CURRICULUM VITAE

PERSONAL DETAILS

NAME	:	IOANNIS
SURNAME	:	VALAIS
DATE OF BIRTH	:	14.08.1967
NATIONALITY	:	GREEK
FAMILY STATUS	:	Married
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EDUCATION

1986-1991 B.Sc. in Medical Instrumentation, Department of Technology of Medical Instruments of the Technological Educational Institution (T.E.I.) of Athens. Grade: 7.42 “Very Good”.

1987-1989 Scholarship for three consequent years as the second best student in the class.
B.Sc. Thesis: Renal Dialysis Machines. Comparison of various Dialysis machines and statistical presentation of failures.

1991-1992 MSc in Biomedical Engineering, Department of Medical Physics and Bio-Engineering, University of Aberdeen, Scotland, UK.
MSc Thesis: Energy correction in Gamma Cameras.

2005-2008 PhD in Medical Physics, University of Patras, Department of Medicine, Medical School, Patras.
PhD Thesis: Systematic Study of the light emission efficiency and the corresponding intrinsic physical characteristics of single crystal scintillators, doped with the trivalent Cerium (Ce^{3+}) activator, in wide energy range (from 20kV-18MV) for medical applications.

EDUCATIONAL EXPERIENCE

October 1993-December 1993 Lecturer in “Nuclear Tomography” Seminar for unemployed graduates of T.E.I.
Subject: “Acquisition and processing of Nuclear Images”.

October 1995-July 1996 Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments.
Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instruments.

October 1996-July 1997	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instruments.
October 1997-July 1998	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instruments.
October 1998-July 1999	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instruments.
October 1999-July 2000	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instruments.
October 2000-Febr. 2001	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Readiness And Preventive Maintenance of Medical Instrument.
February 2001-Oct. 2009	Laboratory Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratories of Constructions, Readiness and Preventive Maintenance of Medical Instrument.
October 2009-Nov. 2013	Assistant Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Technology of Medical Instruments. Subject: Instructing in the Laboratory of Constructions, Preventive Maintenance and Quality Assurance of Medical Instrument.
November 2013-Today	Associate Professor in Technological Educational Institution (T.E.I.), Athens Dept. of Biomedical Engineering T.E. Subject: Instructing in the Laboratory of Constructions, Optoelectronics & Medical LASER, and Preventive Maintenance & Quality Assurance of Medical Instrument.

SCIENTIFIC WORK

I contributed in the following scientific work

1) Somatostatin Receptor Detection with 111In-Pentetreotide (evaluation of the obtained results), G.S. Limouris *et al*. G.S. Limouris, S.K. Shukla, H.I. Biersak (editors), Radionuclides for Receptors, Meditera, 167-176, 1995.

2) 111In-Pentetreotide/^{99m}Tc-DTPA subtraction scan. A technique for improving imaging of pituitary adenomas. G.S. Limouris *et al*. Eur. J. Nucl. Med., Vol. 22, No. 8 Aug. 1995.

3) Researcher, in EEC supported program with subject: Pulse Oximeter Calibrator 1996-1998.

4) Researcher, in T.E.I. supported program with subject: Development of Hospital Network between Medical Imaging systems, 1997.

5) Researcher, in T.E.I. supported program with subject: Development of High Voltage Generator for Medical Equipment, 1997.

6) Researcher, in T.E.I. supported program with subject: Development of functionality assessment of thyroid gland by controlling the Achilles hamstring response, 1997.

7) Researcher, in Industrial supported program with subject: Software Development in quantification of cardiac systolic function, using gamma camera data, 1999.

8) Researcher, in T.E.I. supported program EPEAEK "Archimidis I" with subject: Investigation of scintillators/phosphors, for use as detectors in medical imaging systems, 2004-2006.

9) Researcher, in T.E.I. supported program EPEAEK "Archimidis II" with subject: Experimental Investigation and Monte Carlo simulation of scintillators/phosphors, for use as detectors in Radiology and in Nuclear Medicine imaging systems, 2005-2007.

10) Researcher, in T.E.I. supported program "Athena 2004" with subject::Simulation of a Breast CT system. Investigation of the effect in image quality of the scintillation material and the reconstruction filter. 2005-2006.

11) Researcher, in T.E.I. supported program "Athena 2004" with subject: Characterization of the skin using optical reflection spectroscopy. Development of a diagnostic method. 2005-2006.

12) Researcher, in the Greek-Ucraine supported program with subject:: Development, modeling and experimental evaluation of scintillators for the optimization of a high resolution imaging system, for tumor detection. 2004-2006.

13) Researcher, in T.E.I. supported program EPEAEK "Archimidis III" with subject: *«Novel applications of x-ray Dual Energy for early diagnosis in Osteoporosis, mammography and angiography»* Acronym: XDualGnosis, Duration:01/09/2011 - 03/04/2014 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.

14) Researcher, in T.E.I. supported program EPEAEK "Archimidis III" with subject: *«Experimental evaluation of new co-doped Scintillator materials for use in Combined Tomographic Imaging Systems.»* Acronym: ScoDo, Duration: 01/09/2011 - 31/08/2013 Research Domain 5. Mathematics, Physics, Chemistry. Research Area LS7; Diagnostic tools, therapies and public health. Primary Field of Research. LS7_1;

15) Researcher, in T.E.I. supported program EPEAEK "Archimidis III" with subject:*«Development of Monte Carlo simulation tool for evaluation of nano-phosphor based X-ray imaging detectors.»* Acronym: NanoCarlo, 01/09/2011 - 31/08/2013 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.

16) Researcher, in T.E.I. supported program «ESPA 2007-2013» «Excellence». Subject: «Medical Image SCIence thRough LUminescence (MISCIRLU project)». Acronym: Miscirlu, Research Domain 6 'Medical Sciences', No of Proposal: 1476

EDITOR / GUEST EDITOR IN SCIENTIFIC JOURNALS

1. e-Journal of Science & Technology, e-JST, 2nd Issue, Vol. 5, 2010,URL: http://e-jst.teiath.gr/dekapente_teuxos.htm
2. e-Journal of Science & Technology, e-JST, 3rd Issue, Vol. 7, 2012,URL: http://e-jst.teiath.gr/eikosiexi_teuxos.htm

3. e-Journal of Science & Technology, e-JST, 3rd Issue, Vol. 9, 2014,URL: http://e-jst.teiath.gr/triantaexi_teuxos.htm
4. e-Journal of Science & Technology, e-JST, 4th Issue, Vol. 9, 2014,URL: http://e-jst.teiath.gr/triantaepta_teuxos.htm

PUBLICATIONS

BOOKS:

J.G. Webster. Medical Instrumentation, Applications and Design. Translation in Greek-Editors: I. Valais, N. Kontodimopoulos, I. Loukos. "ΕΛΛΗΝ", 1st edition 2004, pages 751, ISBN: 960-286-824-4.

INTERNATIONAL SCIENTIFIC JOURNALS

1) C. Hornberger, P. Knoop, W. Nahm, H. Matz, E. Konecny, H. Gehring, R. Bonk, H. Frankenberger, G. Meyfroid, J. Gil-Rodriguez, P. Wouters, L. Ponz, K. Benekos, **I. Valais**, J. Avgerinos, A. Karoutis, A. Ikiades and S. Weininger: A Prototype Device for Standardized Calibration of Pulse Oximeters, Journ. Clin. Monit. and Comp.; 16: 3: 161-169, 2000.

2) C. Hornberger, H. Matz, E. Konecny, H. Frankenberger, R. Bonk, J. Avgerinos, K. Benekos, **I. Valais**, A. Ikiades, J. Gil-Rodriguez, P. Wouters, G. Meyfroid, L. Ponz, H. Gehring: Design and Validation of a Pulse Oxymeter Calibrator. Anesth. Analg.; 94: S8-S12, 2002.

3) P.F. Wouters, H. Gehring, G. Meyfroid, L. Ponz, J. Gil-Rodriguez, C. Hornberger, R. Bonk, H. Frankenberger, K. Benekos, **I. Valais**, J. Avgerinos and E. Konecny: Accuracy of Pulse Oximeters: The European Multi-Center Trial, Anesth. Analg.; 94: S13-S16, 2002.

4) D. Cavouras, I. Kandarakis, D. Nikolopoulos, I.Kalatzis, A. Episkopakis, G. Kagadis, N. Kalivas, D. Linardatos, M. Roussou, E. Nirgianaki, D. Margetis, **I. Valais**, I. Sianoudis, K. Kourkoutas, N. Dimitropoulos, A. Louizi, C. Nomicos, G. Panayiotakis.: Light emission efficiency and imaging performance of $Y_2Al_5O_{12}$: Ce (YAG: Ce) powder screens under diagnostic radiology conditions. Applied Physics B (Lasers and Optics), 80 pp. 1-11, 2005.

5) **I. Valais**, I. Kandarakis, D. Nikolopoulos, I. Sianoudis, N. Dimitropoulos, D. Cavouras, C. Nomicos, G. Panayiotakis.: Luminescence efficiency of Gd_2SiO_5: Ce scintillator under x-ray excitation. IEEE Transactions on Nuclear Science. Vol. 52, No 5, pp. 1830-1835, Oct. 2005.

6) D. Nikolopoulos, **I. Valais**, I. Kandarakis, D. Cavouras, D. Linardatos, I. Sianoudis, A. Louizi, N. Dimitropoulos, D. Vattis, A. Episkopakis, C. Nomicos and G. Panayiotakis Evaluation of GSO:Ce scintillator in the X-ray energy range from 40 to 140 kV for possible applications in medical X-ray imaging. Nucl Inst. Meth. Res. A, 560, pp. 587-583, 2006.

7) **I. Valais**, I. Kandarakis, D. Nikolopoulos, A. Konstantinidis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. Nomicos, G.S. Panayiotakis: Evaluation of light emission efficiency of LYSO: Ce scintillator under x-ray excitation for possible applications in medical imaging, Nucl. Inst. Meth. Res. A, 569 (2), pp. 201-204, 2006.

8) N. Kalivas, **I. Valais**, G. Salemis, C. Karagiannis, A. Konstantinidis, D. Nikolopoulos, G. Loudos, N. Sakelios, N. Karakatsanis, K. Nikita, V.L. Geyshan, A.V. Gektin, I. Sianoudis, N. Giokaris, C,D. Nomicos, N. Dimitropoulos, D. Cavouras, G. Panayiotakis and I. Kandarakis: Imaging properties of cerium doped Ytrium Aluminum Oxide (YAP:Ce) powder scintillating screens under x-ray excitation, Nucl. Inst. Meth. Res. A, 569 (2), pp. 210-214, 2006.

9) D. Nikolopoulos, I Kandarakis, X. Tsantilas, **I. Valais**. D. Kavouras, A. Louizi: Comparative study of the Radiation Detection efficiency of LSO, LuAP, GSO and YAP scintillators for use in positronemission imaging (PET) via Monte-Carlo Methods, Nucl. Inst. Meth. Res. A, 569 (2), pp. 350-354, 2006.

10) N. Karakatsanis, N. Sakellios, X. Tsantilas, N. Dikaios, C. Tsoumpras, K. Nikita, D. Lazaros. G. Loudos, A. Louizi, **I. Valais**, D. Nikolopoulos, J. Malamitsi, I. Kandarakis: A comparative evaluation of two commercial PET scanners using GATE. Nucl. Inst. Meth. Res. A, 569 (2), pp. 368-372, 2006.

