics *Journal of Luminescence* **2019** 207, pp. 435-442 DOI: <https://doi.org/10.1016/j.jlumin.2018.11.050>
- 11) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>



- 12) George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](https://doi.org/10.1109/DTIS.2019.8734940), *IEEE Xplore* **2019**, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 13) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](https://doi.org/10.3390/cryst9070343). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 14) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. [Panayiotakis, Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 15) Q. Xu *et al.*, "Vertical Nanowires Enhanced Spatial Resolution of X-Ray Imaging," in *IEEE Photonics Technology Letters*, vol. 33, no. 2, pp. 73-76, **2021**, doi: 10.1109/LPT.2020.3045110.

## Publication

[C. Michail, I. Valais, N.Martini, V.Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, Determination of the Detective Quantum Efficiency \(DQE\) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard \(2016\) Radiat Meas. 94:8-17.](#)

(Scitations: 39)

- 1) **C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (**2016**) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.
- 2) Vaia Koukou, Niki Martini, George Fountos, **Christos Michail**, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (**2017**) Dual energy subtraction method for breast calcification imaging, *Nucl. Instrum. Meth. Phys. Res. A.* 848:31-38.
- 3) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (**2017**) *Appl. Radiat. Isot.* 125:154-162.
- 4) V. Koukou, N. Martini, G. Fountos, **C. Michail**, A. Bakas, G. Oikonomou, I. Kandarakis, G. Nikiforidis, Application of a Dual Energy X-ray imaging method on breast specimen, (**2017**) *Result. Phys.* 7 1634:1636.
- 5) Varmo Ernits, PhD Thesis, Diagnostilise taidsigitaaalse rontgenpildireseptori kvantitatiivsed kvaliteedimootmised, Tartu Ulikool, Loodus- ja tehnoloogiateaduskond, Fuisika Instituut, Tartu **2017**.
- 6) I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012035.
- 7) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012032.
- 8) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 9) I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012026.
- 10) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012027.
- 11) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012030.
- 12) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 13) K. Psichis, [Signal transfer characteristics of columnar phosphors used in X-ray imaging](#), University of Patras, Ph.D. Thesis (**2017**).
- 14) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, **2017**.
- 15) C. Michail, I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (**2018**) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 16) Duane Smalley, Dana Duke, Timothy Webb, Stuart Baker, Jesus Castaneda, Andrew Corredor, Jeremy Danielson, Mandie Gehring, Todd Haines, Steve Lutz, Kristina Montoya, John Stearns, High-energy radiographic imaging performance of

- LYSO, Nuclear Inst. and Methods in Physics Research A, (2018) 914, pp. 57-63 <https://doi.org/10.1016/j.nima.2018.05.044>.
- 17) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
  - 18) Anastasios Konstantinidis, Selina Kolokytha, and Andria Hadjipanteli Digital Breast Tomosynthesis: Systems, Characterization and Simulation in, M. Abreu de Souza et al. (eds.), *Multi-Modality Imaging*, 2018 [https://doi.org/10.1007/978-3-319-98974-7\\_7](https://doi.org/10.1007/978-3-319-98974-7_7)
  - 19) Qianli Li, Xiaolin Liu, Mu Gu, Yahua Hu, Fengrui Li, Si Liu, Qiang Wu, Zhixiang Sun, Juannan Zhang, Shiming Huang, Zhijun Zhang, and Jingtai Zhao, Development of ZnO-based nanorod arrays as scintillator layer for ultrafast and high-spatial-resolution X-ray imaging system, *Optics Express*, Vol. 26, Issue 24, pp. 31290-31298 (2018) <https://doi.org/10.1364/OE.26.031290>
  - 20) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
  - 21) Yu-Wei Tsai, Chien-Hau Chu, Wei-Hung Shih, Shih-Chun Jin, Jyh-Cheng Chen, Kai-Chieh Liang. Evaluation of Different Modulation Transfer Function Measurement Based on Different Edge Spread Function Calculations. *J. Med. Biol. Eng.* (2019), pp.1-11. <https://doi.org/10.1007/s40846-019-00466-x>
  - 22) [Isaias D. Job](#), [Arundhuti Ganguly](#), [Don Vernekohl](#), [Richard Weisfield](#), [Elena Muñoz](#), [Jin Zhang](#), [Carlo Tognina](#), and [Rick Colbeth](#) "Comparison of CMOS and amorphous silicon detectors: determining the correct selection criteria, to optimize system performance for typical imaging tasks", *Proc. SPIE 10948, Medical Imaging 2019: Physics of Medical Imaging*, 109480F (3 April 2019); doi: 10.1117/12.2513500; <https://doi.org/10.1117/12.2513500>
  - 23) **Christos Michail**, [Nektarios Kalyvas](#), [Athanasios Bakas](#), [Konstantinos Ninos](#), [Ioannis Sianoudis](#), [George Fountos](#), [Ioannis Kandarakis](#), [George Panayiotakis](#) and [Ioannis Valais](#) (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
  - 24) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
  - 25) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](#) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>
  - 26) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
  - 27) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
  - 28) H. Alzahrani, S. Richards, I. Sedgwick et al., Image quality determination of a novel digital detector for X-ray imaging and cone-beam computed tomography applications, *Nuclear Inst. and Methods in Physics Research, A* (2020), doi: <https://doi.org/10.1016/j.nima.2020.163914>.
  - 29) Andrea Nitrosi, Marco Bertolini, Agnese Chendi, Valeria Trojani, Laura Canovi, Pierpaolo Pattacini and Mauro Iori, Physical characterization of a novel wireless DRX plus 3543C using both a carbon nano tube (CNT) mobile x-ray system and a traditional x-ray system, 2020 *Phys. Med. Biol.* 5(11), 11NT02 <https://doi.org/10.1088/1361-6560/ab8afb>
  - 30) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
  - 31) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
  - 32) A Nitrosi, M Bertolini, A Chendi, V Trojani, L Canovi, P Pattacini and M Iori, Physical characterization of a novel wireless DRX Plus 3543C using both a carbon nano tube (CNT) mobile x-ray system and a traditional x-ray system, Volume 65, 11 2020 *Phys. Med. Biol.* 11NT02, <https://doi.org/10.1088/1361-6560/ab8afb>
  - 33) Li, Q.-L., Hu, Y.-H., Ma, Y.-F., Sun, Z.-X., Wang, M., Liu, X.-L., Zhao, J.-T., Zhang, Z.-J, Preparation and properties for X-ray scintillation screen based on ZnO: In nanorod arrays, *Wuli Xuebao/Acta Physica Sinica*, Volume 69, Issue 10, 20, 2020, Article number 102902, DOI: 10.7498/aps.69.20200282

- 34) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 35) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 36) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 37) Abdi, A.J.; Musmann, B.R.; Mackenzie, A.; Gerke, O.; Klaerke, B.; Andersen, P.E. Quantitative Image Quality Metrics of the Low-Dose 2D/3D Slot Scanner Compared to Two Conventional Digital Radiography X-ray Imaging Systems. *Diagnostics* **2021**, *11*, 1699. <https://doi.org/10.3390/diagnostics11091699>
- 38) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) **33C**, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 39) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

### Publication

P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Kandarakis, G. Nikiforidis, [Polynomial dual energy inverse functions for bone Calcium/Phosphorus ratio determination and experimental evaluation](#), (2016) *Appl. Radiat. Isot.* 118:18-24. (Scitations: 7)

- 1) N kimoto, H Hayashi, T Asahara, Y Mihara, Y Kanazawa, T Yamakawa, S Yamamoto, M Yamasaki and M Okada, Precise material identification method based on a photon counting technique with correction of the beam hardening effect in X-ray spectra, *Applied Radiation and Isotopes* (2017), <http://dx.doi.org/10.1016/j.apradiso.2017.01.049>
- 2) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.
- 3) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 4) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 5) Kathryn Grandfield, Advanced Analyses for Characterizing Bone Repair and Osseointegration. (Book Chapter) *The World Scientific Encyclopedia of Nanomedicine and Bioengineering II*: (2017) pp. 343-354. [https://doi.org/10.1142/9789813202573\\_0011](https://doi.org/10.1142/9789813202573_0011)
- 6) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 7) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>3</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

### Publication

**C. M. Michail**, G. E. Karpetas, G. P. Fountos, N. I. Kalyvas, I. G. Valais, C. Fountzoula, A. Zanglis, I. S. Kandarakis, G. S. Panayiotakis (2016) A novel method for the Optimization of Positron Emission Tomography Scanners Imaging Performance, *Hell J Nucl Med.* 19(3):231-240.

