

Dr. Ioanna Kyriakou

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EDUCATION

- **PhD in Physics, Department of Physics, Lancaster University, UK (2005)**
 Condensed Matter Theory Group (Prof. C.J. Lambert) in collaboration
 with QinetiQ Sensors & Electronics Division, Malvern, UK (Prof. J.H. Jefferson)
 Dissertation: “Coherent Transport Phenomena in Semiconductor Nanostructures”
- **Degree in Physics, Physics Department, University of Ioannina, Ioannina, Greece (2000)**

POSITIONS AND EMPLOYMENT

2021-present	Assistant Professor Medical Physics, Department of Medicine, University of Ioannina, Greece
2013-2021	Research Associate Medical Physics Lab, Department of Medicine, University of Ioannina, Greece
2008-2012	Post-doctoral fellow Medical Physics Lab, Department of Medicine, University of Ioannina, Greece
2005-2008	Laboratory Teaching Associate MSc program in “New Technologies and Research in Physics Education” Physics Department, University of Ioannina, Ioannina, Greece
2005-2009	Instructor Department of Informatics and Telecommunications, University of Ioannina, Greece

PERSONAL STATEMENT

My research background and interests fall at the interface of medical physics and materials science. My research over the last 13 years relates to the interaction of ionizing radiation (mainly low-energy charged particles) with atoms and molecules in the condensed phase in both bulk and low-dimensional systems. Specifically, I have been developing practical semi-empirical models of the energy-loss function for calculating ionization and excitation cross sections for electrons and ions over a wide energy range in various materials of biomedical interest such as water, proteins, DNA, carbon nanotubes, and gold nanoparticles. Such physics models and cross sections represent the main input to Monte Carlo radiation transport simulations in condensed media and to the calculation of fundamental dosimetry-related quantities, like stopping-power, from first-principles. I am a member of the GEANT4 collaboration and its Low-Energy Electromagnetic Physics Working Group, as well as, Steering Committee member (and Physics Activity representative) of the GEANT4-DNA project (CERN/CNRS) which aims to the development of a low-energy extension of the general-purpose and open-access GEANT4 simulation toolkit (of CERN) for applications in the field of Medical Physics. I am also participating in various funded projects (by the European Space Agency, the Australian Research Council, and the European Union) on Monte Carlo simulations of energy deposition at the micro- and nano-meter scale by different ionizing radiations for various applications, including theoretical estimates of the relative biological effectiveness (RBE), mechanistic studies of radiation effects at the DNA and cellular level, and proton depth-dose profiles.

OTHER SCIENTIFIC APPOINTMENTS, PROFESSIONAL MEMBERSHIPS AND HONORS

- 2019-present Associate Editor: Medical Physics (AAPM)
https://www.aapm.org/org/structure/default.asp?committee_code=MPBAE
https://aapm.onlinelibrary.wiley.com/hub/journal/24734209/about/editorial_board
- 2018-present Member, G4-Med: GEANT4 Medical Simulation Benchmarking Group (Coordinated by University of Wollongong, Australia & CIEMAT, Madrid, Spain)
<https://twiki.cern.ch/twiki/bin/view/Geant4/G4MSBG>
- 2018-present Member, SDD: Standard for DNA Damage Collaboration (Coordinated by MGH & Harvard Medical School, USA)
<https://standard-for-dna-damage.readthedocs.io/en/latest/index.html>
- 2016-present Steering Committee Member & Physics activity representative, GEANT4-DNA Collaboration (Coordinated by CNRS, France).
<http://geant4-dna.org/>
- 2016-present Member, GEANT4 Collaboration (Coordinated by CERN, Switzerland)
<https://geant4.web.cern.ch/collaboration/members>
- 2013-present Member, GEANT4 Electromagnetic (EM) Physics Working Group (Coordinated by CERN, Switzerland, and CNRS, France)
https://geant4.web.cern.ch/collaboration/working_groups/electromagnetic

ONGOING OR RECENT PROJECTS & GRANTS

Title: Monte Carlo mechanistic investigation of physical and chemical processes induced by gold nanoparticles in cellular irradiation

Source: French National Center for Scientific Research (CNRS)

Role: Co-Principal Investigator

Duration: 2016-2018

Title: G4-NANO: development of a specialized approach to understand the physics foundation of radiosensitisation of gold nanoparticles