11) D. Nikolopoulos, I. Kandarakis, D. Cavouras, **I. Valais**, D. Linardatos, C. Michail, S. David, A. Gaitanis, C. Nomicos, A. Louizi: Investigation of radiation absorption and X-ray fluorescence properties of medical imaging scintillators by Monte Carlo methods. Nucl Inst. Meth. Res. A, 565, pp. 821-832, 2006.

12) **I. Valais**, I. Kandarakis, D. Nikolopoulos, C. Michail, S. David, G. Loudos, D. Cavouras and G.S. Panayiotakis: Luminescence properties of $(Lu,Y)_2SiO_5$:Ce and Gd_2SiO_5:Ce single crystal scintillators under x-ray excitation for use in medical imaging systems. IEEE Transactions on Nuclear Science., vol. 54 (1), Feb. 2007.

13) **I. Valais**, D. Nikolopoulos, N. Kalivas, A. Gaitanis, G. Loudos, I. Sianoudis, N. Giokaris, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, I. Kandarakis and G. S. Panayiotakis: A systematic study of the performance of the CsI:Tl single crystal scintillator under x-ray excitation. Nucl Inst. Meth. Res. A, 571, pp. 343-345, 2007.

14) S. David, C. Michail, **I. Valais**, D. Nikolopoulos, P. Liaparinos, N. Kalivas, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, C.D. Nomicos, I. Kandarakis: Efficiency of Lu_2SiO_5:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions. Nucl Inst. Meth. Res. A, 571, pp. 346-349, 2007.

15) N. Efthimiou, N. Kalivas, G. Patatoukas, A. Konstantinidis, **I. Valais**, D. Nikolopoulos, A. Gaitanis, S. David, C. Michail, G. Loudos, D. Cavouras, G.S. Panayiotakis, I. Kandarakis: Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models. Nucl Inst. Meth. Res. A, 571, pp. 270-273, 2007.

16) A. Karatopis, O. Benekos, E. Efstathopoulos, **I. Valais**, I. Kandarakis, N. Kelekis: Molecular imaging through 1H MRS and MRSI in everyday routine: Improvements in various clinical applications and parameter optimization of spectroscopic imaging sequences. Nucl Inst. Meth. Res. A, 571, pp. 502-505, 2007.

17) 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,: Evaluation of the imaging performance of LSO powder scintillator for use in X-ray mammography. Nucl. Inst. Meth. Res. A, 580, pp. 558-561, 2007.

18) **I. Valais**, S. David, C. Michail, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis, G.S. Panayiotakis: Comparative study of luminescence properties of LuYAP:Ce and LYSO:Ce single crystal scintillators for use in medical imaging. Nucl. Inst. Meth. Res. A, 580, pp. 614-616, 2007.

19) **I. Valais**, D. Nikolopoulos, S. David, C. Michail, P. Liaparinos, I. Kandarakis and G. S. Panayiotakis: Investigation of luminescent properties of LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low energy ¥ -ray excitation used in nuclear imaging. Nucl. Inst. Meth. Res. A, 581, pp. 99-102, 2007.

20) **I. Valais**, C. Michail, S. David, A. Konstantinidis, D. Cavouras I. Kandarakis and G.S. Panayiotakis: Luminescence emission properties of $(Lu,Y)_2SiO_5$:Ce (LYSO:Ce) and $(Lu,Y)AlO_3$:Ce (LuYAP:Ce) single crystal scintillators under medical imaging conditions. IEEE Transactions on Nuclear Science, vol. 55 (2), pp. 785-789, April 2008.

21) **I. Valais**, D. Nikolopoulos, S. David, C. Michail, P. Liaparinos, I. Kandarakis and G. S. Panayiotakis: Investigation of luminescent properties of LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low energy ¥ -ray excitation used in nuclear imaging. Nucl. Inst. Meth. Res. A, 581, pp. 99-102, 2007.

22) **I. Valais**, C. Michail, S. David, A. Konstantinidis, D. Cavouras I. Kandarakis and G.S. Panayiotakis: Luminescence emission properties of $(Lu,Y)_2SiO_5$:Ce (LYSO:Ce) and $(Lu,Y)AlO_3$:Ce (LuYAP:Ce) single crystal scintillators under medical imaging conditions. IEEE Transactions on Nuclear Science, vol. 55 (2), pp. 785-789, April 2008.

23) **I. Valais**, C. Michail, S. David, C.D. Nomicos, G.S. Panayiotakis and I. Kandarakis: 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, vol. 24 (2), 122-125, 2008.

24) S. David, C. Michail, **I. Valais**, A. Toutountzis, P. Liaparinos, D. Cavouras, I. Kandarakis, G.S. Panayiotakis: Investigation of luminescence properties of Lu_2SiO_5:Ce (LSO) powder scintillator in the x-ray radiography energy

range. IEEE Transactions on Nuclear Science, vol. 55 (6), pp 3684-3691, Dec 2008.

25) C. Michail, S. David, A. Toutountzis, **I. Valais**, G.S. Panayiotakis, G. Fountos, (...), Kandarakis, I. "A comparative investigation of Lu2SiO5:Ce and Gd 2O2S:Eu phosphor scintillators for use in a medical imaging detectors". IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings , art. no. 4659934 , pp. 25-28, 2008.

26) **I. Valais**, C. Michail, S. David, G.S. Panayiotakis, G. Fountos, I. Kandarakis and T. Paschalis, "Investigation of the performance of Ce3+ doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions". IST 2008 - IEEE Workshop on Imaging Systems and Techniques Proceedings , art. no. 4659933 , pp. 21-24, 2008.

27) S. David, C. Michail, **I. Valais**, A. Toutountzis, P. Liaparinos, D. Cavouras, I. Kandarakis, G.S. Panayiotakis: Investigation of luminescence properties of Lu_2SiO_5:Ce (LSO) powder scintillator in the x-ray radiography energy range. IEEE Transactions on Nuclear Science, vol. 55 (6), pp 3684-3691, Dec 2008.

28) C. Michail, **I. Valais**, A. Toutountzis, N. Kalivas, G. Fountos, S. David, I. Kandarakis, G.S. Panayiotakis,: Light emission efficiency of Gd_2O_2S:Eu (GOS:Eu) Powder Screens Under X-Ray Mammography Conditions. IEEE Transactions on Nuclear Science, vol. 55 (6), pp 3703-3709, Dec 2008.

29) C. Michail, A. Toutountzis, S. David, N. Kalivas, **I. Valais**, G. Fountos, T. Karambotsos, I. Kandarakis, G.S. Panayiotakis,: Imaging performance and light emission efficiency of Lu_2SiO_5:Ce (LSO:Ce) powder scintillator under x-ray mammographic conditions. Applied Physics B, vol. 95 (1), pp 131-139, April 2009

30) **I.G. Valais**, S. David, C. Michail, C.D. Nomicos, G.S. Panayiotakis and I.S. Kandarakis: "Comparative evaluation of single crystal scintillators under x-ray imaging conditions", JINST 4 P06013, 2009, doi:10.1088/1748-221/4/06/P06013

31) C. Michail, V. Spyropoulou, N. Kalyvas, **I. Valais**, N. Dimitropoulos, G. Fountos, I. Kandarakis and G. Panayiotakis: The influence of software filtering in digital mammography image quality" JINST 4 P05018, 2009, doi:10.1088/1748-0221/4/05/P05018

32) A. Petropoulou, N. Kalyvas, I. Kandarakis, **I. Valais** and G.S. Panayiotakis: "The influence of software filtering in digital mammography image quality" JINST 4 P06016, 2009, doi:10.1088/1748-0221/4/06/P06016

33) N. Kalyvas, **I. Valais**, L. Costaridou, I. Kandarakis, D. Cavouras, C.D. Nomicos and G. Panayiotakis: "Evaluating optical spectral matching of phosphor-photodetector combinations" JINST 4 P07003, 2009, doi:10.1088/1748-0221/4/07/P07003

34) C. M. Michail, G. P. Fountos, S. L. David, **I. G. Valais**, A. E. Toutountzis, N. E. Kalyvas, I. S. Kandarakis, G. S. Panayiotakis, "A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S:Eu powder scintillators for use in x-ray mammography detectors", Meas. Sci. Technol., 20, 104008, 2009.

35) I.G.Valais, C.M. Michail, S.L. David, P.F. Liaparinos, G.P. Fountos, T.V. Paschalis, I.S. Kandarakis, G.S. Panayiotakis: "Comparative Investigation of Ce^{3+} Doped Scintillators in a Wide Range of Photon Energies Covering X-ray CT, Nuclear Medicine and Megavoltage Radiation Therapy Portal Imaging Applications", IEEE Transactions on Nuclear Science, vol. 57 (1), pp 3-7, Feb. 2010.

36) S. David, C. Michail, M. Roussou, E. Nirgianaki, A. Toutountzis**, I. Valais**, G. Fountos, P. Liaparinos, I. Kandarakis, G. Panayiotakis. "Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detectors". IEEE Transactions on Nuclear Science, vol. 57(3), pp 951-957, June 2010

37) C. Michail, G. Fountos, P. Liaparinos, N. Kalyvas, **I. Valais**, G. Panayiotakis. "Light emission efficiency and imaging performance of Gd_2O_2S:Eu powder scintillating screens under x-ray radiography conditions". Med. Phys. 37 (7), July 2010.

38) C. Michail, G. Fountos, **I. Valais,** N. Kalyvas, P. Liaparinos,I. Kandarakis, G. Panayiotakis. "Evaluation of the red emitting Gd_2O_2S: Eu powder scintillator for use in indirect X-ray digital mammography detectors". IEEE Transactions on Nuclear Science vol. 58(5), pp 2503-2511, Feb. 2011..

39) C. M. Michail, V. A. Spyropoulou, G. P. Fountos, N. I. 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 Transactions on Nuclear Science vol. 58(2), pp 314-322, Feb. 2011.

40) **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 Conference Record* , art. no. 6152537 , pp. 2997-3000, 2012

41) N. Kalyvas, C. Michail, G. Fountos, **I. Valais**, P. Liaparinos, I. Seferis, V. Spyropoulou, (...), I. Kandarakis. "Modeling noise properties of a high resolution CMOS detector for X-ray digital mammography", IEEE Nuclear Science Symposium Conference Record , art. no. 6152669 , pp. 2465-2470, 2012.

42) 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" JINST 12 P0712, 2012, accepted for publication 28 Oct.2012.

43) 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, pp. 307-315, 2013

44) C. Michail, N. Kalyvas, **I. Valais**, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis On the response of GdAlO3:Ce powder scintillators, J Lumin. 144,pp. 45-52, 2013.

45) 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 (2013) 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. 144,pp. 45-52, Dec.2013. http://dx.doi.org/10.1016/j.jlumin.2014.02.017

46) 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, accepted in Biomed Research International.

47) N. Kalyvas, **I. Valais**, S. David, C. Michail, G. Fountos, P. Liaparinos and I. Kandarakis (2014) Studying the Energy Dependence of Intrinsic Conversion Efficiency of Single Crystal Scintillators under X-ray Excitation, Optics and Spectroscopy, vol 116(5),pp. 95-99, 2014.