(Scitations: 12)

- 1) George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis, Detective Quantum Efficiency (DQE) in PET Scanners: A Simulation Study (2017) *Appl. Radiat. Isot.* 125:154-162.
- 2) Mpumelelo N. Determination of Optimum Planar Imaging Parameters for Small Structures with Diameters Less Than the Resolution of the Gamma Camera. *Iran J Med Phys* **2017**; 14: 219-228. 10.22038/ijmp.2017.24559.1246.
- 3) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 4) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.

- 5) **Christos M. Michail**, [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Nektarios I. Kalyvas](#), [Ioannis G. Valais](#), [Ioannis S. Kandarakis](#), [George S. Panayiotakis](#), [George P. Fountos](#), Information Content in Nuclear Medicine Imaging, [Energy Procedia](#), Volume 157, 2019, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 6) **Christos Michail**, [Nektarios Kalyvas](#), [Athanasios Bakas](#), [Konstantinos Ninos](#), [Ioannis Sianoudis](#), [George Fountos](#), [Ioannis Kandarakis](#), [George Panayiotakis](#) and [Ioannis Valais](#) (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 7) [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Michael Taylor](#), [Evangelia Pappa](#), [Christos M. Michail](#), [John Filos](#), [Varvara Trachana](#) and [Lamprini Kontopoulou](#), [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* 2019, 2123, 020096, <https://doi.org/10.1063/1.5117023>.
- 8) **C. Michail**, [K. Ninos](#), [N. Kalyvas](#), [A. Bakas](#), [G. Saatsakis](#), [G. Fountos](#), [I. Sianoudis](#), [G. Panayiotakis](#), [I. Kandarakis](#) and [I. Valais](#), Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 9) [George Saatsakis](#), [Konstantinos Ninos](#), [Ioannis Valais](#), [Niki Martini](#), [Nektarios Kalyvas](#), [Charilaos Kantsos](#), [Athanasios Bakas](#), [Ioannis Kandarakis](#), [George Panayiotakis](#), **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 10) [George Saatsakis](#), [Dionysios Linardatos](#), [Konstantinos Ninos](#), [Ioannis Valais](#), [Nektarios Kalyvas](#), [Athanasios Bakas](#), [Ioannis Kandarakis](#), [George Fountos](#), [George Panayiotakis](#) and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 11) [D. Linardatos](#), [V. Koukou](#), [N. Martini](#), [A. Konstantinidis](#), [A. Bakas](#), [G. Fountos](#), [I. Valais](#), **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 12) [G. Saatsakis](#), [D. Linardatos](#), [G. Karpetas](#), [N. Kalyvas](#), [K. Ninos](#), [A. Bakas](#), [E. Lavdas](#), [G. Fountos](#), [I. Kandarakis](#), [I. Valais](#) and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

[D. Nikolopoulos](#), [I. Valais](#), **C. Michail**, [A. Bakas](#), [C. Fountzoula](#), [D. Cantzos](#), [D. Bhattacharyya](#), [I. Sianoudis](#), [G. Fountos](#), [P. Yannakopoulos](#), [G. Panayiotakis](#) and [I. Kandarakis](#), [Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends](#). (2016) *Radiat Meas.* 92:19-31.

#### (Scitations: 17)

- 1) [Chen, W.](#), [Liu, Y.](#), [Yuan, Z.](#) et al. X-ray radioluminescence effect of all-inorganic halide perovskite CsPbBr<sub>3</sub> quantum dots. *J Radioanal Nucl Chem* (2017). <https://doi.org/10.1007/s10967-017-5562-x>
- 2) [I. Valais](#), [C. Michail](#), [C. Fountzoula](#), [G. Fountos](#), [G. Saatsakis](#), [A. Karabotsos](#), [G.S. Panayiotakis](#) and [I. Kandarakis](#), [Polymer Based Thin Film Screen Preparation Technique](#), (2017) *J. Phys.: Conf. Ser.* 931 012035.
- 3) [G. Saatsakis](#), [I. Valais](#), **C. Michail**, [C. Fountzoula](#), [G. Fountos](#), [V. Koukou](#), [N. Martini](#), [N. Kalyvas](#), [A. Bakas](#), [I. Sianoudis](#), [I. Kandarakis](#) and [G.S. Panayiotakis](#), [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 4) [Mohammad Azren Saad](#), [Noor Syafiqah Samsi](#), [Oskar Hasdinor Hassan](#), [Muhd Zu Azhan Yahya](#), [Mohamad Fariz Mohamad Taib](#), [Ab Malik Marwan Ali](#) and [Rosnah Zakaria](#), [Quantum dot solar cell studies on the influence of Cadmium Selenide\(CdSe\)QDs and the Zinc Sulfide\(ZnS\)QDs in the photoanode](#), 01039, MATEC Web of Conferences, Volume 154 (2018), The 2<sup>nd</sup> International Conference on Engineering and Technology for Sustainable Development (ICET4SD 2017), DOI: <https://doi.org/10.1051/mateconf/201815401039>
- 5) [Wang Chen](#), [Xiaobin Tang](#), [Yunpeng Liu](#), [Zhiheng Xu](#), [Zhenyang Han](#), [Zhengrong Zhang](#), [Hongyu Wang](#), [Cong Peng](#), Novel radioluminescent nuclear battery: Spectral regulation of perovskite quantum dots, *Int J Energy Res.* 2018;1-11, DOI: 10.1002/er.4032
- 6) [Dimitrios Nikolopoulos](#), [Konstantinos Moustris](#), [Ermioni Petraki](#), [Dionysios Koulougliotis](#) and [Demetrios Cantzos](#), Fractal and Long-Memory Traces in PM10 Time Series in Athens, Greece, *Environments*, 2019, 6, 29; doi:10.3390/environments6030029.
- 7) [Justin S Klein](#), [Conroy Sun](#) and [Guillem Pratx](#). Radioluminescence in biomedicine: physics, applications, and models. 2019 *Phys. Med. Biol.* 64 04TR01.
- 8) Radioluminescent nuclear battery containing CsPbBr<sub>3</sub> quantum dots: Application of a novel wave-shifting agent, [Wang Chen](#), [Xiaobin Tang](#), [Yunpeng Liu](#), [Zhiheng Xu](#), [Yuan Zicheng](#), [Zhengrong Zhang](#), [Kai Liu](#), *Int J Energy Res.* 2019; 1-14, <https://doi.org/10.1002/er.4580>
- 9) [George Saatsakis](#), **Christos Michail**, [Christina Fountzoula](#), [Nektarios Kalyvas](#), [Konstantinos Ninos](#), [Athanasios Bakas](#), [Ioannis Sianoudis](#), [Ioannis Kandarakis](#), [George Fountos](#), [George Panayiotakis](#) and [Ioannis Valais](#), [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)

- 10) Chen W., Tang X.-B., Liu Y.-P., Xu Z.-H., Zhang Z.-R., [Study on All-inorganic Perovskite Quantum Dot Radioluminescence Isotope Batteries](#), *Faguang Xuebao/Chinese Journal of Luminescence*, **2019**, 40(3), pp. 326-333.
- 11) C. Michail, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (**2020**) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 12) G. Saatsakis, C. Michail, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 13) Gupta, S.K., Mao, Y. Recent advances, challenges, and opportunities of inorganic nanoscintillators. *Front. Optoelectron.* (**2020**). <https://doi.org/10.1007/s12200-020-1003-5>
- 14) Nikolopoulos, D., Moustris, K., Petraki, E. et al. Long-memory traces in PM<sub>10</sub> time series in Athens, Greece: investigation through DFA and R/S analysis. *Meteorol Atmos Phys* (**2020**). <https://doi.org/10.1007/s00703-020-00744-3>
- 15) Nikolopoulos, D.; Petraki, E.; Yannakopoulos, P.H.; Priniotakis, G.; Voyiatzis, I.; Cantzos, D. Long-Lasting Patterns in 3 kHz Electromagnetic Time Series after the  $M_L = 6.6$  Earthquake of 2018-10-25 near Zakynthos, Greece. *Geosciences* **2020**, 10, 235. <https://doi.org/10.3390/geosciences10060235>
- 16) Gupta SK, Sudarshan K, Kadam RM, Optical Nanomaterials with Focus on Rare Earth Doped Oxide, *Materials Today Communications* (**2021**), doi: <https://doi.org/10.1016/j.mtcomm.2021.102277>
- 17) Alam, A., Wang, N., Petraki, E. et al. Fluctuation Dynamics of Radon in Groundwater Prior to the Gansu Earthquake, China (22 July 2013:  $M_s = 6.6$ ): Investigation with DFA and MF DFA Methods. *Pure Appl. Geophys.* (**2021**). <https://doi.org/10.1007/s00024-021-02818-8>

#### Publication

V. Koukou, N. Martini, I. Vasiloudis, L. Klimi, C. Michail, I. Valais, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, [DETECTIVE QUANTUM EFFICIENCY \(DQE\) OF THE DEXELA 2923MAM DETECTOR ACCORDING TO IEC 62220-1-1:2015](#), 1st European Congress of Medical Physics, 1-4 September, **2016**, Athens, Greece, *Physica Medica: European Journal of Medical Physics*, Volume 32, Supplement 3, Pages 291-292.