Source: Australian Research Council

Role: Partner Investigator

Duration: 2017-2019

Title: Geant4-based particle simulation facility for future science mission support

Source: European Space Agency (ESA)

Role: Project Team Member

Duration: 2018-2022

Title: NANOGOLD II

Source: French National Center for Scientific Research (CNRS)

Role: Co-Principal Investigator

Duration: 2019-2021

Title: Microdosimetry using the Geant4-DNA Monte Carlo code for RBE calculations of non-conventional radiations in radiotherapy

Source: Greek Ministry of Development and Investments, ESPA Funding Program: Research Support with emphasis on New Researchers

Role: Co-Principal Investigator

Duration: 2020-2021

Title: Multi-scale open-source radiation effect platform for space radiation protection

Source: European Space Agency (ESA)

Role: Co-Principal Investigator, Work Package coordinator

Duration: 2021-2023

PUBLICATIONS

Papers in peer-review journals (with impact factor): **66**

Presentations (oral and/or poster) in International Conferences: **50**

SCOPUS 2097 citations h-index = 28

GoogleScholar 2757 citations h-index = 29

List of papers in peer-review journals with impact factor:

- 66.** Papadopoulos A., **Kyriakou I.**, Incerti S., Santin G., Nieminen P., Daglis I.A., Li W., Emfietzoglou D. Space radiation quality factor for Galactic Cosmic Rays and typical space mission scenarios using a microdosimetric approach. *Radiation and Environmental Biophysics* 62:221-234 (2023).
- 65.** Chatzipapas K.P., Tran N.H., Dordevic M., Zivkovic S., Zein S., Shin W.-G., Sakata D., Lampe N., Brown J.M.C., Ristic-Fira A., Petrovic I., **Kyriakou I.**, Emfietzoglou D., Guatelli S., Incerti S. Simulation of DNA damage using Geant4-DNA: an overview of the “molecularDNA” example application. *Precision Radiation Oncology* 2023:1 11pp (2023).
- 64.** Margis S., **Kyriakou I.**, Incerti S., Bordage M.-C., Emfietzoglou D. Sub-keV corrections to binary encounter cross section models for electron ionization of liquid water with application to the Geant4-DNA Monte Carlo code. *Applied Radiation and Isotopes* 194:110693 11pp (2023).
- 63.** Sakata D., Hirayama R., Shin W.-G., Belli M., Tabocchini M.A., Belov O., Bernal M.A., Bordage M.-C., Brown J.M.C., Chappuis F., Desorgher L., Dordevic M., Emfietzoglou D., Francis Z., Guatelli S., Inaniwa T., Ivanchenko V., Karamitros M., **Kyriakou I.**, Lampe N., Li Z., Meylan S., Michelet C., Murakami K., Nieminen P., Okada S., Perrot Y., Petrovic I., Ramos-Mendez J., Ristic-Fira A., Santin G., Sasaki T., Schuemann J., Tran H.N., Villagrasa C., Incerti S. Prediction of DNA rejoining kinetics and cell survival after proton irradiation for V79 cells using Geant4-DNA. *Physica Medica: European Journal of Medical Physics* 105:102508, 9pp (2023).
- 62.** Papadopoulos A., **Kyriakou I.**, Matsuya Y., Incerti S., Daglis I.A., Emfietzoglou D., Microdosimetry study of proton quality factor by using analytic model calculations. *Applied Sciences* 12:8950, 19pp (2022).
- 61.** Lindborg L., Lillhok J., **Kyriakou I.**, Emfietzoglou D., Dose-mean lineal energy values for electrons by different Monte Carlo codes: Consequences for estimates of radiation quality in photon beams. *Medical Physics* 49:1286-1296, 11pp (2022).
- 60.** **Kyriakou I.**, Emfietzoglou D., Incerti S., Status and Extension of the Geant4-DNA Dielectric Models for Application to Electron Transport. *Frontiers in Physics* 9:711317, 9pp (2022).
- 59.** **Kyriakou I.**, Sakata D., Tran H.N., Perrot Y., Shin W.-G., Lampe N., Zein S., Bordage M.-C., Guatelli S., Villagrasa C., Emfietzoglou D., Incerti S., Review of the Geant4-DNA Simulation Toolkit for Radiobiological Applications at the Cellular and DNA Level. *Cancers* 14:35, 26pp (2022).
- 58.** Sakata D., Suzuki M., Hirayama R., Abe Y., Muramatsu M., Sato S., Belov O., **Kyriakou I.**, Emfietzoglou D., Guatelli S., Incerti S., Inaniwa T., Performance Evaluation for Repair of HSGc-C5 Carcinoma Cell Using Geant4-DNA. *Cancers* 13: 6046, 16pp (2021).