INTERNATIONAL CONGRESSES

1) Hornberger C., Knoop P., Nahm W., Konecny E., Langer D., Sauer N., Gehring H., Bonk R., Frankenberger H., Meyfroid G., Gil-Rodriguez J., Wouters P, Ponz L., Benekos K., **Valais J**., Avgerinos J., and Ikiades A. A New Concept for a Pulse Oximeter Calibrator. Congress of the American Society of Anesthesiologists ASA, 20.10.98 (abstract).

2) Hornberger C., Knoop P., Nahm W., Konecny E., Langer D., Sauer N., Gehring H., Bonk R., Frankenberger H., Meyfroid G., Gil-Rodriguez J., Wouters P, Ponz L., Benekos K., **Valais J.**, Avgerinos J., and Ikiades A. A New Concept for Pulse Oximeter Calibrator. 10^{th} European Congress of Anaesthesiologists ECA, PP-E460.32, Abstracts 1998.

3) E. Moralidis, T. Spyridonidis, G. Arsos, **I. Valais**, P. Tsiklas, W. Martin. Quantitative TL-201 Gated Spect. European Journal of Nuclear Medicine, Vol .27, No. 8, PS. 46, August 2000, pp1022.

4) V. Voliotopoulos, G. S. Limouris, A. Stavraka, I. Ioanovits, D.T. Soutsos, **I. Valais**, L. Kokoves, L. Vlachos. The Use of Preoperative Lymphoscintigraphy and Intraoperative Gamma Probe Guidance in the Diagnosis Sentinel Lymph Node in Malignant Melanoma. Nuclear Oncology Congress, Capri, Italy, 3-4 April 2000.

5) V. Voliotopoulos, G. S. Limouris, F. Scopinaro, O. Schillaci, **I. Valais**, A. Stavraka. The Use of Technetium-99m Human Immunoglobulin (HIG) in the Scintigraphic Detection of Bone Infections. European Radiology,

Suppl.1, Vol.10 (10-076), SS605,449, 2000, European Congress of Radiology (ECR2000), Vienna, Austria, 5-10 March 2000.

6) V. Voliotopoulos, G. S. Limouris, **I. Valais**, L. Vlachos, A. Stavraka-Kakavaki. The Use of Technetium-99m Human Immunoglobulin (HIG) in the Scintigraphic Detection of Bone Infections.Oral Presentation. First Egyptian International Nuclear Medicine Meeting, Hurghada 25-27 Feb. 2000.

7) V. Voliotopoulos, A. Stavraka-Kakavaki, **I. Valais**, I. Ioannovits, L. Vlachos, G.S. Limouris. Sentinel Node Imaging Oral Presentation. First Egyptian International Nuclear Medicine Meeting, Hurghada 25-27 Feb. 2000.

8) M. Roussou, E. Nirgianaki, **I. Valais**, D. Linardatos, D. Margetis, D. Nikolopoulos, A. Episkopakis, P. Mellisaropoulos, I. Sianoudis, N. Dimitropoulos, C.D. Nomicos,G.S. Panayiotakis, D. Cavouras and I. Kandarakis. Evaluation of $Y_3Al_5O_{12}$:Ce (YAG:Ce) Powder Phosphor as X-Ray to Light Converter for Application in Digital Mammography Detectors. Oral Presentation. II Mediterranean Conference on Medical Physics (EFOMP), Limassol, Cyprus 28-30 Apr. 2004.

9) A. Episkopakis, **I. Valais**, M. Roussou, E. Nirgianaki, D. Nikolopoulos, I. Sianoudis, K. Kourkoutas, N. Dimitropoulos, D. Cavouras, C.D. Nomicos and G.S. Panayiotakis. Modeling MTF and DQE of Rare Earth Phosphors for Medical Imaging Applications. Oral Presentation. II Mediterranean Conference on Medical Physics (EFOMP), Limassol, Cyprus 28-30 Apr. 2004.

10) D. Nilokopoulos, P. Liaparinos, D. Cavouras, A. Louizi, **I. Valais** ,G. Panayiotakis, C. Nomikos and I. Kandarakis. Computational Evaluation of Radiation Detection Efficiency of Various Scintillators by the Monte-Carlo Technique. Oral Presentation. II Mediterranean Conference on Medical Physics (EFOMP), Limassol, Cyprus 28-30 Apr. 2004.

11) **I. Valais**, I. Kandarakis, M. Rousou, E. Nirgianaki, D. Nikolopoulos, A. Episkopakis, I. Sianoudis, C.D. Nomicos, N. Kalivas and G.S. Panayiotakis. Evaluating the Luminescence of Gd_2SiO_5:Ce (GSO(Ce)) Single Crystal Scintillator for Medical Imaging Applications Using Absolute Integrating Sphere (AIS) Method. Oral Presentation. II Mediterranean Conference on Medical Physics (EFOMP), Limassol, Cyprus 28-30 Apr. 2004.

12) **I. Valais**, I. Kandarakis, D. Nikolopoulos, A. Episkopakis, I. Sianoudis, N. Dimitropoulos, D. Cavouras, C.D. Nomicos and G.S. Panayiotakis Experimental Investigation of Radiation Detection Characteristics of GSO:Ce Crystal Scintillator. Oral-Poster Presentation. 4th European Symposium on Biomedical Engineering. Patra, Ellas 25-27 Jun 2004.

13) **I. Valais**, D. Nikolopoulos, I. Kandarakis, H. Delis, N. Dimitropoulos, D. Cavouras, C.D. Nomicos and G. Panayiotakis. Evaluation of Gd_2SiO_5:Ce (GSO(Ce)) Single Crystal Scintillator Under Diagnostic X-ray Excitation. Poster presentation. MEDICON 2004, 10th Mediterranean Conference of IFMBE, Naples, Italy 31/7-5/8 2004.

14) P. Liaparinos, I. Kandarakis, D. Cavouras, D. Nikolopoulos, **I. Valais** and G. S. Panayiotakis. Simulating the Emission Efficiency and Resolution Properties of Fluorescent Screens By Monte Carlo Methods. Poster Presentation in Medical Imaging Conference of 2004 IEEE NSS-MIC Conference, Rome 16-22 Oct, 2004.

15) **I. Valais**, I. Kandarakis, D. Nikolopoulos, I. Sianoudis, N. Dimitropoulos, D. Cavouras, C.D. Nomicos and G.S. Panayiotakis.: On the luminescence efficiency of Gd_2SiO_5:Ce scintillator under x-ray excitation. Poster Presentation in Medical Imaging Conference of 2004 IEEE NSS-MIC Conference, Rome 16-22 Oct, 2004.

16) P. Liaparinos, I. Kandarakis, D. Cavouras, **I. Valais** and G. Panayiotakis. Determination of the light parameters within phosphor screens using Mie theory. 1st International Conference on Experiments / Process / System Modelling / Simulation / Optimization, 6-9 July 2005, Athens.

17) **I. Valais**, I. Kandarakis, D. Nikolopoulos, G. Loudos, N. Giokaris, C. Karagiannis, A. Episkopakis, N. Dimitropoulos and G. Panayiotakis. Experimental determination of luminescence emission properties of LYSO: Ce and CsI: Tl single crystal scintillators under UV and x-ray exposures for use in medical imaging. 1st International Conference on Experiments / Process / System Modelling / Simulation / Optimization, 6-9 July 2005, Athens.

18) **I. Valais**, A. Konstantinidis, G. Salemis, D. Nikolopoulos , N. Dimitropoulos, G. Panayiotakis , and I. Kandarakis. Comparative evaluation of cerium doped Ytrium Aluminum Oxide (YAG, YAP) powder phosphor screens for medical imaging applications. 1st International Conference on Experiments / Process / System Modelling / Simulation / Optimization, 6-9 July 2005, Athens.

19) **I. Valais**, A. Konstantinidis, G. Salemis, D. Nikolopoulos , N. Dimitropoulos, G. Panayiotakis , D. Cavouras, and I. Kandarakis. Evaluation of cerium doped Yttrium Aluminum Oxide (YAG and YAP) powder scintillating screens for use in x-ray imaging. 14th International Conference of Medical Physics (IOMP), 14-17 Sept. 2005, Nuremberg, Germany.

20) **I. Valais**, I. Kandarakis, D. Nikolopoulos, G. Loudos, N. Giokaris, C. Karagiannis, A. Episkopakis, and G.S. Panayiotakis. Experimental determination of luminescence emission properties of CsI:Tl, Lu_2SiO_5:Ce (LYSO:Ce) and Gd_2SiO_5:Ce (GSO:Ce) single crystal scintillators under x-ray exposure for use in medical imaging. 14th International Conference of Medical Physics (IOMP), 14-17 Sept. 2005, Nuremberg, Germany.

21) I. Loukos, N. Kontodimopoulos, **I. Valais** and I. Avgerinos. Exploiting educational trends to evolve a laboratory sector of a biomedical engineering degree program. 2005 WSEAS International Conference on Engineering Education, 8-10 July 2005, Vouliagmeni, Athens, Greece.

22) **I. Valais**, I. Kandarakis, A. Konstantinidis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. Nomicos and G.Panayiotakis. Evaluation of light emission efficiency of LYSO: Ce scintillator under x-ray excitation for possible applications in medical imaging. 3rd International Conference on Imaging Technologies in Biomedical Sciences (ITBS2005), 25-28 Sept. 2005, Milos Island, Greece.

23) **I. Valais**, I. Kandarakis, D. Nikolopoulos, I. Sianoudis, G. Loudos, N. Giokaris, K. Nikita, D. Cavouras, N. Dimitropoulos, C. D. Nomicos and G. S. Panayiotakis. Luminescence properties of $LuYSiO_5$: Ce, Gd_2SiO_5: Ce, and CsI: Tl single crystal scintillators under x-ray excitation, for use in medical imaging systems. Poster Presentation in Medical Imaging Conference of 2005 IEEE NSS-MIC Conference, Puerto Rico 23-29 Oct, 2005.

24) **I. Valais**, D. Nikolopoulos, N. Kalivas, A. Gaitanis, G. Loudos, I. Sianoudis, N. Giokaris, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, I. Kandarakis and G. S. Panayiotakis: A systematic study of the performance of the CsI:Tl single crystal scintillator under x-ray excitation, Poster Presentation. 1st European Conference on Molecular Imaging Technology (EUROmedim 2006), 9-12 May 2006, Marseille, France

25) S. David, C. Michail, **I. Valais**, D. Nikolopoulos, P. Liaparinos, N. Kalivas, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, C.D. Nomicos, I. Kandarakis: Efficiency of Lu_2SiO_5:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions, Poster Presentation. 1st European Conference on Molecular Imaging Technology (EUROmedim 2006), 9-12 May 2006, Marseille, France

26) N. Kalivas, A. Konstantinidis, **I. Valais**, D. Nikolopoulos, A. Gaitanis, S. David, C. Michail, G. Loudos, D. Cavouras, K. Kourkoutas, C.D. Nomicos, I. Kandarakis, G.S. Panayiotakis: Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models, Poster Presentation. 1st European Conference on Molecular Imaging Technology (EUROmedim 2006), 9-12 May 2006, Marseille, France.