(Scitations: 2)

- 1) I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012032.
- 2) Abdi, A.J.; Mussmann, B.R.; Mackenzie, A.; Gerke, O.; Klaerke, B.; Andersen, P.E. Quantitative Image Quality Metrics of the Low-Dose 2D/3D Slot Scanner Compared to Two Conventional Digital Radiography X-ray Imaging Systems. *Diagnostics* **2021**, 11, 1699. <https://doi.org/10.3390/diagnostics11091699>

#### Publication

N. Kalyvas, P. Maragkaki, A. Bakas, G. Fountos, V. Koukou, N. Martini, C. Michail, I. Valais and I. Kandarakis, [X-RAY RESPONSE OF A DIGITAL DETECTOR FOR DENTAL RADIOGRAPHS](#), 1st European Congress of Medical Physics, 1-4 September, **2016**, Athens, Greece, *Physica Medica: European Journal of Medical Physics*, Volume 32, Supplement 3, Pages 291-292.

(Scitations: 1)

- 1) A. Anastasiou, C. Michail, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](#), (**2017**) *J. Phys.: Conf. Ser.* 931 012005

#### Publication

C. Michail, I. Valais, S. David, A. Bakas, N. Kalivas, G. Fountos, I. Kandarakis, Panayotis H. Yannakopoulos, D. Nikolopoulos, Efficiency of Luminescence of (Lu,Gd)<sub>2</sub>SiO<sub>5</sub>:Ce (LGSO:Ce) Crystal Sensory Material in the X-Ray Imaging Range, [Nuclear Radiation Nanosensors and Nanosensory Systems](#) 2016, pp 81-90

(Scitations: 1)

- 1) Mirjana M.Milić, Violeta N.Nikolić, Sonja Jovanović, Synthesis and characterization of nanocrystalline FexOy/Gd<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> composite powder, *Ceramics International*, Vol. 43 (**2017**), pp. 14044-14049, <https://doi.org/10.1016/j.ceramint.2017.07.138>.

#### Publication

Vaia Koukou, Niki Martini, George Fountos, Christos Michail, Panagiota Sotiropoulou, Athanasios Bakas, Nektarios Kalyvas, Ioannis Kandarakis, Robert Speller, George Nikiforidis (**2017**) Dual energy subtraction method for breast calcification imaging *Nucl. Instrum. Meth. Phys. Res. A.* **848** 31-38

(Scitations: 19)

- 1) V. Koukou, N. Martini, G. Fountos, **C. Michail**, A. Bakas, G. Oikonomou, I. Kandarakis, G. Nikiforidis, Application of a Dual Energy X-ray imaging method on breast specimen, (2017) *Result. Phys.* 7 1634:1636.
- 2) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.
- 3) I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](#), (2017) *J. Phys.: Conf. Ser.* 931 012026.
- 4) V Koukou, N Martini, G Fountos, G Messaris, **C Michail**, I Kandarakis and G Nikiforidis, [Dual Energy Tomosynthesis breast phantom imaging](#) (2017) *J. Phys.: Conf. Ser.* 936 012044.
- 5) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 6) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.
- 7) Anastasios Konstantinidis, Selina Kolokytha, and Andria Hadjipanteli Digital Breast Tomosynthesis: Systems, Characterization and Simulation in, M. Abreu de Souza et al. (eds.), *Multi-Modality Imaging*, 2018 [https://doi.org/10.1007/978-3-319-98974-7\\_7](https://doi.org/10.1007/978-3-319-98974-7_7)
- 8) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 9) Nadin Jamal Abualroos, Norlaili Ahmad Kabir, Computer Aided Diagnosis in Mammography Microcalcification Analysis, *Asian Journal of Applied Sciences*. Volume 07 – Issue 02, 2019, 248-257.
- 10) Kumara Guru D.P., Interpretation of mammogram images and shape description analysis with convex hull method, *International Journal of Recent Technology and Engineering*, 2019, 7(6), pp. 675-681.
- 11) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 12) Soohwa Kam, Dong Woon Kim, Seungman Yun, Ho Kyung Kim, Power-law analysis of nonlinear active-pixel detector responses as a function of mammographic energy, [Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment](#), 2019, 162674, <https://doi.org/10.1016/j.nima.2019.162674>.
- 13) He, S., Ma, S., Wang, W., Fu, D, A dual-energy X-ray fluoroscopy method for image-guided lung radiotherapy, *Chinese Journal of Medical Imaging Technology*, Vol. 35(10), 2019, pp.1559-1564, doi: 10.13929/j.1003-3289.201901126
- 14) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 15) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 16) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](#), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 17) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Mineral characterization in human body: A dual energy approach](#) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 18) Vincent Beaudoux. Dosimétrie pour un examen de mammographie avec rayons-X produits par laser. Bio-informatique [q-bio.QM]. Université de Bordeaux, 2021. Français. ffnNT: 2021BORD0202ff. fftel03414947
- 19) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

## Publication

Koukou V, Martini N, Fountos G, Michail C, Bakas A, Oikonomou G, Kandarakis I and Nikiforidis G 2017 Application of a dual energy X-ray imaging method on breast specimen *Results in Physics* 7 1634-1636

(Scitations: 9)

- 1) N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.
- 2) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, 2017.
- 3) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, 2017.

- 4) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 5) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 6) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 7) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#), (2020) *Crystals*, 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 8) Vincent Beaudoux. Dosimétrie pour un examen de mammographie avec rayons-X produits par laser. Bio-informatique [q-bio.QM]. Université de Bordeaux, 2021. Français. ffNNT: 2021BORD0202ff. fftel03414947
- 9) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

### Publication

I. Valais, **C. Michail**, C. Fountzoula, D. Tseles, P. Yannakopoulos, D. Nikolopoulos, A. Bakas, G. Fountos, G. Saatsakis, I. Sianoudis, I. Kandarakis and G Panayiotakis, [On the response of alloyed ZnCdSeS Quantum Dot films](#), (2017) *Result. Phys.*7: 1734-1736.

### (Scitations: 13)

- 1) I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](#), (2017) *J. Phys.: Conf. Ser.* 931 012035.
- 2) G. Saatsakis, I. Valais, **C. Michail**, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](#), (2017) *J. Phys.: Conf. Ser.* 931 012030.
- 3) C. Michail: I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](#) (2018) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>
- 4) Ioannis E. Seferis, [Investigation of Optical Properties Of Nanophosphor Screens and Study of their Imaging Characteristics Coupled With a CMOS Sensor Based Digital Detector for Use in Medical Imaging Application](#), PhD Thesis, University of Patras, Greece, 2017.
- 5) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 6) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*, 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 7) George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 8) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 9) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 10) Nor Aliya Hamizi, Mohd Rafie Johan, Yasmin Abdul Wahab, Zaira Zaman Chowdhury, Omid Akbarzadeh, Suresh Sagadevan, Irfan Anjum Badruddin, Tatagar Mohammad Yunus Khan and Sarfaraz Kamangar, Investigation on Surface Properties of Mn-Doped CdSe Quantum Dots Studied by X-ray Photoelectron Spectroscopy, *Symmetry*, 2019, 11(10), 1250; <https://doi.org/10.3390/sym11101250>
- 11) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>

- 12) Jablanovic, A.D.; Bekanova, M.Z.; Litmanovich, E.A.; Karpov, O.N.; Bugakov, M.A.; Shandryuk, G.A.; Ezhov, A.A.; Talroze, R.V.; Chernikova, E.V. Monochelic Versus Telechelic Poly(Methyl Methacrylate) as a Matrix for Photoluminescent Nanocomposites with Quantum Dots. *Molecules* **2021**, *26*, 4131. <https://doi.org/10.3390/molecules26144131>
- 13) Li, Z., Wei, J., Wang, F., Tang, Y., Li, A., Guo, Y., Huang, P., Brovelli, S., Shen, H., Li, H., Carrier Dynamics in Alloyed Chalcogenide Quantum Dots and Their Light-Emitting Devices. *Adv. Energy Mater.* **2021**, 2101693. <https://doi.org/10.1002/aenm.202101693>

### Publication

I. E. Seferis, J. Zeler, **C. Michail**, S. David, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis (2017) Grains size and shape dependence of light efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu thin screens, *Result. Phys.* 7:980-981.