57. Shin W.-G., Sakata D., Lampe N., Belov O., Tran N.H., RPetrovic I., Ristic-Fira A., Dordevic M., Bernal M.A., Bordage M.-C., Francis Z., **Kyriakou I.**, Perrot Y., Sasaki T., mVillagrasa C., Guatelli S., Breton V., Emfietzoglou D., Incerti S., A Geant4-DNA Evaluation of Radiation-induced DNA Damage on a Human Fibroblast. *Cancers* 13: 4940, 16pp (2021).
56. Kalospyros S.A., Gika V., Nikitaki Z., Kalamara A., **Kyriakou I.**, Emfietzoglou D., Kokkoris M., Georgakilas A.G., Monte Carlo Simulation-Based Calculations of Complex DNA Damage for Incidents of Environmental Ionizing Radiation Exposure. *Applied Sciences* 11:8985, 21pp (2021).
55. **Kyriakou I.**, Tremi I., Georgakilas A.G., Emfietzoglou D., Microdosimetric investigation of the radiation quality of low-medium energy electrons using Geant4-DNA. *Applied Radiation and Isotopes* 172:109654, 15pp (2021).
54. Kalospyros S.A., Nikitaki Z., **Kyriakou I.**, Kokkoris M., Emfietzoglou D., Georgakilas A.G., A Mathematical Radiobiological Model (MRM) to predict complex DNA damage and cell survival for ionizing particle radiations of varying quality. *Molecules* 26:840, 31pp (2021).
53. Arce P., Bolst D., Cutajar D., Guatelli S., Le A., Rosenfeld A.B., Sakata D., Bordage M.-C., Brown J.M.C., Cirrone P., Guttone G., Pandola L., Petringa G., Cortes-Giralso M.A., Quesada J.M., Desorgher L., Dondero P., Mantero A., Dotti A., Wright D.H., Faddegon B., Ramos-Mendez J., Fedon C., Incerti S., Ivanchenko V., Konstantinov D., Latyshev G., **Kyriakou I.**, Mancini-Teracciano C., Maire M., Novak M., Omachi C., Toshito T., Perales A., Perrot Y., Romano F., Sarmiento L.G., Sasaki T., Sechopoulos I., Simpson E.C., Report on G4-Med, a Geant4 benchmarking system for medical physics applications developed by the Geant4 Medical Simulation Benchmarking Group. *Medical Physics* 48:19-56 (2021).
52. Sakata D., Belov O., Bordage M.-C., Emfietzoglou D., Guatelli S., Inaniwa T., Ivanchenko V., Karamitros M., **Kyriakou I.**, Lampe N., Petrovic I., Ristic-Fira A., Shin W.G., Incerti S., Fully integrated Monte Carlo simulation for evaluating radiation induced DNA damage band subsequent repair using Geant4-DNA. *Scientific Reports* 10:20788, 13pp (2020).
51. Shingledecker C., Incerti S., Ivlev A., Emfietzoglou D., **Kyriakou I.**, Vasyunin A., Caselli P., Cosmic ray tracks in astrophysical ices: Modeling with the Geant4-DNA Monte Carlo Toolkit. *The Astrophysical Journal* 904:189, 13pp (2020).
50. Engels E., Bakr S., Bolst D., Sakata D., Li N., Lazarakis P., Mc Mahon S., Ivanchenko V., Rosenfeld A., Incerti S., **Kyriakou I.**, Emfietzoglou D., Lerch M., Tehei M., Corde S., Guatelli S., Advances in modelling gold nanoparticle radiosensitization using new Geant4-DNA physics models. *Physics in Medicine & Biology* 65:225017, 16pp (2020).
49. Wang J.T.-W., Spinato C., Klippstein R., Costa P.M., Martincic M., Pach E., Perez Ruiz de Garibay A., Menard-Moyon C., Feldman R., Michel Y., Sefl M., **Kyriakou I.**, Emfietzoglou D., Saccavini J.-C., Ballesteros B., Tobias G., Bianco A., Al-Jamal K.T., Neutron-irradiated antibody-functionalised carbon nanocapsules for targeted cancer radiotherapy. *Carbon* 162:410-422 (2020).