27) 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,: Evaluation of the imaging performance of LSO powder scintillator for use in X-ray mammography. Poster Presentation. 10th International Symposium on Radiation Physics (ISRP-10), 17-22 September, 2006, Coimbra, Portugal

28) **I. Valais**, S. David, C. Michail, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis, G.S. Panayiotakis: Comparative study of luminescence properties of LYSO and LuYAP single crystal scintillators for use in medical imaging. Poster Presentation. 10th International Symposium on Radiation Physics (ISRP-10), 17-22 September, 2006, Coimbra, Portugal.

29) C. Michail, S. David, **I. Valais**, D. Nikolopoulos, P. Liaparinos, 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_2SiO_5:Ce (LSO) powder phosphor using computational model and experimental techniques. Oral presentation. IC-SCCE 2006, Athens, Greece

30) **I. Valais**, S. David, C. Michail, D. Nikolopoulos, D. Vattis, I. Sianoudis, D. Cavouras, C.D. Nomicos, I. Kandarakis and G.S. Panayiotakis: Comparative study of luminescence properties of Lu_2SiO_5:Ce and $YAlO_3$:Ce single crystal scintillators for use in medical imaging. Poster and Oral presentation. 5th ESBME, 5-7 July, 2006, Patras, Greece.

31) **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 ¥ -ray excitation for nuclear imaging applications. Oral Presentation. European Nuclear Medicine Symposium 2006, 30 Sept.- 4 Oct., 2006, Athens, Greece

32) 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), Oral Presentation. European Nuclear Medicine Symposium 2006, 30 Sept.- 4 Oct., 2006, Athens, Greece.

33) V. Voliotopoulos, C. Antypas, A. Filou-Giougi, E. Pantelis, **I. Valais**, A. Stavraka-Kakavaki: Thyroid cancer radioiodine therapy using recombinant human TSH. Poster Presentation. European Nuclear Medicine Symposium 2006, 30 Sept.- 4 Oct., 2006, Athens, Greece.

34) V. Voliotopoulos, C. Antypas, E. Pantelis, A. Filou-Giougi, **I. Valais**, A. Stavraka-Kakavaki: Radioiodine kinetic after the administration of recombinant human TSH for thyroid cancer therapy. Poster Presentation. European Nuclear Medicine Symposium 2006, 30 Sept.- 4 Oct., 2006, Athens, Greece.

35) V. Voliotopoulos, C. Antypas, E. Pantelis, A. Filou-Giougi, **I. Valais**, A. Stavraka-Kakavaki: Association between Hashimoto thyroiditis and thyroid cancer. Poster Presentation. European Nuclear Medicine Symposium 2006, 30 Sept.- 4 Oct., 2006, Athens, Greece.

36) **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: Investigation of luminescence emission properties of $(Lu,Y)_2SiO_5$:Ce (LYSO:Ce) and $(Lu,Y)AlO_3$:Ce (LuYAP:Ce) single crystal scintillators under x-ray exposure for use in medical imaging. Poster Presentation, N30-152, 2006 IEEE Nuclear Science Symposium (NSS), 30 Oct.- 4 Nov. 2006, San Diego, California, USA.

37) S. David, C. Michail, **I. Valais**, D. Nikolopoulos, N. Kalivas, I. Kalatzis, A. Karatopis, D. Cavouras, G. S. Panayiotakis, I. Kandarakis : Luminescence Efficiency of Lu2SiO5: Ce (LSO) Powder Scintillator for X-Ray Medical Radiography Applications. Poster Presentation, N30-148, 2006 IEEE Nuclear Science Symposium (NSS), 30 Oct.- 4 Nov. 2006, San Diego, California, USA.

38) **I. Valais**, D. Nikolopoulos, S. David, C. Michail, P. Liaparinos, I. Kandarakis and G. S. Panayiotakis: Investigation of luminescent properties of LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low energy ¥ -ray excitation used in nuclear imaging. Poster Presentation, PB45, 2007 11th Vienna Conference on Instrumentation (VCI 2007), 19-24 Feb. 2007, Vienna, Austria.

39) V. Voliotopoulos, V. Gianakopoulos, **I. Valais** and I. Charalabidou : "False negative" results of Tg in patients with DTC (differentiated thyroid carcinoma). Poster Presentation, P342, European Congress of Endocrinology 2007 (ECE 2007), 28 Apr.-2 May 2007, Budapest, Hungary.

40) V. Voliotopoulos, V. Gianakopoulos and **I. Valais** : The incidence of Hashimoto's thyroiditis in the differentiated thyroid carcinoma. Poster Presentation, P343, European Congress of Endocrinology 2007 (ECE 2007), 28 Apr.-2 May 2007, Budapest, Hungary.

41) V. Voliotopoulos, V. Gianakopoulos and **I. Valais** : Thyroid cancer radioidine therapy using recombinant human TSH. Poster Presentation, P344, European Congress of Endocrinology 2007 (ECE 2007), 28 Apr.-2 May 2007, Budapest, Hungary.

42) **I. Valais,** S. David, C. Michail, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis and 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". Oral presentation, 2nd International

Conference on Experiments/Process/System Modelling/Simulation & Optimization (2nd IC-EpsMsO) Athens, 4-7 July, 2007.

43) **I. Valais,** C. Michail, S. David, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis and I. Kandarakis. "Comparative evaluation of scintillators under x-ray imaging conditions". Poster presentation, 4th International Conference Imaging Technologies in Biomedical Sciences (ITBS-2007), Milos, 22-28 September, 2007.

44) N. Kalivas, **I. Valais**, L. Costaridou, I. Kandarakis, D. Cavouras, G.S. Panayiotakis. "Evaluating optical spectral matching of phosphor-photodetector combinations". Poster presentation, 4th International Conference Imaging Technologies in Biomedical Sciences (ITBS-2007), Milos, 22-28 September, 2007.

45) A. Petropoulou, N. Kalivas, I. Kandarakis, **I. Valais** and G.S. Panayiotakis. "A theoretical model for single-crystal scintillators in the diagnostic energy range". Poster presentation, 4th International Conference Imaging Technologies in Biomedical Sciences (ITBS-2007), Milos, 22-28 September, 2007.

46) V. Spyropoulou, C. Michail, I. Kandarakis, **I. Valais**, N. Dimitropoulos, G.S. Panayiotakis. "The influence of software filtering in digital mammography image quality". Poster presentation, 4th International Conference Imaging Technologies in Biomedical Sciences (ITBS-2007), Milos, 22-28 September, 2007.

47) **I. Valais**, S. David, C. Michail, A. Konstantinidis, D. Cavouras, C. D. Nomicos, G. S. Panayiotakis and I. Kandarakis. "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". Poster presentation, 10th EFOMP Congress-First European Conference on Medical Physics, Il Ciocco-Castelvecchio Pascoli (LU), Pisa, Italy, 20-22 Sept. 2007.

48) C. Michail, S. David, A. Toutountzis, N. Kalivas, **I. Valais,** I. Kandarakis and G. S. Panayiotakis. "Theoretical and Experimental Investigation of the Detective Quantum Efficiency (DQE) of LSO:Ce powder scintillator for X-ray Mammography Applications". Poster presentation, 10th EFOMP Congress-First European Conference on Medical Physics, Il Ciocco-Castelvecchio Pascoli (LU), Pisa, Italy, 20-22 Sept. 2007.

49) V. Voliotopoulos, **I. Valais**, M. Margaritaki, V. Gianakopoulos. "Coexistence of Thyroid Carcinoma and Hyperthyroidism". Poster presentation, European Nuclear Medicine Symposium 2007, 13 - 17 October., 2007, Copenhagen, Denmark.

50) **I. Valais**, S. David, C. Michail, G. Fountos, T. Paschalis, G.S. Panayiotakis and I. Kandarakis. "Investigation of the performance of Ce^{3+} doped single crystal scintillators covering radiotherapy and PET/CT imaging conditions". Oral presentation, 2008 IEEE International Workshop on Imaging Systems and Techniques (IST), Chania, Crete, Greece, 10-12 Sept. 2008.

51) C. Michail, G. Fountos, S. David, A. Toutountzis, **I. Valais**, N. Kalivas, I. Kandarakis and G.S. Panayiotakis, "A comparative investigation of Lu_2SiO_5:Ce and Gd2O2S:Eu phosphor scintillators for use in a medical imaging detectors". Oral presentation, 2008 IEEE International Workshop on Imaging Systems and Techniques (IST), Chania, Crete, Greece, 10-12 Sept. 2008.

52) **I. Valais**, C. Michail, S. David, A. Toutountzis, G. Foundos, I. Kandarakis and G.S. Panayiotakis: "A Comparative Investigation of Ce^{3+} Doped Single Crystal Scintillators Covering Radiotherapy and PET/CT Imaging Conditions". Poster presentation, M10-188, 2008 IEEE Medical Imaging Conference (MIC), 19-25 Oct. 2008, Dresden, Germany.

53) S. David, C. Michail, M. Roussou, E. Nirgianaki, A. Toutountzis, N. Kalivas, I. Valais, G. Fountos, I. Kandarakis, G. Panagiotakis "Evaluation of the Luminescence Efficiency of YAG:Ce Powder Scintillating Screens for Use in Digital Mammography Detectors". Poster presentation, M06-205 2008 IEEE Medical Imaging Conference (MIC), 19-25 Oct. 2008, Dresden, Germany.

54) V. Voliotopoulos, M. Margaritaki, V. Gianakopoulos, M. Lamprakos and **I. Valais**. "The use of recombinant Tsh in thyroid cancer iodine therapy in patients with Grave's disease". Poster presentation, 2009 SNM Annual Meeting, 13 - 17 June, 2009, Toronto, Canada.

55) **I. Valais,** P. Xydias. "Detectors for imaging in Radiation Therapy". Invited Speech, 3rd International Conference on Experiments/Process/System Modelling/Simulation & Optimization (3rd IC-EpsMsO) Athens, 8-11 July, 2009.

56) 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 breast tomosynthesis detectors" Oral Presentation, 3rd International Conference on Experiments/Process/System Modelling/Simulation & Optimization (3rd IC-EpsMsO) Athens, 8-11 July, 2009.

57) **I. Valais**, C. Michail, S. David, G. Fountos, C.L. Melcher, T. Paschalis, I. Kandarakis and G.S. Panayiotakis: "Evaluation of the co-doped LSO:Ce,Ca scintillator crystal for Nuclear Medicine imaging applications". Poster Walk Presentation, PW03, 2010 EANM Annual Congress, 9-13 Oct. 2010, Vienna, Austria.

58) S. David, C. Michail, G. Panagiotakis**, I. Valais**, G. Fountos, C. 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", Emerging Radiation Detection Techniques Session, Oral Presentation, IEEE International Conference on Imaging Systems and Techniques (IST 2010), July 1-2, 2010, Thessaloniki, Greece

59) **I. Valais**, G. Fountos, C. Michail, I. Seferis, N. Kalyvas, A. Mytafidis, I. Kandarakis and G.S. Panayiotakis: "Thin Substrate Powder Scintillator Screens for use in Digital X-ray Medical Imaging Applications", Poster presentation, 12M-103 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC), 23-29 Oct. 2011, Valencia, Spain.

60) N. I. Kalyvas, C. Michail, G. Fountos, **I. Valais**, P. Liaparinos, I. Seferis, V. Spyropoulou, A. Mytafidis, G. Panayiotakis, I. Kandarakis. "Modeling Noise Properties of a High Resolution CMOS Detector for X-Ray Digital Mammography", Poster presentation, M9S-79 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC), 23-29 Oct. 2011, Valencia, Spain.