(Scitations: 5)

- 1) I. E. Seferis, **C. Michail**, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](#), (2017) *J. Phys.: Conf. Ser.* 931 012032.
- 2) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](#), (2018) *Appl Phys A* 124:604.
- 3) [Peter Seidel, Sandra Lorenz, Thomas Heinig, Robert Zimmermann, René Booyesen, Jan Beyer, Johannes Heitmann and Richard Gloaguen](#), Fast 2D Laser-Induced Fluorescence Spectroscopy Mapping of Rare Earth Elements in Rock Samples *Sensors* **2019**, *19*(10), 2219; <https://doi.org/10.3390/s19102219>
- 4) [G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais](#), [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 5) Rahim, Sapizah, Hasim, Muhammad Hassyakirin, Ayob, Muhammad Taqiyuddin Mawardi, Rahman, Irman Abdul, Salleh, Khairul Anuar Mohd, & Radiman, Shahidan. (2020). Gd<sub>2</sub>O<sub>2</sub>S:Eu<sup>3+</sup> Nanophosphors: Microwave Synthesis and X-ray Imaging Detector Application. *Materials Research*, 22(6), e20190383. <https://doi.org/10.1590/1980-5373-mr-2019-0383>

### Publication

George E. Karpetas, **Christos M. Michail**, George P. Fountos, Nektarios I. Kalyvas, Ioannis G. Valais, Ioannis S. Kandarakis and George S. Panayiotakis (2017) [Detective Quantum Efficiency \(DQE\) in PET Scanners: A Simulation Study](#) *Appl. Radiat. Isot.* 125:154-162.

(Scitations: 14)

- 1) G P Fountos and C M Michail, [Towards the Experimental Assessment of the DQE in SPECT Scanners](#), (2017) *J. Phys.: Conf. Ser.* 931 012021.
- 2) I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](#), (2017) *J. Phys.: Conf. Ser.* 931 012026.
- 3) Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](#), (2017) *J. Phys.: Conf. Ser.* 931 012027.
- 4) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 5) **Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](#), (2018) *Crystals* 8(12): 459.
- 6) **Christos M. Michail**, [Kyriakos N. Agavanakis](#), [George E. Karpetas](#), [Nektarios I. Kalyvas](#), [Ioannis G. Valais](#), [Ioannis S. Kandarakis](#), [George S. Panayiotakis](#), [George P. Fountos](#), Information Content in Nuclear Medicine Imaging, [Energy Procedia](#), Volume 157, 2019, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.
- 7) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 8) Kyriakos N. Agavanakis, George E. Karpetas, Michael Taylor, Evangelia Pappa, Christos M. Michail, John Filos, Varvara Trachana and Lamprini Kontopoulou, [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* **2019**, 2123, 020096, <https://doi.org/10.1063/1.5117023>.



- 9) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 10) W. Krzemien, A. Gajos, K. Kacprzak, K. Rakoczy, G. Korcyl, J-PET Framework: Software platform for PET tomography data reconstruction and analysis, *SoftwareX*, Volume 11, **2020**, 100487, <https://doi.org/10.1016/j.softx.2020.100487>
- 11) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 12) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 13) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 14) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

### Publication

N Martini, V Koukou, G Fountos, **C Michail**, A Bakas, I Kandarakis, R Speller, G Nikiforidis, Characterization of breast calcification types using dual energy X-ray method, (2017) *Phys. Med. Biol.* 62:7741-7764.

### (Scitations: 23)

- 1) Niki Martini, [Breast composition study using ionizing radiation](#), PhD Thesis, University of Patras, Greece, **2017**.
- 2) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](#), PhD Thesis, University of Patras, Greece, **2017**.
- 3) S. O' Grady, M.P. Morgan, Microcalcifications in breast cancer: From pathophysiology to diagnosis and prognosis Review, *Biochimica et Biophysica Acta (BBA) - Reviews on Cancer*. Vol 1869(2):310-320 **2018**, <https://doi.org/10.1016/j.bbcan.2018.04.006>
- 4) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**. [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](#), (2018) *Procedia Structural Integrity* 10:326-332.
- 5) [Diderot, P. Kumara Guru; Vasudevan, N](#), Pertinent Issues in Calcification Type Mammogram Images and Classification Using Shape Descriptor, *Journal of Computational and Theoretical Nanoscience*, Volume 15, Numbers 11-12, November **2018**, pp. 3601-3607(7), doi: <https://doi.org/10.1166/jctn.2018.7672>
- 6) [B. Ghammraoui, A. Makeev, and S. J. Glick](#) "Classification of breast microcalcifications using dual-energy mammography", *Proc. SPIE 10573, Medical Imaging 2018: Physics of Medical Imaging*, 1057305 (9 March 2018); doi: 10.1117/12.2293687; <https://doi.org/10.1117/12.2293687>
- 7) [Hyemi Kim, Dohyeon Kim, Minjae Lee, and Hee-Joung Kim](#) "The feasibility study for classification of breast microcalcifications based on photon counting spectral mammography", *Proc. SPIE 10948, Medical Imaging 2019: Physics of Medical Imaging*, 109481G; doi: 10.1117/12.2511130; <https://doi.org/10.1117/12.2511130>
- 8) [Hyemi Kim, Minjae Lee, Dohyeon Kim, Donghooon Lee, Hee-Joung Kim](#), Evaluation of photon-counting spectral mammography for classification of breast microcalcifications, *Radiation Physics and Chemistry*, **2019** 162, pp. 39-47 <https://doi.org/10.1016/j.radphyschem.2019.04.028>
- 9) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 10) [Bahaa Ghammraoui, Andrey Makeev, Ahmed Zidan, Alaadin Alayoubi, and Stephen J. Glick](#) "Classification of breast microcalcifications using dual-energy mammography," *Journal of Medical Imaging* 6(1), 013502 (2019). <https://doi.org/10.1117/1.JMI.6.1.013502>
- 11) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 12) Andrey Makeev, Bahaa Ghammraoui, Andreu Badal, Christian G. Graff, and Stephen J. Glick "Classification of breast calcifications in dual-energy FFDM using a convolutional neural network: simulation study", *Proc. SPIE 11312, Medical Imaging 2020: Physics of Medical Imaging*, 113120M; <https://doi.org/10.1117/12.2548454>

- 13) C. Michail, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](https://doi.org/10.3390/cryst10060429), (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 14) Samiee-Rad, F., Emami, A. An Iranian Woman with Parathyroid Adenoma and Palpable Breast Masses Due to Bilateral and Asymmetric Calcifications. *Indian J Surg Oncol* (2020). <https://doi.org/10.1007/s13193-020-01108-4>
- 15) Vaira Suganthi Gnanasekaran, Sutha Joypaul and Parvathy Meenakshi Sundaram, "A Survey on Machine Learning Algorithms for the Diagnosis of Breast Masses with Mammograms", *Current Medical Imaging* (2020) 16(6): 639-652. <https://doi.org/10.2174/1573405615666190903141554>
- 16) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and C. Michail, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 17) Ivan Romadanov and Mike Sattarivand, Adaptive noise reduction for dual-energy x-ray imaging based on spatial variations in beam attenuation, 2020 *Phys. Med. Biol.* 65 245023, <https://doi.org/10.1088/1361-6560/ab9e57>
- 18) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and Christos Michail, [On the Response of a Micro Non-destructive Testing X-ray Detector](https://doi.org/10.3390/ma14040888), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 19) Niki Martini, Vaia Koukou, Christos Michail and George Fountos, [Mineral characterization in human body: A dual energy approach](https://doi.org/10.3390/cryst11040345) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 20) Andrey V. Makeev, Gabriela Rodal, Bahaa Ghamraoui, Andreu Badal, and Stephen J. Glick "Exploring CNN potential in discriminating benign and malignant calcifications in conventional and dual-energy FFDM: simulations and experimental observations," *Journal of Medical Imaging* 8(3), 033501 (13 May 2021). <https://doi.org/10.1117/1.JMI.8.3.033501>
- 21) Bahaa Ghamraoui, Ahmed Zidan, Alaadin Alayoubi, Aser Zidan and Stephen J Glick, Fabrication of microcalcifications for insertion into phantoms used to evaluate x-ray breast imaging systems, *Biomed. Phys. Eng. Express* 7 (2021) 055021.
- 22) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, C. Michail, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 23) N. Martini, V. Koukou, C. Michail and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](https://doi.org/10.1016/j.prostr.2021.10.036), *Procedia Structural Integrity* (2021) 33C, pp. 295-303, doi: <https://doi.org/10.1016/j.prostr.2021.10.036>.