48. Margis S., Magouni M., **Kyriakou I.**, Georgakilas A., Incerti S., Emfietzoglou D., Microdosimetric calculations of the direct DNA damage induced by low energy electrons using the Geant4-DNA Monte Carlo code. *Physics in Medicine and Biology* 65:045007, 17pp (2020).
47. Wang J.T.-W., Klippstein R., Martincic M., Pach E., Feldman R., Sefl M., Michel Y., Asker D., Sosabowski J.K., Kalbac M., Da Ros T., Menard-Moyon C., Bianco A., **Kyriakou I.**, Emfietzoglou D., Saccavini J.-C., Ballesteros B., Al-Jamal K.T., Tobias G., Neutron Activated ¹⁵³Sm Sealed in Carbon Nanocapsules for *in Vivo* Imaging and Tumor Radiotherapy. *ACS Nano*, 14:129-141 (2020).
46. **Kyriakou I.**, Ivanchenko V., Sakata D., Bordage M.C., Guatelli S., Incerti S., Emfietzoglou D., Influence of track structure and condensed history physics models of Geant4 to nanoscale electron transport in liquid water. *Physica Medica: European Journal of Medical Physics* 58:149-154 (2019).
45. Tang N., Bueno M., Meylan S., Perrot Y., Tran H.N., Freneau A., Dos Santos M., Vaurijoux A., Gruel G., Bernal M.A., Bordage M.C., Emfietzoglou D., Francis Z., Guatelli S., Ivanchenko V., Karamitros M., **Kyriakou I.**, Shin W.-G., Incerti S., Villagrasa C., Assessment of Radio-Induced Damage in Endothelial X-rays by Means of Micro and Nanodosimetric Calculations. *International Journal of Molecular Sciences* 20:6204, 19pp (2019).
44. Shin W.-G., Ramos-Mendez J., Faddegon B., Tran H.N., Villagrasa C., Perrot Y., Okada S., Karamitros M., Emfietzoglou D., **Kyriakou I.**, Bordage M.C., Sakata D., Guatelli S., Choi H.J., Min C.H., Lee S.B., Incerti S., Evaluation of the influence of physical and chemical parameters on water radiolysis simulations under MeV electron irradiation using Geant4-DNA. *Journal of Applied Physics* 126:114301, 13pp (2019).
43. Sakata D., **Kyriakou I.**, Tran H.N., Bordage M.C., Rosenfeld A., Ivanchenko V., Incerti S., Emfietzoglou D., Guatelli S., Electron track structure simulations in a gold nanoparticle using Geant4-DNA. *Physica Medica: European Journal of Medical Physics* 63:98-104 (2019).
42. Sakata D., Lampe N., Karamitros M., **Kyriakou I.**, Belov O., Bernal M.A., Bordage M.C., Breton V., Francis Z., Ivanchenko V., Meylan S., Murakami K., Okada S., Petrovic I., Ristic-Fira A., Santin G., Sarramia D., Sasaki T., Shin W.-G., Tang N., Tran H.N., Villagrasa C., Emfietzoglou D., Nieminen P., Guatelli S., Incerti S., Evaluation of early radiation DNA damage in a fractal cell nucleus model using Geant4-DNA. *Physica Medica: European Journal of Medical Physics* 62:152-157 (2019).
41. Incerti S., **Kyriakou I.**, Bordage M.C., Guatelli S., Ivanchenko V., Emfietzoglou D., Track structure simulations of proximity functions in liquid water using the Geant4-DNA toolkit. *Journal of Applied Physics* 125:104301, 13pp (2019).
40. Schuemann J., McNamara A.L., Warmenhoven J.W., Henthorn N.T., Kirkby K., Merchant M.J., Ingram S., Paganetti H., Held K.D., Ramos-Mendez J., Faddegon B., Perl J., Goodhead D.T., Plante I., Rabus H., Nettelbeck H., Friedland W., Kundrat P., Ottolenghi A., Baiocco G., Barbieri S., Dingfelder M., Incerti S., Villagrasa C., Bueno M., Bernal M.A., Guatelli S., Sakata D., Brown J.M.C., Francis Z., **Kyriakou I.**, Lampe N., Ballarini F., Carante M.P., Davidkova M., Štěpan V., Jia X., Cucinotta F.A., Schulte R., Stewart R.D., Carlson D.J., Galer S., Kuncic Z., Lacombe S., Milligan J., Cho S.H., Sawakuchi G., Inaniwa T., Sato T., Li W., Solov'yov A.V., Surdutovich E., Durante M., Prise K. and McMahon S.J., A New Standard DNA Damage (SDD) Data Format. *Radiation Research* 191:76-92 (2019).