61) 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 Lu2O3:Eu nanophosphor scintillating screen under x-ray radiographic conditions", Poster Presentation, Poster session: Detectors 86683P, SPIE Medical Imaging 2013, February 9, 2013, Lake Buena Vista (Orlando Area), Florida, USA.

62) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

63) 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 GdS:Eu phosphor screens, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

64) 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, Lu2O3:Eu nanophosphor as a candidate for digital medical imaging 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

65) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

66) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

67) P. Sotiropoulou, G. Fountos, N. Martini, V. Koukou, C. Michail, I. Valais, I. Kandarakis and G. Nikiforidis DualEnergy Inverse-Mapping Technique to Estimate Calcium-To-Phosphorous Mass Ratio in Bone Quality Assessment, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

68) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

69) I. Stathopoulos, P. Kortidis, C. Michail, G. Fountos and I. Valais, Quality Assurance Protocols on Diagnostic Ultrasound Equipment, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

70) Nektarios Kalyvas, Liaparinos Panagiotis, Valais Ioannis, Fountos George, Michail Christos, David Stratos and Kandarakis Ioannis, Scintillators in x-ray imaging: the miscirlu project, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

71) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

72) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

73) 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, 2nd International Conference on BioMedical Instrumentation and related Engineering and Physical Sciences, 21 and 22 June 2013, Athens, Greece.

74) 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 Sevila Spain 2013.

75) 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 Gd3Al2Ga3O12:Ce (GAGG:Ce) single crystal under X-ray radiographic conditions, XIII Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 25-28 September Sevila Spain 2013.

76) 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 Sevila Spain 2013.

77) 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 Sevila Spain 2013.

78) 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.

79) 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

80) 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.

81) 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 Lu2O3:Eu nanophosphor scintillating screen coupled to a high resolution CMOS sensor under X-ray radiographic conditions: comparison with Gd2O2S:Eu conventional phosphor screen. Proc. SPIE 9033, Medical Imaging 2014: Physics of Medical Imaging, 9033W (February 15-20, 2014).

82) I. E. Seferis, C. M. Michail, J. Zeler, **I. G. Valais**, P. F. Liararinos, N. I. Kalyvas, G. P. Fountos, A. Bakas, I. S. Kandarakis, E. Zych, X-ray efficiency of LuPO4:Eu nanophosphor screens, 15th International Meeting on Chemical Sensors (IMCS), March 16-19 2014 Buenos Aires, Argentina.

LIST OF CITATIONS (91 – h index 7 - Scopus)

[1] Luminescence emission properties of (Lu, Y)2SiO5:Ce (LYSO:Ce) and (Lu, Y)AlO3: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), art. no. 4484243, pp. 785-789 (4)

(Αναφορές: 20)

1) X-ray spectrometry Tsuji, K., Nakano, K., Takahashi, Y., Hayashi, K., Ro, C.-U. **2010** *Analytical Chemistry* 82 (12), pp. 4950-4987
2) Comparative investigation of Ce^{3+} 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
3) 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
4) 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
5) Lu_2SiO_5: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
6) Structural characterization of $Lu_{0.7}Y_{0.3}AlO_3$ single crystal by Raman spectroscopy Casu, A., Ricci, P.C., Anedda, A. **2009** *Journal of Raman Spectroscopy* 40 (9), pp. 1224-1228
7) Investigation of the performance of Ce^{3+} 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
8) 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
9) A comparative investigation of Ce^{3+} 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
10) Light emission efficiency of Gd_2O_2S: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
11) 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 Moinelo, Samuel España Palomares, Grupo de Fisica Nuclear, Departmento de Fisica Atomica, Molecular Y Nuclear, Falcultad de Ciencias Fisicas, Universitad Complutense de Madrid, Fecha, **2008**.
12) Raman and structural characterization of $LuAlO_3$, Alberto Casua**,** Pier Carlo Ricci, Journal of Solid State Chemistry, Vol. 184(11), **2011**, pp. 3028-3033

13) 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**)
14) 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.
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) Elisa Papa, Dr Andrei Nomerotski, Positron emission tomography with silicon photomultipliers, University of Oxford, Department of Physics, **2009**.
17) M. Aburto-Crespo, G.A. Hirata, J. McKittrick, Synthesis and characterization of $(Lu_{1-x-y}Y_xCe_y)_2SiO_5$ luminescent powders with fast decay time, Journal of Luminescence (**2012**)
18) G. E. Karpetas, C. M. Michail, G. P. Fountos, P. N. Valsamaki, I. S. Kandarakis, G. S. Panayiotakis, (**2013**) Positron Emission Tomography (PET) scanners performance assessment with Monte Carlo methods, Hell J Nucl Med.
19) On the response of GdAlO3:Ce powder scintillatorsC. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13
20) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013

[2] Light emission efficiency and imaging properties of YAP:Ce granular phosphor screens
Kalivas, N., Valais, I., Nikolopoulos, D., Konstantinidis, A., Gaitanis, A., Cavouras, D., Nomicos, C.D., (...), Kandarakis, I. 2007 Applied Physics A: Materials Science and Processing 89 (2), pp. 443-449
(Αναφορές: 5)

1) 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
2) Investigation of luminescence properties of Lu2SiO 5: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) Core-shell nanostructured nanopowders along (CeOx) x(Al2O3)1-x tie-line by liquid-feed flame spray pyrolysis (LF-FSP)
Kim, M., Hinklin, T.R., Laine, R.M. 2008 Chemistry of Materials 20 (16), pp. 5154-5162
4) Luminescence emission properties of (Lu, Y)2SiO5:Ce (LYSO:Ce) and (Lu, Y)AlO3: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), art. no. 4484243, pp. 785-789
5) On the response of GdAlO3:Ce powder scintillators
C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13

[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
(Αναφορές: 12)

1) A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S: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) Imaging performance and light emission efficiency of Lu_2SiO_5: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
3) A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S: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
4) Investigation of luminescence properties of Lu_2SiO_5: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
5) R.K. Gartia a, Th. Tejkumar Singh a, Th. Basanta Singh Optically stimulated luminescence (OSL) of Lu2SiO5:Ce powder: A preliminary study, *Nuclear Instruments and Methods in Physics Research B* 269 (**2011**) 30-33
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) 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_2O_2S:Eu powder scintillator for use in indirect X-ray digital mammography detectors, *IEEE Trans. Nucl. Sci*. 58(5):2503-2511.
8) 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**
9) **C. Michail**, S. David, A. Toutountzis, I. Valais, G.S. Panayiotakis G. Fountos, N. Kalivas, I. Kandarakis, A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S: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.
10) 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*
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

[4] Efficiency of Lu2SiO5:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions
David, S., Michail, C., Valais, I., Nikolopoulos, D., Liaparinos, P., Kalivas, N., Kalatzis, I., (...), Panayiotakis, G.S. 2007 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 571 (1-2 SPEC. ISS.), pp. 346-349 (5)

(Αναφορές: 15)

1) 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. 951-95
2) A comparative investigation of Lu2SiO5:Ce and Gd2O2S: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
3) Imaging performance and light emission efficiency of Lu_2SiO_5: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
4) A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S: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) Investigation of luminescence properties of Lu_2SiO_5: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
7) 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
8) 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**.
9) 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**
10) 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**.
11) 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.**
12) 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.
13) **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**.
14) **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^{th} EFOMP European Federation of Organisations for Medical Physics Pisa, Italy 20-22/9/**2007,** P3-18.
15) 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*

[5] Luminescence properties of (Lu, Y)2SiO5: Ce and Gd2SiO5: Ce single crystal scintillators under X-ray excitation for use in medical imaging systems
Valais, I.G., Kandarakis, I.S., Nikolopoulos, D.N., Michail, C.M., David, S.L., Loudos, G.K., Cavouras, D.A., Panayiotakis, G.S. 2007 IEEE Transactions on Nuclear Science 54 (1), pp. 11-18 (4)
(Αναφορές: 17)

1) Comparative investigation of Ce^{3+} 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
2) 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** *Journal of Instrumentation* 4 (6), art. no. P06016
3) 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** *Journal of Instrumentation* 4 (6)
4) Lu_2SiO_5: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

5) Investigation of the performance of Ce^{3+} 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
6) A comparative investigation of Ce^{3+} 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
7) Luminescence emission properties of $(Lu,Y)_2SiO_5$:Ce (LYSO:Ce) and $(Lu,Y)AlO_3$: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*
8) 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
9) Systematic study of the light emission efficiency and the corresponding intrinsic physical characteristics of single crystal scintillators, doped with the trivalent cerium (Ce3+) activator, in wide energy range (from 20kV-18MV) for medical applications, I Valais, PhD Thesis, University of Patras, Greece, **2008**.
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) 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
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 Mn2+ via Ce3+ Mn2+ energy transfer in α-Sr2P2O7, OPTICS EXPRESS **2012** 20(27), 28969.
14) Tapan K. Gupta Device Fabrication (Scintillators/Radiation Detectors) Radiation, Ionization, and Detection in Nuclear Medicine **2013**, pp 315-365.
15) Light output simulation of LYSO single crystal. Zafar U. Usubov, arXiv:1305.3010v [physics.ins-det] 14 May **2013**.
16) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013.
17) 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.

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

(Αναφορές: 2)

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.

[7] Comparative study using Monte Carlo methods of the radiation detection efficiency of LSO, LuAP, GSO and YAP scintillators for use in positron emission imaging (PET)
Nikolopoulos, D., Kandarakis, I., Tsantilas, X., Valais, I., Cavouras, D., Louizi, A. 2006 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 569 (2 SPEC. ISS.), pp. 350-354

(Αναφορές: 3)

1) Genetic analysis of the accompanying of (Lu,Y)3Al5O12:Ce in LuxY1-xAlO3:Ce single crystals
   Ding, D.-Z., Lu, S., Pan, S.-K., Zhang, W.-D., Wang, G.-D., Ren, G.-H. **2008** Wuji Cailiao Xuebao/Journal of Inorganic Materials 23 (3), pp. 434-438
2) Spectroscopic Properties of Ce:YAP Scintillation Crystal Grown by Temperature Gradient Technique
   Hongiun, L., Guangjun, Z., Liangbi, S., Yunxia, J., Guoqing, Z., Jun, X. **2007** Journal of Rare Earths 25 (5), pp. 596-600
3) A GATE Simulation Study of the Siemens Biograph DUO PET/CT System
   D. Nikolopoulos, S. Kottou, N. Chatzisavvas, X. Argyriou, E. Vlamakis, P. Yannakopoulos, A. Louizi, (**2013**) OJRad. Vol.3 (2), pp.56-65, DOI: 10.4236/ojrad.2013.32009

[8] Evaluation of the light emission efficiency of LYSO:Ce scintillator under X-ray excitation for possible applications in medical imaging
Valais, I.G., Kandarakis, I.S., Konstantinidis, A., Nikolopoulos, D.N., Sianoudis, I., Cavouras, D.A., Dimitropoulos, N., (...), Panayiotakis, G.S. 2006 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 569 (2 SPEC. ISS.), pp. 201-204
(Αναφορές: 6)