#### Publication

V Koukou, N Martini, G Fountos, G Messaris, C Michail, I Kandarakis and G Nikiforidis, [Dual Energy Tomosynthesis breast phantom imaging](https://doi.org/10.1016/j.prostr.2017.10.037) (2017) *J. Phys.: Conf. Ser.* 936 012044.

(Scitations: 1)

- 1) Vaia Koukou, [Methodology development for breast cancer diagnosis using dual energy X-rays and digital tomosynthesis](https://doi.org/10.1016/j.prostr.2017.10.037), PhD Thesis, University of Patras, Greece, 2017.

#### Publication

I. E. Seferis, C. Michail, J. Zeler, I. Valais, G. Fountos, N. Kalyvas, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [X-ray imaging resolution of phosphor screens prepared with different grains size and shape of granular Lu<sub>2</sub>O<sub>3</sub>:Eu](https://doi.org/10.1016/j.prostr.2017.10.037), (2017) *J. Phys.: Conf. Ser.* 931 012032.

(Scitations: 1)

- 1) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](https://doi.org/10.1016/j.prostr.2017.10.037), (2018) *Appl Phys A* 124:604.

#### Publication

G. Saatsakis, I. Valais, C. Michail, C. Fountzoula, G. Fountos, V. Koukou, N. Martini, N. Kalyvas, A. Bakas, I. Sianoudis, I. Kandarakis and G.S. Panayiotakis, [Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response Under UV and X-Ray Irradiation](https://doi.org/10.1016/j.prostr.2017.10.037), (2017) *J. Phys.: Conf. Ser.* 931 012030.

(Scitations: 4)

- 1) Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](https://doi.org/10.1016/j.prostr.2017.10.037), (2018) *Appl Phys A* 124:604.
- 2) Marie-Ève Delage, Marie-Ève Lecavalier, Dominic Larivière, Caudine Ni Allen and Luc Beaulieu Dosimetric properties of colloidal quantum dot-based systems for scintillation dosimetry *Phys. Med. Biol.* 2019 64(9):095027. <https://doi.org/10.1088/1361-6560/ab109b>

- 3) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](https://doi.org/10.3390/cryst9070343). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 4) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>

#### Publication

Vaia Koukou, Niki Martini, Ioannis Valais, Athanasios Bakas, Nektarios Kalyvas, Eleftherios Lavdas, George Fountos, Ioannis Kandarakis and **Christos Michail**, [Resolution Properties of a Calcium Tungstate \(CaWO<sub>4</sub>\) Screen Coupled to a CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2020.04.008) (2017) *J. Phys.: Conf. Ser.* 931 012027.

(Scitations: 3)

- 1) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](https://doi.org/10.1016/j.prostr.2020.04.008), (2018) *Procedia Structural Integrity* 10:326-332.
- 2) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](https://doi.org/10.3221/IGF-ESIS.50.39), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 3) F. Akman, M. R. Kaçal, N. Almousad, M. I. Sayyed, H. Polat, Gamma-ray attenuation parameters for polymer composites reinforced with BaTiO<sub>3</sub> and CaWO<sub>4</sub> compounds, *Progress in Nuclear Energy*, Volume 121, **2020**, 103257.

#### Publication

I. Kapetanakis, G. Fountos, **C. Michail**, I. Valais, N. Kalyvas, [3D printing X-Ray Quality Control Phantoms. A Low Contrast Paradigm](https://doi.org/10.1016/j.prostr.2020.04.008), (2017) *J. Phys.: Conf. Ser.* 931 012026.

(Scitations: 4)

- 1) Irene Hernandez-Giron, Johan Michielden Harder, Geert J. Streekstra, Jacob Geleijns, Wouter J.H. Veldkamp, Development of a 3D printed anthropomorphic lung phantom for image quality assessment in CT, *Physica Medica*, Volume 57, January 2019, Pages 47-57, <https://doi.org/10.1016/j.ejmp.2018.11.015>
- 2) Kent M. Ogden, Kristin E. Morabito, Paul K. Depew. 3D printed testing aids for radiographic quality control. *J Appl Clin Med Phys.* **2019**; 20(5), pp. 127-134. DOI: 10.1002/acm2.12574
- 3) Marcus Oliveira, José Carlos Barros, Carlos Ubeda, Development of a 3D printed quality control tool for evaluation of x-ray beam alignment and collimation, *Physica Medica*, Vol. 65, **2019**, pp. 29-32, <https://doi.org/10.1016/j.ejmp.2019.07.026>.
- 4) Qiu J, Hou K, Dyer BA, Chen J-C, Shi L, Sun Y, Xu L, Zhao H, Li Z, Chen T, Li M, Zhang F, Zhang H and Rong Y (2021) Constructing Customized Multimodal Phantoms Through 3D Printing: A Preliminary Evaluation. *Front. Phys.* 9:605630. doi: 10.3389/fphy.2021.605630

#### Publication

I. Valais, C. Michail, C. Fountzoula, G. Fountos, G. Saatsakis, A. Karabotsos, G.S. Panayiotakis and I. Kandarakis, [Polymer Based Thin Film Screen Preparation Technique](https://doi.org/10.1016/j.prostr.2020.04.008), (2017) *J. Phys.: Conf. Ser.* 931 012035.

(Scitations: 2)

- 1) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](https://doi.org/10.3390/cryst9070343). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 2) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>

#### Publication

A. Anastasiou, **C. Michail**, V. Koukou, N. Martini, A. Bakas, F. Papastamati, P. Maragkaki, L. Lavdas, G. Fountos, I. Valais, N. Kalyvas, [Examining the Spatial Frequency Components of a Digital Dental Detector](https://doi.org/10.1016/j.prostr.2020.04.008), (2017) *J. Phys.: Conf. Ser.* 931 012005

(Scitations: 1)

- 1) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](https://doi.org/10.1016/j.measurement.2019.107171) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>

#### Publication

C. Michail, I. Valais, G. Fountos, A. Bakas, C. Fountzoula, N. Kalyvas, A. Karabotsos, I. Sianoudis and I. Kandarakis, [Luminescence Efficiency of Calcium Tungstate \(CaWO<sub>4</sub>\) under X-ray radiation: Comparison with Gd<sub>2</sub>O<sub>2</sub>S:Tb](https://doi.org/10.1016/j.measurement.2018.02.027) (2018) *Measur.* 120:213-220. <https://doi.org/10.1016/j.measurement.2018.02.027>

(Scitations: 22)