39. Incerti S., **Kyriakou I.**, Bernal M.A., Bordage M.C., Francis Z., Guatelli S., Ivanchenko V., Karamitros M., Lampe N., Lee S.B., Meylan S., Min C.H., Shin W.G., Nieminen P., Sakata D., Tang N., Villagrasa C., Tran H.N., Brown J.M.C., Geant4-DNA example applications for track structure simulations in liquid water: A report from the Geant4-DNA project. *Medical Physics* 45:722-739 (2018).
38. Shin W.G., Bordage M.C., Emfietzoglou D., **Kyriakou I.**, Sakata D., Min C.H., Lee S.B., Guatelli S., Incerti S., Development of a new Geant4-DNA electron elastic scattering model for liquid phase water using the ELSEPA code. *Journal of Applied Physics* 124:224901, 15pp (2018).
37. Sakata D., **Kyriakou I.**, Okada S., Tran H.N., Lampe N., Guatelli S., Bordage M.C., Ivanchenko V.N., Murakami K., Sasaki T., Emfietzoglou D., Incerti S., Geant4-DNA for track-structure simulations for gold nanoparticles: the importance of electron discrete models in nanometer volumes. *Medical Physics* 45:2230-2242 (2018).
36. Lazarakis P., Incerti S., Ivanchenko V., **Kyriakou I.**, Emfietzoglou D., Corde S., Rosenfeld A.B., Lerch M., Tehei M., Guatelli S., Investigation of track structure and condensed history physics models for applications in radiation dosimetry on a micro and nano scale in Geant4. *Biomedical Physics and Engineering Express* 4:024001, 11pp (2018).
35. Lampe N., Karamitros M., Breton V., Brown J.M.C., **Kyriakou I.**, Sakata D., Sarramia D., Incerti S., Mechanistic DNA damage simulations in Geant4-DNA Part 1: A parameter study in a simplified geometry. *Physica Medica-European Journal of Medical Physics* 48:135-145 (2018).
34. **Kyriakou I.**, Emfietzoglou D., Ivantchenko V., Bordage M.C., Guatelli S., Lazarakis P., Tran H.N., Incerti S., Microdosimetry of electrons in liquid water using the low-energy models of Geant4. *Journal of Applied Physics* 122:024303, 17pp (2017).
33. Incerti S., **Kyriakou I.**, Tran H.N., Geant4-DNA simulation of electron slowing-down spectra in liquid water. *Nuclear Instruments and Methods B* 397:45-50 (2017).
32. Garcia-Molina R., Abril I., **Kyriakou I.**, Emfietzoglou D., Inelastic scattering and energy-loss of swift electron beams in biologically relevant materials. *Surface and Interface Analysis* 49:11-17 (2017).
31. Emfietzoglou D., **Kyriakou I.**, Garcia-Molina R., Abril I., Inelastic mean free path of low-energy electrons in condensed media: Beyond the standard models. *Surface and Interface Analysis* 49:4-10 (2017).
30. Sakata D., Incerti S., Bordage M.C., Lampe N., Okada S., Emfietzoglou D., **Kyriakou I.**, Murakami K., Sasaki T., Tran H., Guatelli S., Ivantchenko V.N., An implementation of discrete electron transport models for gold in the Geant4 simulation toolkit. *Journal of Applied Physics* 120:244901, 7pp (2016).
29. **Kyriakou I.**, Sefl M., Nourry V., Incerti S., The impact of new Geant4-DNA cross section models on electron track structure simulations in liquid water. *Journal of Applied Physics* 119:194902, 10pp (2016).
28. Sefl M., **Kyriakou I.**, Emfietzoglou D., Impact of cell repopulation and radionuclide uptake phase on cell survival (Technical note). *Medical Physics* 43:2715-2720 (2016).