1) The micro-imaging station of the TopoTomo beamline at the ANKA synchrotron light source
   Rack, A., Weitkamp, T., Bauer Trabelsi, S., Modregger, P., Cecilia, A., dos Santos Rolo, T., Rack, T., (...), Baumbach, T. **2009** Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms 267 (11), pp. 1978-1988
2) Development of a type of a one-dimensional position-sensitive scintillator-fiber detector for X-ray backscatter imaging
   Sun, G., Chen, X., Wei, L., Ma, C., Zhang, T., Li, K., Li, D., (...), Shuai, L. **2008** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 594 (1), pp. 61-65
3) 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
   Valais, I., Michail, C., David, S., Nomicos, C.D., Panayiotakis, G.S., Kandarakis, I. **2008** Physica Medica 24 (2), pp. 122-125
4) High resolution synchrotron-based radiography and tomography using hard X-rays at the BAMline (BESSY II)
   Rack, A., Zabler, S., Müller, B.R., Riesemeier, H., Weidemann, G., Lange, A., Goebbels, J., (...), Görner, W. **2008** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 586 (2), pp. 327-344
5) Measurement of ultimate tensile strength and Young modulus in LYSO scintillating crystals.
   Scalise, L., Rinaldi, D., Davì, F., Paone, N., 2011. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 654 (1), **2011,** pp. 122 – 126.
6) High resolution phoswich gamma-ray imager utilizing monolithic MPPC arrays with submillimeter pixelized crystals
   T Kato, J Kataoka, T Nakamori, A Kishimoto, S Yamamoto, K Sato, Y Ishikawa, K Yamamura, N Kawabata, H Ikeda and K Kamada, **2013** JINST, vol.8 P05022 doi:10.1088/1748-0221/8/05/P05022.

[9] Imaging properties of cerium doped Yttrium Aluminum Oxide (YAP:Ce) powder scintillating screens under X-ray excitation
Kalivas, N., Valais, I., Salemis, G., Karagiannis, C., Konstantinidis, A., Nikolopoulos, D., Loudos, G., (...), Kandarakis, I. 2006 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 569 (2 SPEC. ISS.), pp. 210-214
(Αναφορές: 4)

1) Light emission efficiency of Gd2O2S: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
2) Light emission efficiency and imaging properties of YAP:Ce granular phosphor screens
   Kalivas, N., Valais, I., Nikolopoulos, D., Konstantinidis, A., Gaitanis, A., Cavouras, D., Nomicos, C.D., (...), Kandarakis, I. **2007** Applied Physics A: Materials Science and Processing 89 (2), pp. 443-449

3) Optical properties of Tb and Eu doped cubic YAlO3 phosphors synthesized by sol–gel method
G. Zatryb, A. Podhorodecki, J. Serafińczuk, M. Motyka, M. Banski, J. Misiewicz, N.V. Gaponenko, (**2013**)) Optical Materials, in press
4) On the response of GdAlO3:Ce powder scintillators
C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13

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

1) Research progress of $(Y, Gd)_2O_3$: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.

[11] Evaluation of the GSO:Ce scintillator in the X-ray energy range from 40 to 140 kV for possible applications in medical X-ray imaging
Nikolopoulos, D., Valais, I., Kandarakis, I., Cavouras, D., Linardatos, D., Sianoudis, I., Louizi, A., (...), Panayiotakis, G. 2006 Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 560 (2), pp. 577-583
(Αναφορές: 2)

1) Design of an instrument to measure optical reflectance of scintillating crystal surfaces
Janecek, M., Moses, W.W. **2008** IEEE Transactions on Nuclear Science 55 (3), art. no. 4545138, pp. 1381-1386
1. Reverse-type avalanche photodiode for scintillation detection and intrinsic energy resolution of BGO and GSO:Ce
Sato, M., Yanagida, T., Yoshikawa, A., Yatsu, Y., Kataoka, J., Ishikawa, Y., Saito, F. **2007** IEEE Nuclear Science Symposium Conference Record 3, art. no. 4436550, pp. 2023-2032

[12] A theoretical model evaluating the angular distribution of luminescence emission in X-ray scintillating screens
Kandarakis, I., Cavouras, D., Nikolopoulos, D., Episkopakis, A., Kalivas, N., Liaparinos, P., Valais, I., (...), Panayiotakis, G. 2006 Applied Radiation and Isotopes 64 (4), pp. 508-519
(Αναφορές: 3)

1. Investigation of luminescence properties of Lu2SiO 5: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
2. Design and characterization of the I-ImaS multi-element X-ray detector system
Griffith, J.A., Metaxas, M.G., Royle, G.J., Venanzi, C., Esbrand, C., Cavouras, D., Fant, A., (...), Speller, R.D. **2008** IEEE Transactions on Nuclear Science 55 (3), art. no. 4545127, pp. 827-832
3. Light emission efficiency and imaging properties of YAP:Ce granular phosphor screens
Kalivas, N., Valais, I., Nikolopoulos, D., Konstantinidis, A., Gaitanis, A., Cavouras, D., Nomicos, C.D., (...), Kandarakis, I. **2007** Applied Physics A: Materials Science and Processing 89 (2), pp. 443-449

[13] Luminescence efficiency of Gd2SiO5:Ce scintillator under X-ray excitation
Valais, I.G., Kandarakis, I.S., Nikolopoulos, D.N., Sianoudis, I.A., Dimitropoulos, N., Cavouras, D.A., Nomicos, C.D., Panayiotakis, G.S. 2005 IEEE Transactions on Nuclear Science 52 (5 III), pp. 1830-1835
(Αναφορές: 16)

1) Light emission efficiency of Gd2O2S: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
2) Investigation of luminescence properties of Lu2SiO 5: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) 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
   Valais, I., Michail, C., David, S., Nomicos, C.D., Panayiotakis, G.S., Kandarakis, I. **2008** Physica Medica 24 (2), pp. 122-125
4) Luminescence emission properties of (Lu, Y)2SiO5:Ce (LYSO:Ce) and (Lu, Y)AlO3: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), art. no. 4484243, pp. 785-789
5) Growth and spectral properties of Er:Gd2SiO5 crystal
   Xu, X., Zhao, G., Wu, F., Xu, W., Zong, Y., Wang, X., Zhao, Z., (...), Xu, J. **2008** Journal of Crystal Growth 310 (1), pp. 156-159
6) Basic experiments on radiation imaging by using Pr:Lu3Al 5O12 (LuAG) small crystalline pixels with various reflector
   Kamada, K., Tsutsumi, K., Suzuki, C., Usuki, Y., Yanagida, T., Yoshikawa, A., Yamamoto, S., Saito, F. **2007** IEEE Nuclear Science Symposium Conference Record 2, art. no. 4437265, pp. 1417-1420
7) Luminescence efficiency of Lu2SiO5:Ce (LSO) powder scintillator for X-ray medical radiography applications
   David, S., Michail, C., Valais, I., Nikolopoulos, D., Kalivas, N., Kalatzis, I., Karatopis, A., (...), Kandarakis, I. **2007** IEEE Nuclear Science Symposium Conference Record 2, art. no. 4179208, pp. 1178-1182
8) Investigation of luminescent properties of LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low-energy γ-ray excitation used in nuclear imaging
   Valais, I., David, S., Michail, C., Konstantinidis, A., Kandarakis, I., Panayiotakis, G.S. **2007** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 581 (1-2 SPEC. ISS.), pp. 99-102
9) Comparative study of luminescence properties of LuYAP:Ce and LYSO:Ce single-crystal scintillators for use in medical imaging
   Valais, I., David, S., Michail, C., Nikolopoulos, D., Liaparinos, P., Cavouras, D., Kandarakis, I., Panayiotakis, G.S. **2007** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 580 (1 SPEC. ISS.), pp. 614-616
10) A systematic study of the performance of the CsI:Tl single-crystal scintillator under X-ray excitation
    Valais, I., Nikolopoulos, D., Kalivas, N., Gaitanis, A., Loudos, G., Sianoudis, I., Giokaris, N., (...), Panayiotakis, G.S. **2007** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 571 (1-2 SPEC. ISS.), pp. 343-345
11) Luminescence properties of (Lu, Y)2SiO5: Ce and Gd2SiO5: Ce single crystal scintillators under X-ray excitation for use in medical imaging systems
    Valais, I.G., Kandarakis, I.S., Nikolopoulos, D.N., Michail, C.M., David, S.L., Loudos, G.K., Cavouras, D.A., Panayiotakis, G.S. **2007** IEEE Transactions on Nuclear Science 54 (1), pp. 11-18
12) Efficiency of Lu2SiO5:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions
    David, S., Michail, C., Valais, I., Nikolopoulos, D., Liaparinos, P., Kalivas, N., Kalatzis, I., (...), Panayiotakis, G.S. **2007** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 571 (1-2 SPEC. ISS.), pp. 346-349
13) Comparative study using Monte Carlo methods of the radiation detection efficiency of LSO, LuAP, GSO and YAP scintillators for use in positron emission imaging (PET)
    Nikolopoulos, D., Kandarakis, I., Tsantilas, X., Valais, I., Cavouras, D., Louizi, A. **2006** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 569 (2 SPEC. ISS.), pp. 350-354
14) Evaluation of the light emission efficiency of LYSO:Ce scintillator under X-ray excitation for possible applications in medical imaging
    Valais, I.G., Kandarakis, I.S., Konstantinidis, A., Nikolopoulos, D.N., Sianoudis, I., Cavouras, D.A., Dimitropoulos, N., (...), Panayiotakis, G.S. **2006** Nuclear Instruments and Methods in Physics Research,

Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 569 (2 SPEC. ISS.), pp. 201-204

15) Evaluation of the GSO:Ce scintillator in the X-ray energy range from 40 to 140 kV for possible applications in medical X-ray imaging
Nikolopoulos, D., Valais, I., Kandarakis, I., Cavouras, D., Linardatos, D., Sianoudis, I., Louizi, A., (...), Panayiotakis, G. **2006** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 560 (2), pp. 577-583
16) Structural and Optical Properties of Gd2SiO5 prepared from hydrothermally synthesized powder.S. Shinde, M. Ghosh, S.G. Singh, S. Sen, S.C. Gadkari and S.K. Gupta, **2013**, Journal of Alloys and Compounds, doi: http://dx.doi.org/10.1016/j.jallcom.2013.12.160

[14] Simulating the emission efficiency and resolution properties of fluorescent screens by Monte Carlo Methods Liaparinos, P.F., Kandarakis, I.S., Cavouras, D.A., Nikolopoulos, D.N., Valais, I.G., Panayiotakis, G.S. 2004 IEEE Nuclear Science Symposium Conference Record 2, pp. 874-878
(Αναφορές: 2)

1) Simulation study of the role played by intensifying or support layers in scintillation screens
Pistrui-Maximean, S.A., Freud, N., Létang, J.M., Walenta, A.H., Koch, A., Montarou, G., Babot, D. **2007** IEEE Transactions on Nuclear Science 54 (3), pp. 699-705
2) Finding an improved amorphous-silicon x-ray flat-panel detector configuration for the in-line geometry, M. F. Fast, A. Teymurazyan, G. Pang, U. Oelfke and J. A. Rowlands. Phys. Med. Biol. 58(7), 2305-24, **2013**. doi:10.1088/0031-9155/58/7/2305