- 1) I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](https://doi.org/10.1016/j.applphysa.2018.05.004), (2018) *Appl Phys A* 124:604.
- 2) Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](https://doi.org/10.1016/j.prostr.2018.06.002), (2018) *Procedia Structural Integrity* 10:326-332.
- 3) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](https://doi.org/10.3390/cryst9050234). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 4) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](https://doi.org/10.3390/app9112367) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 5) George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](https://doi.org/10.1109/DTIS.2019.8734940), *IEEE Xplore* 2019, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)
- 6) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](https://doi.org/10.3221/IGF-ESIS.50.39), *Frattura ed Integrità Strutturale*, 2019, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 7) A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](https://doi.org/10.1016/j.measurement.2019.107171) (2020) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>
- 8) Shifa Wang, Huajing Gao, Guangzhuang Sun, Yanwu Li, Yong Wang, Hufeng Liu, Chaoli Chen, Liang Yang, Structure characterization, optical and photoluminescence properties of scheelite-type CaWO<sub>4</sub> nanophosphors: Effects of calcination temperature and carbon skeleton, *Optical Materials* 2019, 109562, <https://doi.org/10.1016/j.optmat.2019.109562>
- 9) Xue Zhao, Guangda Niu, Jinsong Zhu, Bo Yang, Jun-Hui Yuan, Shunran Li, Wanru Gao, Qingsong Hu, Lixiao Yin, Kan-Hao Xue, Efrat Lifshitz, Xiangshui Miao, Xiangshui Miao, All-Inorganic Copper Halide as Stable and Self-Absorption Free X-Ray Scintillator, *J. Phys. Chem. Lett.* 2020, <https://doi.org/10.1021/acs.jpcclett.0c00161>
- 10) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](https://doi.org/10.3390/cryst10030198) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 11) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 12) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 13) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](https://doi.org/10.3390/cryst10060429). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 14) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](https://doi.org/10.1016/j.prostr.2020.06.002) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 15) Belaya, S.V., Bakovets, V.V., Rakhmanova, M.I. et al. Films of (Gd<sub>1-x</sub>Tbx)<sub>2</sub>O<sub>2</sub>S Solid Solutions Produced by Oxide Sulfidation in NH<sub>4</sub>SCN Vapor and Their Optical Properties. *Inorg Mater* 56, 836-846 (2020). <https://doi.org/10.1134/S0020168520080038>.
- 16) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 17) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the](https://doi.org/10.3390/cryst10110961)

- [Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 18) Lindström, Jan, Radioluminescence: A simple model for fluorescent layers - analysis and applications, Radioluminescence: A simple model for fluorescent layers - analysis and applications, 2021, PhD Thesis, Linköping University, Sweden, doi: 10.3384/diss.diva-174573.
  - 19) P. Liaparinos, C. Michail, I. Valais, A. Karabotsos, A. Bakas, I. Kandarakis, [The effect of the Grain Size Distribution \(GSD\) on the light emission performance of phosphor-based X-ray detectors](https://doi.org/10.1016/j.optmat.2021.111319) (2021) *Optical Materials* 119: 111319, doi: <https://doi.org/10.1016/j.optmat.2021.111319>.
  - 20) Marta Kowalkińska, Paweł Głuchowski, Tomasz Swebocki, Tadeusz Ossowski, Adam Ostrowski, Waldemar Bednarski, Jakub Karczewski, and Anna Zielińska-Jurek, Scheelite-Type Wide-Bandgap ABO<sub>4</sub> Compounds (A = Ca, Sr, and Ba; B = Mo and W) as Potential Photocatalysts for Water Treatment, *J. Phys. Chem. C* 2021, <https://doi.org/10.1021/acs.jpcc.1c06481>
  - 21) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, C. Michail, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
  - 22) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and C. Michail, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

## Publication

**Christos Michail**, George Karpetas, Nektarios Kalyvas, Ioannis Valais, Ioannis Kandarakis, Kyriakos Agavanakis, George Panayiotakis and George Fountos, [Information Capacity of Positron Emission Tomography Scanners](https://doi.org/10.1016/j.crysol.2018.12.001), (2018) *Crystals* 8(12): 459.

## (Scitations: 11)

- 1) **Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](https://doi.org/10.3390/cryst9050234). *Crystals*. 9(5):234. doi: <https://doi.org/10.3390/cryst9050234>
- 2) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](https://doi.org/10.3390/app9112367) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 3) Saatsakis, G. Kalyvas, N. Michail, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](https://doi.org/10.3390/cryst9070343). *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 4) Kyriakos N. Agavanakis, George E. Karpetas, Michael Taylor, Evangelia Pappa, Christos M. Michail, John Filos, Varvara Trachana and Lamprini Kontopoulou, [Practical machine learning based on cloud computing resources](https://doi.org/10.1063/1.5117023), *AIP Conference Proceedings* 2019, 2123, 020096, <https://doi.org/10.1063/1.5117023>.
- 5) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](https://doi.org/10.3390/cryst10030198) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 6) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 7) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 8) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](https://doi.org/10.1016/j.prostr.2020.06.002) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 9) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 10) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

- 11) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

I. Seferis, C. Michail, J. Zeler, N. Kalyvas, I. Valais, G. Fountos, A. Bakas, I. Kandarakis, E. Zych, G. S. Panayiotakis, [Detective Quantum Efficiency \(DQE\) of high X-ray absorption Lu<sub>2</sub>O<sub>3</sub>:Eu Thin Screens: the role of shape and size of nano-and micro-grains](https://doi.org/10.1016/j.applphysa.2018.06.004), (2018) *Appl Phys A* 124:604.

(Scitations: 5)

- 1) G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](https://doi.org/10.3390/app9112367) (2019) *Applied Sciences*, 9(11): 2367. <https://doi.org/10.3390/app9112367>
- 2) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 3) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 4) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](https://doi.org/10.3390/ma14040888), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 5) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) **33C**, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

#### Publication

Niki Martini, Vaia Koukou, George Fountos, Ioannis Valais, Athanasios Bakas, Konstantinos Ninos, Ioannis Kandarakis, George Panayiotakis and **Christos Michail**, [Towards the enhancement of medical imaging with non-destructive testing \(NDT\) CMOS sensors. Evaluation following IEC 62220-1-1:2015 international standard](https://doi.org/10.1016/j.prostr.2018.10.326), (2018) *Procedia Structural Integrity* 10:326-332.

(Scitations: 8)

- 1) N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a CaWO<sub>4</sub>/CMOS sensor](https://doi.org/10.3221/IGF-ESIS.50.39), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.
- 2) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](https://doi.org/10.1016/j.prostr.2020.04.008) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 3) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**, [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](https://doi.org/10.1016/j.prostr.2020.06.002) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 4) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 5) Behnam Rasoolian, [Automating Interpretation of Images and Visual Inspections in Modern Manufacturing and Medical Settings](https://doi.org/10.1016/j.prostr.2021.10.037), PhD Thesis, Auburn University, Auburn, Alabama **2021**.
- 6) Woo, G., Lee, D.H., Heo, Y., Kim, E., On, S., Kim, T. and Yoo, H. (2021), Energy Band Engineering by Remote Doping of Self-Assembled Monolayer Leads to High-Performance IGZO/p-Si Heterostructure Photodetectors. *Adv. Mater.* Accepted Author Manuscript 2107364. <https://doi.org/10.1002/adma.202107364>
- 7) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) **33C**, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 8) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

**Christos Michail**, Nektarios Kalyvas, Athanasios Bakas, Konstantinos Ninos, Ioannis Sianoudis, George Fountos, Ioannis Kandarakis, George Panayiotakis and Ioannis Valais (2019) [Absolute Luminescence Efficiency of Europium-Doped Calcium Fluoride \(CaF<sub>2</sub>:Eu\) Single Crystals under X-ray Excitation](#). *Crystals*. 9(5):234.

(Scitations: 11)

- 1) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 2) Gebremichael, W.; Canioni, L.; Petit, Y.; Manek-Hönninger, I. Double-Track Waveguides inside Calcium Fluoride Crystals. *Crystals* **2020**, 10, 109. <https://doi.org/10.3390/cryst10020109>.
- 3) Ito H., Tanaka M., Ono S., (...), Kurosawa S., Yoshikawa A, [Optical Evaluation of Divalent and Trivalent Eu Ions Doped in CaF<sub>2</sub> Crystals Using Multiphoton Luminescence 3D Distribution Measurements](#), *Physica Status Solidi (B) Basic Research*, art. no. 1900477, **2020**, doi: [10.1002/pssb.201900477](https://doi.org/10.1002/pssb.201900477)
- 4) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](#) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 5) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 6) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 7) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](#). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 8) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](#) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 9) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](#), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 10) Johns P. (2022) Radiation Detection Materials Introduction. In: Iniewski K.. (eds) *Advanced Materials for Radiation Detection*. Springer, Cham. [https://doi.org/10.1007/978-3-030-76461-6\\_1](https://doi.org/10.1007/978-3-030-76461-6_1)
- 11) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](#), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

G. Saatsakis, C. Michail, C. Fountzoula, N. Kalyvas, A. Bakas, K. Ninos, G. Fountos, I. Sianoudis, I. Kandarakis, G. S. Panayiotakis and I. Valais, [Fabrication and luminescent properties of Zn-Cu-In-S / ZnS Quantum Dot films under UV excitation](#) (2019) *Applied Sciences*. 9(11): 2367. <https://doi.org/10.3390/app9112367>

(Scitations: 5)

- 1) Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. [Optical Characteristics of ZnCuInS/ZnS \(Core/Shell\) Nanocrystal Flexible Films Under X-Ray Excitation](#). *Crystals* **2019**, 9, 343, <https://doi.org/10.3390/cryst9070343>
- 2) Abdullah, N.R.; Tang, C.-S.; Manolescu, A.; Gudmundsson, V. Manifestation of the Purcell Effect in Current Transport through a Dot-Cavity-QED System. *Nanomaterials* **2019**, 9, 1023.
- 3) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 4) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 5) Lee, S.; Kim, Y.; Kim, J. Solution-Processed NiO as a Hole Injection Layer for Stable Quantum Dot Light-Emitting Diodes. *Appl. Sci.* **2021**, 11, 4422. <https://doi.org/10.3390/app11104422>

#### Publication

**Christos M.Michail, Kyriakos N.Agavanakis, George. E.Karpetas, Nektarios I.Kalyvas, Ioannis G.Valais, Ioannis S.Kandarakis, George S.Panayiotakis, George P.Fountos**, Information Content in Nuclear Medicine Imaging, *Energy Procedia*, Volume 157, 2019, pp. 1517-1524, <https://doi.org/10.1016/j.egypro.2018.11.317>.