27. Bernal M., Bordage M.C., Brown J., Davidkova M., Delage E., El Bitar Z., Enger S., Francis Z., Guatelli S., Ivantchenko V., Karamitros M., **Kyriakou I.**, Maigne L., Meylan S., Murakami K., Okada S., Payno H., Perrot Y., Pham T., Tran H., Sasaki T., Stepan V., Villagrasa C., Incerti S., Track structure modeling in liquid water: a review of the Geant4-DNA very low energy extension of the Geant4 Monte Carlo simulation toolkit. *Physica Medica-European Journal of Medical Physics* 31:861-874 (2015).
26. **Kyriakou I.**, Incerti S., Francis Z., Improvements in Geant4 energy-loss model and the effect on low-energy electron transport in liquid water (Technical note). *Medical Physics* 42:3870-3876 (2015).
25. Abril I., de Vera P., Garcia-Molina R., **Kyriakou I.**, Emfietzoglou D., Lateral spread of dose distribution by therapeutic proton beams in liquid water. *Nuclear Instruments and Methods B* 352:176-180 (2015).
24. Garcia-Molina R., Abril I., de Vera P., **Kyriakou I.**, Emfietzoglou D., A study of the energy deposition profile of proton beams in materials of hadron therapeutic interest. *Applied Radiation and Isotopes* 83:109-114 (2014).
23. Emfietzoglou D., **Kyriakou I.**, Garcia-Molina R., Abril I., Nikjoo H., Inelastic cross sections for low-energy electrons in liquid water: exchange and correlation effects. *Radiation Research* 180:499-513 (2013).
22. Emfietzoglou D., **Kyriakou I.**, Garcia-Molina R., Abril I., Nikjoo H., The effect of static many-body local-field corrections to inelastic electron scattering in condensed media. *Journal of Applied Physics* 114:144907, 14pp (2013).
21. **Kyriakou I.**, Emfietzoglou D., Nojeh A., Moscovitch M., Monte Carlo study of electron-beam penetration and backscattering in multi-walled carbon nanotube materials: The effect of different scattering models. *Journal of Applied Physics* 113:084303, 11pp (2013).
20. Abril I., Garcia-Molina R., de Vera P., **Kyriakou I.**, Emfietzoglou D., Inelastic collisions of energetic protons in biological media. *Advances in Quantum Chemistry* 65:129-164 (2013).
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16. Garcia-Molina R., Abril I., Heredia-Avalos S., **Kyriakou I.**, Emfietzoglou D., A combined molecular dynamics and Monte Carlo simulation of the spatial distribution of energy deposition by proton beams in liquid water. *Physics in Medicine and Biology* 56:6475-6493 (2011).

15. **Kyriakou I.**, Emfietzoglou D., Garcia-Molina R., Abril I., Kostarelos K., Simple model of bulk and surface excitation effects to inelastic scattering in low-energy electron beam irradiation of multi-walled carbon nanotubes. *Journal of Applied Physics* 110:054304,12pp (2011).
14. Abril I., Garcia-Molina R., Denton C., **Kyriakou I.**, Emfietzoglou D., Energy loss of H and He beams in DNA: calculations based on a realistic energy loss function of the target. *Radiation Research* 175:247-255 (2011).
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9. **Kyriakou I.**, Jefferson J.H., Lambert C.J., Suppression of thermal broadening via Zener tunneling in narrow-gap semiconductor double-quantum-wire structures. *Applied Physics Letters* 96:232104, 3pp (2010).
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7. Garcia-Molina R., Abril I., Denton C., Heredia-Avalos S., **Kyriakou I.**, Emfietzoglou D., Calculated depth-dose distributions for H⁺ and He⁺ beams in liquid water. *Nuclear Instruments and Methods B* 267:2647-2652 (2009).
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5. Emfietzoglou D., Garcia-Molina R., **Kyriakou I.**, Abril I., Nikjoo H., A dielectric response study of the electronic stopping power of liquid water for energetic protons and a new I-value for water. *Physics in Medicine and Biology* 54:3451-3472 (2009).
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2. **Kyriakou I.**, Jefferson J.H., Giavaras G., Fearn M., and Lambert C.J., Momentum filter using resonant Zener tunneling. *Physical Review B* 76:045316, 7pp (2007).

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Online research profiles

<https://orcid.org/0000-0003-2105-4078>

<https://scholar.google.com/citations?user=OnDGHiwAAAAJ&hl=en>

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