[15] A systematic study of the performance of the CsI:Tl single-crystal scintillator under X-ray excitation Valais, I., Nikolopoulos, D.,Kalivas, N., Gaitanis, A.,Loudos, G., Sianoudis, I.,Giokaris, N., (...),Panayiotakis, G.S. 2007 *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 571 (1-2 SPEC. ISS.), pp. 343-345
(Αναφορές: 2)

1) Pulse height and timing characteristics of CsI(Tl)-Si(PIN) detector for γ-rays and fission fragments
Gupta, Y.K. , Biswas, D.C., Roy, P., Nayak, B.K., Thomas, R.G., Inkar, A.L., Vind, R.P., John, B., Saxena, A., Choudhury, R.K. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment Volume 629, Issue 1, 11 February **2011**, pp. 149-153
2) On the spectroscopic properties of highly doped CsI(Tl) scintillators.
Cruceru, M., Cruceru, I., Duliu, O.G., **2011**, Romanian Reports on Physics 63 (3), pp. 693-699

[16] 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.
(Αναφορές: 3)

1) Property of YAG: Ce phosphors powder prepared by mixed solvothermal method
Jia, N.,Zhang, X.,He, W.,Hu, W.,Meng, X.,Du, Y.,Jiang, J.,Du, Y. (**2011**)Journal of Alloys and Compounds, 509 (5) , pp. 1848-1853.
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) Cerium-Doped Yttrium Aluminum Garnet Hollow Shell Phosphors Synthesized via the Kirkendall Effect. M.J. Kim, J.H. Park, K.Y. Lee, S. Lee, G.S. Han, H.J. Song, H. Shin,T.K. Ahn, H.S. Jung. (**2013**), ACS Appl. Mater. Interfaces, DOI: 10.1021/am404809s

[17] Light emission efficiency and imaging performance of Gd2O 2S: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.

(Αναφορές: 11)

1) Geometrical MTF computation method based on the irradiance model, Lin P.-D., Liu C.-S., Appl Phys B (**2011**) 102: 243-249.
2) Thermally stimulated luminescence of polycrystalline $CdWO_4$ 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.
3) Light collection enhancement of the digital X-ray detector using Gd2S2: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.
4) N. Kalyvas, P. Liaparinos, **C. Michail**, S. David, G. Fountos, M.Wojtowicz and I. Kandarakis **(2012)** Studying the luminescence efficiency of Lu_2O_3:Eu nano-phosphor material for digital X-ray imaging applications, *Appl Phys A* 106:131-136.
5) 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**.
6) 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.**
7) G. E. Karpetas, C. M. Michail, G. P. Fountos, P. N. Valsamaki, I. S. Kandarakis, G. S. Panayiotakis, (**2013**) Positron Emission Tomography (PET) scanners performance assessment with Monte Carlo methods, Hell J Nucl Med.
8) Ι. Σεφέρης, Ν. Καλύβας, Ι. Βαλαής, **Χ. Μιχαήλ**, Π. Λιαπαρίνος, Γ. Φούντος, Ι. Κανδαράκης, Γ. Παναγιωτάκης, Φωταύγεια νανοϋλικων: Μελέτη του νανο-φωσφόρου Lu_2O_3:Eu για εφαρμογές ιατρικής απεικόνισης, 5th Panhellenic Conference on Biomedical Technology, Athens, Greece, 4-6 April **2013.**
9) Light emission efficiency of Lu_2O_3: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) On the response of GdAlO3:Ce powder scintillators.
C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13
11) The Fabrication of Monoclinic Gd_2O_3 Transparent Microspheres and Scintillator Array via Laser Heating. Hui, Y., Sun, X. , Chen, J. , Li, X. , Huo, D. , Liu, S. , Zhu, Q. , Zhang, M. and Li, J.-G. (**2013**), IEEE Transactions on Nuclear Science, Volume PP, Issue 99 Nov. 2013, DOI 10.1109/TNS.2013.2280699, pp 1-6.

[18] 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

Valais, I., Michail, C., David, S., Nomicos, C.D., Panayiotakis, G.S., Kandarakis, I. (2008) *Physica Medica*, 24 (2), pp. 122-125.

(Αναφορές: 6)

1) Performance of a 511 kev gamma-ray imager using a LYSO (Ce) crystal array with wavelength shifter
Aogaki, S., Takeutchi, F IEEE Transactions on Nuclear Science, Volume 57, Issue 3 PART 2, June **2010**, Article number 5485103, pp 1502-1511
2) Measurement technology for multi-parameter spectral responsivity of X-ray scintillation cr crystals
Li, R.-H., Han, Y.-P., Zhou, H.-C., Han, Y., Guang Pu Xue Yu Guang Pu Fen Xi Spectroscopy and Spectral Analysis**, 2010**, 30 (8) , pp. 2184-2186
3) Evaluation of the co-doped LSO:Ce,Ca scintillator crystal in the X-ray energy range from 50 to 140kVp for medical imaging applications

David Stratos, Michail Christos, George Patatoukas, Valais Ioannis, Fountos George *et al*., 2010 IEEE International Conference on Imaging Systems and Techniques, IST **2010** - Proceedings , art. no. 5548542 , pp. 253-255.

4) Cristaux et céramiques transparentes comme matériaux scintillateurs pour l'imagerie médicale B. Viana, UVX **2010** (2011) pp.153–159. DOI: 10.1051/uvx/2011021
5) Structural and Optical Properties of Gd2SiO5 prepared from hydrothermally synthesized powder. S. Shinde, M. Ghosh, S.G. Singh, S. Sen, S.C. Gadkari and S.K. Gupta, **2013**, Journal of Alloys and Compounds, doi: http://dx.doi.org/10.1016/j.jallcom.2013.12.160
6) Evaluation of the detection efficiency of LYSO scintillator in the fiber-optic radiation sensor. C.H. Park, A. Lee, R. Kim, J.H. Moon **2014**,

[19] Investigation of luminescent properties of LSO:Ce, LYSO:Ce and GSO:Ce crystal scintillators under low energy ¥ -ray excitation used in nuclear imaging.

Valais I, D., David, S. Michail C., Konstantinidis A., Kandarakis I. and Panayiotakis G. S.,(2007) Nucl. Inst. Meth. Phys. Res. A, 581, pp. 99-102.

(Αναφορές: 5)

1. Simulating gamma-ray energy resolution in scintillators due to electron-hole pair statistics. Narayan, R.D., Miranda, R., Rez, P., Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms 269, issue 22, **2011**, pp. 2667 – 2675
2. The Effect of Material Properties on Energy Resolution in Gamma-ray Detectors, Narayan, R.D ,(PhD Thesis), Approved March 2011, ARIZONA STATE UNIVERSITY May 2011.
3. Investigation of the performance of SiPM sensors with LiF-loaded ZnS scintillator for neutron detection
   Froso M. ,(PhD Thesis), Department of Physics Faculty of Engineering and Physical Sciences University of Surrey, Aug. **2010**
4. Synthesis and characterization of (Lu1 x yYxCey)2SiO5 luminescent powders with fast decay time,Aburto-Crespo M., Hirata G.A. and McKittrick J. **2012** Journal of Luminescence, http://dx.doi.org/10.1016/j.jlumin.2012.11.020
5. Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013

[19] A comparative investigation of Lu2SiO5:Ce and Gd 2O2S: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), doi: 10.1088/0957-0233/20/10/104008.

(Αναφορές: 13)

1) Light emission efficiency and imaging performance of Gd_2O_2S: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) 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) Z. Marton, H. B. Bhandari, C. Brecher, S.R. Miller, B. Singh, V.V. Nagarkar, Fabrication of high-resolution Lu_2O_3:Eu X-ray Scintillator by Physical Vapor deposition, IEEE Trans. Nucl. Sci. PP(99), (**2013**).
7) Light emission efficiency of Lu_2O_3: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.
8) On the response of GdAlO3:Ce powder scintillators. C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13
9) 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.
10) 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**.
11) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, **2013**
12) 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 Gd3Al2Ga3O12: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.
13) 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.

[20] Light emission efficiency of Gd2O2S: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. doi: 10.1109/TNS.2008.2007562

(Αναφορές: 12)

1) 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
2) Light emission efficiency and imaging performance of Gd_2O_2S: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
3) A comparative investigation of Lu_2SiO_5:Ce and Gd_2O_2S: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
4) Cathodoluminescence degradation of PLD thin films, Swart H.C., Coetsee E., Terblans J.J., Ntwaeaborwa 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^{3+} into Different Positions in the $BaHfO_3$ Host and its Spectroscopic Consequences, Chem. Mater. **2010**, 22, 4652-4659
6) 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**.
7) 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**.
8) **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_2O_2S:Eu powder scintillator for use in indirect X-ray digital mammography detectors, *IEEE Trans. Nucl. Sci*. 58(5):2503-2511.
9) 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.

10) On the response of GdAlO3:Ce powder scintillators. C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13.
11) 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.
12) 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.

[21] Experimental and theoretical evaluation of a high resolution CMOS based detector under X-ray imaging conditions
C. M. Michail, V. A. Spyropoulou, G. P. Fountos, N. I. Kalyvas, **I. G. Valais**, I. S. Kandarakis and G. S. Panayiotakis. . IEEE Transactions on Nuclear Science vol. 58(2), pp 314-322, Feb. 2011.

(Αναφορές: 23)

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. 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**.
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) 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.
11) Light emission efficiency of Lu_2O_3: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.
12) On the response of GdAlO3:Ce powder scintillators. C. Michail, N. Kalyvas, **I. Valais**, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13
13) Handbook of RadioactivityAnalysis, edited by Michael F. L'Annunziata, third edition, Academic Press, Elsevier, 2012 ISBN: 978-0-12-384873-4

14) Optimizing Cone Beam Computed Tomography (CBCT) System for Image Guided Radiation Therapy. Park, C.J., **2013**. Ph. D. Thesis, University of California, San Diego, http://escholarship.org/uc/item/3vw9h43v
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 Gd3Al2Ga3O12: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.

[22] Comparative Investigation of Ce^{3+} Doped Scintillators in a Wide Range of Photon Energies Covering X-ray CT, Nuclear Medicine and Megavoltage Radiation Therapy Portal Imaging Applications
I.G.Valais, C.M. Michail, S.L. David, P.F. Liaparinos, G.P. Fountos, T.V. Paschalis, I.S. Kandarakis, G.S. Panayiotakis:, IEEE Transactions on Nuclear Science, vol. 57 (1), pp 3-7, Feb. 2010.

(Αναφορές: 5)

1) Rétot, H., Blahuta, S., Bessière, A., Viana, B., Lacourse, B., Mattmann, E., Improved scintillation time response in $(Lu_{0.5}Gd_{0.5})_2O_3:Eu^{3+}$ compared with $Lu_2O_3:Eu^{3+}$ 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, Chen-Yi Liu, MSc Thesis, Dept. of Physics and Astronomy, University of Manitoba, Canada, 2013 (http://mspace.lib.umanitoba.ca/bitstream/1993/18339/1/liu_chen-yi.pdf).
5) Long-Lasting Luminescence in Garnet-Based Phosphors Prepared by Combustion Synthesis, P. J. Yadava, C. P. Joshib, and S. V. Moharilc (**2013**), International Journal of Self-Propagating High-Temperature Synthesis, Vol. 22, No. 3, pp. 157–162.