(Scitations: 2)

- 1) **Kyriakos N. Agavanakis, George. E. Karpetas, Michael Taylor, Evangelia Pappa, Christos M. Michail, John Filos, Varvara Trachana and Lamprini Kontopoulou**, *Practical machine learning based on cloud computing resources*, *AIP Conference Proceedings* 2019, 2123, 020096, <https://doi.org/10.1063/1.5117023>.
- 2) Apostolopoulos, I.D., Pintelas, E.G., Livieris, I.E. et al. Automatic classification of solitary pulmonary nodules in PET/CT imaging employing transfer learning techniques. *Med Biol Eng Comput* (2021). <https://doi.org/10.1007/s11517-021-02378-y>

## Publication

Saatsakis, G. Kalyvas, N. **Michail**, C. Ninos, K. Bakas, A. Fountzoula, C. Sianoudis, I. Karpetas, G.E. Fountos, G. Kandarakis, I. Valais, I. Panayiotakis, G. **Optical Characteristics of ZnCuInS/ZnS (Core/Shell) Nanocrystal Flexible Films Under X-Ray Excitation**. *Crystals* 2019, 9, 343, <https://doi.org/10.3390/cryst9070343>

(Scitations: 14)

- 1) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, *Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast* (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.
- 2) A. Naifar, N. Zeiri, S. Abdi-Ben Nasrallah, M. Said. Linear and nonlinear optical properties of CdSe/ZnTe core/shell spherical quantum dots embedded in different dielectric matrices, *Photonics and Nanostructures - Fundamentals and Applications*, Volume 40, July 2020, 100789. <https://doi.org/10.1016/j.photonics.2020.100789>
- 3) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658; <https://doi.org/10.1016/j.microrel.2020.113658>
- 4) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, *Poly(Methyl Methacrylate) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion* (2020) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 5) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, *Luminescence efficiency of Cadmium Tungstate (CdWO<sub>4</sub>) single crystal for medical imaging applications*. (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 6) C. Whittaker, J. Giroux, D. Lariviere, C. N. Allen and L. Beaulieu, "Colloidal Quantum Dot-Doped Optical Fibers for Scintillation Dosimetry," in *IEEE Transactions on Nuclear Science*, vol. 67, no. 6, pp. 1040-1044, 2020, doi: 10.1109/TNS.2020.2997668.
- 7) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**. *Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence* (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 8) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 9) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, *Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu*, (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 10) Hosein Moayedi, Soheil Hajibaba, Hossein Afarideh, Mitra Ghergherehchi & Masoumeh Mohamadian (2021) Optimization of Beta Radioluminescent Batteries with Different Radioisotopes: A Theoretical Study, *Nuclear Science and Engineering*, doi: 10.1080/00295639.2020.1848199
- 11) Sosna-Głębska, A.; Szczecińska, N.; Sibiński, M.; Wiosna-Sałyga, G.; Januszewicz, B. Perovskite versus ZnCuInS/ZnS Luminescent Nanoparticles in Wavelength-Shifting Layers for Sensor Applications. *Sensors* 2021, 21, 3165. <https://doi.org/10.3390/s21093165>
- 12) A. Naifar, N. Zeiri, N. Yahyaoui, A. Jbeli, S. Abdi-Ben Nasrallah, M. Said, Effect of nanostructure size and dielectric environment on linear and nonlinear dielectric functions in GaN/AlxGa1-xN core shell quantum dots, *Materials Science and Engineering: B*, Volume 274, 2021, 115463, <https://doi.org/10.1016/j.mseb.2021.115463>.
- 13) Lin, Z., Lv, S., Yang, Z., Qiu, J., Zhou, S., Structured Scintillators for Efficient Radiation Detection. *Adv. Sci.* 2021, 2102439. <https://doi.org/10.1002/advs.202102439>
- 14) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, *On the thermal response of LuAG:Ce single crystals*, *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.



## Publication

George Saatsakis, **Christos Michail**, Christina Fountzoula, Nektarios Kalyvas, Konstantinos Ninos, Athanasios Bakas, Ioannis Sianoudis, Ioannis Kandarakis, George Fountos, George Panayiotakis and Ioannis Valais, [Luminescence Efficiency of Zn-Cu-In-S / ZnS Quantum Dot films](#), *IEEE Xplore* **2019**, 1-4, DOI: [10.1109/DTIS.2019.8734940](https://doi.org/10.1109/DTIS.2019.8734940)

(Scitations: 2)

- 1) **C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet ( $\text{Lu}_3\text{Al}_5\text{O}_{12}:\text{Ce}$ ) with Microelectronic Optical Sensors (**2020**) *Microelectron. Reliab.* 109: 113658 ; <https://doi.org/10.1016/j.microrel.2020.113658>
- 2) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>

## Publication

N. Martini, V. Koukou, G. Fountos, I. Valais, I. Kandarakis, **C. Michail**, A. Bakas, E. Lavdas, K. Ninos, G. Oikonomou, L. Gogou, G. Panayiotakis, [Imaging performance of a  \$\text{CaWO}\_4/\text{CMOS}\$  sensor](#), *Frattura ed Integrità Strutturale*, **2019**, 13(50):471-480. doi: 10.3221/IGF-ESIS.50.39.

(Scitations: 5)

- 1) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 2) George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**, [Luminescence efficiency of  \$\text{CaF}\_2:\text{Eu}\$  single crystals: Temperature dependence](#) (**2020**) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>
- 3) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of  \$\text{CdWO}\_4\$  Crystal. Comparison with  \$\text{CaF}\_2:\text{Eu}\$](#) , (**2020**) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 4) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 5) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of  \$\text{LuAG}:\text{Ce}\$  single crystals](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

## Publication

Kyriakos N. Agavanakis, George. E. Karpetas, Michael Taylor, Evangelia Pappa, Christos M. Michail, John Filos, Varvara Trachana and Lamprini Kontopoulou, [Practical machine learning based on cloud computing resources](#), *AIP Conference Proceedings* **2019**, 2123, 020096, <https://doi.org/10.1063/1.5117023>.

(Scitations: 1)

- 1) Davydov, Viacheslav; Hrebenuk, Daryna. Development of The Methods for Resource Reallocation in Cloud Computing Systems. Innovative Technologies and Scientific Solutions for Industries, [S.l.], n. 3 (13), p. 25-33, Sep. **2020**. ISSN 2524-2296. doi:<http://dx.doi.org/10.30837/ITSSI.2020.13.025>.

## Publication

A. Anastasiou, F. Papastamati, A. Bakas, **C. Michail**, V. Koukou, N. Martini, E. Lavdas, I. Valais, G. Fountos, I. Kandarakis and N. Kalyvas, [Spatial frequency domain analysis of a commercially available digital dental detector](#) (**2020**) *Measur.* 151: 1071712019. <https://doi.org/10.1016/j.measurement.2019.107171>

(Scitations: 2)

- 1) G. Saatsakis, **C. Michail**, C. Fountzoula, A. Bakas, N. Kalyvas, K. Ninos, G. Fountos, I. Kandarakis, I. Valais and G. Panayiotakis, [Poly\(Methyl Methacrylate\) Structure Modification through Zn-Cu-In-S / ZnS Quantum Dot Nanocrystals Dispersion](#) (**2020**) *Procedia Structural Integrity*, 25C pp. 47-54. <https://doi.org/10.1016/j.prostr.2020.04.008>
- 2) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](#), *Procedia Structural Integrity* (**2021**) 33C, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.