[23] Imaging performance and light emission efficiency of Lu2 SiO5: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.

(Αναφορές: 13)

1) 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
2) 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
3) Geometrical MTF computation method based on the irradiance model, Lin P. - D., Liu C.-S., Appl Phys B (**2011**) 102: 243-249
4) 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.
5) 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**.
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_2O_2S: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 Ce3+-doped *A*BaPO4 (*A* = Li, Na, K) phosphors, Appl Phys B **2012.**
9) Light emission efficiency of Lu_2O_3: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) On the response of GdAlO3:Ce powder scintillators. C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13
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 Gd3Al2Ga3O12: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

[24] 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) Journal of Instrumentation, 4 (6) doi: 10.1088/1748-0221/4/06/P06013

(Αναφορές: 3)

1. Determination of scintillator PSF for measuring source transverse sizes of synchrotron radiations Lin, P.D., Wu, W..(**2011**) Applied Optics 50 (17), pp. 2759-2772
2. Eigenvector decomposition of full-spectrum x-ray computed tomography Brian J Gonzales and David S Lalush, Phys. Med. Biol. 57 (**2012**) 1309–1323 doi:10.1088/0031-9155/57/5/1309
3. **Determination of the point spread function of the synchrotron radiation source cross-section measurement scintillator.** Yu Ying Ying Li (**2011**) "Nuclear Technology", Nuclear Tecqniques, 6, pp. 423-426, available in: http://www.cqvip.com/QK/92722X/201106/38126312.html

[25] Light emission efficiency and imaging performance of Y2Al5O12: Ce (YAG: Ce) powder screens under diagnostic radiology conditions.
D. Cavouras, I. Kandarakis, D. Nikolopoulos, I.Kalatzis, A. Episkopakis, G. Kagadis, N. Kalivas, D. Linardatos, M. Roussou, E. Nirgianaki, D. Margetis, I. Valais, I. Sianoudis, K. Kourkoutas, N. Dimitropoulos, A. Louizi, C. Nomicos, G. Panayiotakis. (2005) Applied Physics B (Lasers and Optics), 80 pp. 1-11

(Αναφορές: 2)

1) X-ray luminescence based spectrometer for investigation of scintillation properties
Varney C.R., Khamehchi M.A., Jianfeng Ji, and Selima F.A., Review of Scientific Instruments, Vol. 83 (10) **2012**, pp. 103112-1 to 4
2) Study of spatial resolution of YAG:Ce cathodoluminescent imaging screens
Petr Schauer, Jan Bok, Nuclear Instruments and Methods in Physics Research, Section B: **2013**. Beam Interactions with Materials and Atoms, vol. 308, pp.68-73 (2), http://dx.doi.org/10.1016/j.nimb.2013.05.006

[26] Evaluation of the Luminescence Efficiency of YAG:Ce Powder Scintillating Screens for Use in Digital Mammography Detectors
S. David, C. Michail, M. Roussou, E. Nirgianaki, A. Toutountzis, N. Kalivas, I. Valais, G. Fountos, I. Kandarakis, G. Panagiotakis. Poster presentation, M06-205 2008 IEEE Medical Imaging Conference (MIC), 19-25 Oct. 2008, Dresden, Germany

(Αναφορές: 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**); doi: 10.1063/1.4764772.

[27] C. Michail, G. Fountos, I. Valais, N. Kalyvas, P. Liaparinos,I. Kandarakis, G. Panayiotakis. “Evaluation of the red emitting Gd2O2S: Eu powder scintillator for use in indirect X-ray digital mammography detectors”. IEEE Transactions on Nuclear Science vol. 58(5), pp 2503-2511, Feb. 2011.

(Αναφορές: 8)

1) 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.
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, 5th Panhellenic Conference on Biomedical Technology, Athens, Greece, 4-6 April **2013**.
4) Light emission efficiency of Lu2O3: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 GdAlO3: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. 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.
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. 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.

.

[28] Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis.
S. L. David, C. M. Michail, I. G. Valais, I. Seferis, G. Varaboutis, S. Gastos, A. E. Toutountzis, G. Fountos, I. S. Kandarakis, and G. S. Panayiotakis, (2010). e-J. Sci. Technol. 2, pp. 63-73.

(Αναφορές: 1)

1) X-ray luminescence based spectrometer for investigation of scintillation properties
Varney C.R., Khamehchi M.A., Jianfeng Ji, and Selima F.A., Review of Scientific Instruments, Vol. 83 (10) **2012**, pp. 103112-1 to 4

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

(Αναφορές: 2)

1) Research progress of (Y, Gd)$_2$O$_3$: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.

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

(Αναφορές: 3

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

[31] Detectors for imaging in Radiation Therapy.
I. Valais, P. Xydias, e-Journal of Science & Technology (e-JST), 2009 5(2), 75-86.

(Αναφορές: 1)

1) Image-based 3D measurement of patient positioning for radiological cancer therapy.
Boris Peter Selby, PhD Thesis, Technical University of Munich, Germany, 21-1-**2013**

[32] Comparative Evaluation of Two Commercial PET Scanners, ECAT EXACT HR+ and Biograph 2, Using GATE
N. Karakatsanis, N. Sakellios, N. X. Tsantilas, N. Dikaios, C. Tsoumpas, D. Lazaro, G. Loudos, C. R. Schmidtlein, A. Louizi, J. Valais, D. Nikolopoulos, J. Malamitsi, J. Kandarakis and K. Nikita, (2006) Nuclear Instruments and Methods in Physics Research Section A, Vol. 571, No. 2, pp. 368-372. doi:10.1016/j.nima.2006.08.110

(Αναφορές: 1)

1) A GATE Simulation Study of the Siemens Biograph DUO PET/CT System

D. Nikolopoulos, S. Kottou, N. Chatzisavvas, X. Argyriou, E. Vlamakis, P. Yannakopoulos, A. Louizi, (**2013**) OJRad. Vol.3 (2), pp.56-65, DOI: 10.4236/ojrad.2013.32009

[33] Simulation of Commercial PET Scanners with GATE Monte-Carlo Simulation Package
X. Tsantilas, A. Louizi, I. Valais, D. Nikolopoulos, N. Sakellios, N. Karakatsanis, G. Loudos, K. Nikita, J. Malamitsi and I. Kandarakis, (2005), Journal of Biomedicine and Biotechnology, Vol. 50, Suppl. 1, pp.114-115
(Αναφορές: 1)

1) A GATE Simulation Study of the Siemens Biograph DUO PET/CT System
D. Nikolopoulos, S. Kottou, N. Chatzisavvas, X. Argyriou, E. Vlamakis, P. Yannakopoulos, A. Louizi, (**2013**) OJRad. Vol.3 (2), pp.56-65, DOI: 10.4236/ojrad.2013.32009

[34] A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators D. Nikolopoulos, N. Kalyvas, **I. Valais**, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, (**2012**) JINST 7 P11021
(Αναφορές: 1)

1) On the response of GdAlO3:Ce powder scintillators.
C. Michail, N. Kalyvas, I. Valais, S. David, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos, and I. Kandarakis (**2013**), J Lumin, available online 4/7/13

[35] 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 GdAlO3:Ce powder scintillators, J Lumin. 144:45-52.
(Αναφορές: 1)

1) Luminescent characteristics and energy transfer of a red-emitting YVO4:Sm3+, Eu3+ phosphor, Feng Zhang, Weifeng Zhang, Zhiya Zhang, Yan Huang, Ye Tao, Journal of Luminescence http://dx.doi.org/10.1016/j.jlumin.2013.11.047, **2013**

[35] Experimental and theoretical evaluation of a high resolution CMOS based detector under x-ray imaging conditions.
Spyropoulou VA, Fountos GP, Kalyvas NI, **Valais IG**, Kandarakis IS, Panayiotakis GS (**2011**) , IEEE Trans Nucl Sci 58(1):314–322, 2011.
(Αναφορές: 1)

1) Development of a Mini-Mobile Digital Radiography System by Using Wireless Smart Devices, Chang-Won Jeong, Su-Chong Joo, Jong-Hyun Ryu, Jinseok Lee, Kyong-Woo Kim, Kwon-Ha Yoon, J Digit Imaging, DOI 10.1007/s10278-013-9659-7, **2014**

[36] Comparative evaluation of single crystal scintillators under x-ray imaging conditions
I.G. Valais, S. David, C. Michail, C.D. Nomicos, G.S. Panayiotakis and I.S. Kandarakis, JINST 4 P06013, 2009, doi:10.1088/1748-221/4/06/P06013
(Αναφορές: 1)

1) Mertens JCE,Williams JJ, Chawla Nikhilesh,
Development of a Lab-scale, High-Resolution, Tube-Generated X-Ray Computed-Tomography System for Three-Dimensional (3D) Materials Characterization, Materials Characterization **(2014)**, doi: 10.1016/j.matchar.2014.03.002.

RESEARCH INTERESTS

Radiation Detectors, X-ray and Gamma ray Luminescent Materials, X-ray and Gamma ray Instrumentation, Medical Image Processing, Medical Lasers, Quality Assurance, Electrical Safety

WORKING EXPERIENCE

Experience in the technical support and applications of Medical Instruments.

March ***1990*** - Sept.***1990***: Vocational trainee in the Service Dept. of DIOPHAR S.A., 368 Kifissias ave., 152 33 Halandri.
Participation in the testing and repair of:
1) Renal Dialysis,
2) Blood Coagulation Time Measuring,
3) Lithotripsy Systems and
4) Mobile X-ray Units.

Sept. ***1990*** - Sept.***1991***: Medical Instrumentation Engineer in the Service Dept. of DIOPHAR S.A., 368 Kifissias ave., 152 33 Halandri.
In charge of servicing:
1) Renal Dialysis,
2) Blood Coagulation Time Measuring,
3) Mobile X-ray Units.

Sept.***1992*** - Sept.***1993***: Biomedical Engineer in the Service Dept. of DIOPHAR S.A., 368 Kifissias ave., 152 33 Halandri.
In charge of service and application of:
1) Nuclear Medicine (γ΄camera),
2) Ultrasound (U.L.S.),
3) Computerized Tomography (CT),
4) Renal Dialysis,
5) Radiography units(X-RAY).

March ***1993*** - Oct.***1994***: Military Service. Most of my military service I served as a Medical Device Engineer.

Oct. ***1994*** - Oct.***1998***: Biomedical Engineer in the Service Dept. of DIOPHAR S.A., 368 Kifissias ave., 152 33 Halandri.
In charge of service and application of:
1) Nuclear Medicine (γ΄camera),
2) Ultrasound (U.L.S.),
3) Computerized Tomography (CT),
4) Renal Dialysis,
5) Radiography units(X-RAY)
4) Magnetic Resonance Imaging (MRI),
5) LASER,
6) Peritoneal Dialysis

Oct. ***1998*** – *Feb.* ***2001:*** Supervisor in Maintenance and Application of Medical Devices in the Service Dept. of DIOPHAR S.A., 368 Kifissias ave., 152 33 Halandri. In charge of:
1) Nuclear Medicine (γ΄camera),
2) LASER,
3) Peritoneal Dialysis

LANGUAGES

Greek	Native
English	Postgraduate Studies
French	Satisfactory.