## Publication

Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Dual Energy X-ray Methods for the Characterization, Quantification and Imaging of Calcification Minerals and Masses in Breast](https://doi.org/10.3390/cryst10030198) (2020) Review article *Crystals* 10(3):198; <https://doi.org/10.3390/cryst10030198>.

(Scitations: 7)

- 1) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](https://doi.org/10.3390/cryst10060429). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 2) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 3) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](https://doi.org/10.3390/ma14040888), (2021) *Materials* 2021, 14, 888. <https://doi.org/10.3390/ma14040888>
- 4) Niki Martini, Vaia Koukou, **Christos Michail** and George Fountos, [Mineral characterization in human body: A dual energy approach](https://doi.org/10.3390/cryst11040345) (2021) *Crystals* 2021, 11(4), 345; <https://doi.org/10.3390/cryst11040345>.
- 5) Bahaa Ghamraoui, Ahmed Zidan, Alaadin Alayoubi, Aser Zidan and Stephen J Glick, Fabrication of microcalcifications for insertion into phantoms used to evaluate x-ray breast imaging systems, *Biomed. Phys. Eng. Express* 7 (2021) 055021.
- 6) N. Martini, V. Koukou, **C. Michail** and G. Fountos, [Dual energy X-ray method for kidney stones and atherosclerotic plaques structural integrity characterization](https://doi.org/10.1016/j.prostr.2021.10.036), *Procedia Structural Integrity* (2021) 33C, pp. 295-303, doi: <https://doi.org/10.1016/j.prostr.2021.10.036>.
- 7) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

**C. Michail**, K. Ninos, N. Kalyvas, A. Bakas, G. Saatsakis, G. Fountos, I. Sianoudis, G. Panayiotakis, I. Kandarakis and I. Valais, Spectral Efficiency of Lutetium Aluminum Garnet (Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce) with Microelectronic Optical Sensors (2020) *Microelectron. Reliab.* 109: 113658; <https://doi.org/10.1016/j.microrel.2020.113658>

(Scitations: 5)

- 1) **C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](https://doi.org/10.3390/cryst10060429). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>
- 2) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 3) Elizaveta Sergeevna Koshel, Arkhipenko Alexandra Alexandrovna, Baranovskaya Vasilisa Borisovna, Lutetium oxide analysis by direct arc atomic emission spectrometry, *Analitika i kontrol'* [Analytics and Control], 2021, vol. 25, no. 2, pp. 70- 83, doi: 10.15826/analitika.2021.25.2.008
- 4) Iwan, A.; Pellowski, W.; Bogdanowicz, K.A. Conversion of Radiophotoluminescence Irradiation into Electricity in Photovoltaic Cells. A Review of Theoretical Considerations and Practical Solutions. *Energies* 2021, 14, 6186. <https://doi.org/10.3390/en14196186>
- 5) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) 33C, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

**C. Michail**, V. Koukou, N. Martini, G. Saatsakis, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos, G. Panayiotakis and I. Valais, [Luminescence efficiency of Cadmium Tungstate \(CdWO<sub>4</sub>\) single crystal for medical imaging applications](https://doi.org/10.3390/cryst10060429). (2020) *Crystals*. 10(6), 429; <https://doi.org/10.3390/cryst10060429>

(Scitations: 5)

- 1) D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and **C. Michail**, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.
- 2) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>

- 3) Chang Hwy Lim, Jong-Won Park, Junghee Lee, The Change of Collected Light According to Changing of Reflectance and Thickness of CdWO<sub>4</sub> Scintillator for High Energy X-ray Imaging Detection, Journal of the Korea Institute of Information and Communication Engineering, 24(12) 1704-1710, **2020**, <http://doi.org/10.6109/jkiice.2020.24.12.1704>.
- 4) Moseley, O.D.I.; Doherty, T.A.S.; Parmee, R.; Anaya, M.; Stranks, S.D. Halide Perovskites Scintillators: Unique Promise and Current Limitations. *J. Mater. Chem. C* **2021**, doi:10.1039/D1TC01595H.
- 5) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

George Saatsakis, Konstantinos Ninos, Ioannis Valais, Niki Martini, Nektarios Kalyvas, Charilaos Kantsos, Athanasios Bakas, Ioannis Kandarakis, George Panayiotakis, **Christos Michail**, [Luminescence efficiency of CaF<sub>2</sub>:Eu single crystals: Temperature dependence](https://doi.org/10.1016/j.prostr.2020.06.002) (2020) *Procedia Structural Integrity*, 26 pp. 3-10. <https://doi.org/10.1016/j.prostr.2020.06.002>

(Scitations: 5)

- 1) George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>
- 2) Chenxi Peng, Xue Chen, Meiling Chen, Shenci Lu, Yu Wang, Suli Wu, Xiaowang Liu, Wei Huang, "Afterglow Carbon Dots: From Fundamentals to Applications", Research, vol. **2021**, Article ID 6098925, 27 pages, 2021. <https://doi.org/10.34133/2021/6098925>
- 3) Kim, C.; Lee, W.; Melis, A.; Elmughrabi, A.; Lee, K.; Park, C.; Yeom, J.-Y. A Review of Inorganic Scintillation Crystals for Extreme Environments. *Crystals* **2021**, *11*, 669. <https://doi.org/10.3390/cryst11060669>
- 4) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) **33C**, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 5) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

#### Publication

D. Linardatos, A. Konstantinidis, I. Valais, K. Ninos, N. Kalyvas, A. Bakas, I. Kandarakis, G. Fountos and C. Michail, On the optical response of Tellurium activated Zinc Selenide ZnSe:Te single crystal (2020) *Crystals* 10(11), 961; <https://doi.org/10.3390/cryst10110961>.

(Scitations: 3)

- 1) Dionysios Linardatos, Vaia Koukou, Niki Martini, Anastasios Konstantinidis, Athanasios Bakas, George Fountos, Ioannis Valais and **Christos Michail**, [On the Response of a Micro Non-destructive Testing X-ray Detector](https://doi.org/10.3390/ma14040888), (2021) *Materials* 2021, *14*, 888. <https://doi.org/10.3390/ma14040888>
- 2) S. Galkin, I. Rybalka, L. Sidelnikova, A. Voloshinovskii, H. Kraus, V. Mykhaylyk, Performance of ZnSe-based scintillators at low temperatures, Journal of Luminescence, **2021**, 118360, <https://doi.org/10.1016/j.jlumin.2021.118360>.
- 3) V.Ya. Degoda, G.P. Podust, N.Yu. Pavlova, N.V. Martynyuk, Parameters of Deep Traps Responsible for Dark Conductivity of ZnSe Single Crystals, **2021**, Acta Physica Polonica A 140(1):78-83, DOI: 10.12693/APhysPolA.140.78.

#### Publication

George Saatsakis, Dionysios Linardatos, Konstantinos Ninos, Ioannis Valais, Nektarios Kalyvas, Athanasios Bakas, Ioannis Kandarakis, George Fountos, George Panayiotakis and **Christos Michail**, [Temperature Dependence of the Luminescence output of CdWO<sub>4</sub> Crystal. Comparison with CaF<sub>2</sub>:Eu](https://doi.org/10.1016/j.prostr.2020.11.071), (2020) *Procedia Structural Integrity*, 28c pp. 971-977. <https://doi.org/10.1016/j.prostr.2020.11.071>

(Scitations: 2)

- 1) D. Linardatos, V. Koukou, N. Martini, A. Konstantinidis, A. Bakas, G. Fountos, I. Valais, **C. Michail**, [Assessing the Information Content of a Non-Destructive Testing CMOS Imaging Detector](https://doi.org/10.1016/j.prostr.2021.10.037), *Procedia Structural Integrity* (2021) **33C**, pp. 304-311, doi: <https://doi.org/10.1016/j.prostr.2021.10.037>.
- 2) G. Saatsakis, D. Linardatos, G. Karpetas, N. Kalyvas, K. Ninos, A. Bakas, E. Lavdas, G. Fountos, I. Kandarakis, I. Valais and **C. Michail**, [On the thermal response of LuAG:Ce single crystals](https://doi.org/10.1016/j.prostr.2021.10.035), *Procedia Structural Integrity* (2021) **33C**, pp. 287-294, doi: <https://doi.org/10.1016/j.prostr.2021.10.035>.

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