

## PERSONAL

### PERSONAL INFORMATION

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Name	Emmanouil (Manolis) Benis
Date of Birth	8 November 1970
Place of Birth	Kavala
Nationality/Citizenship	Greek/Greek
Marital Status	Married, 2 children
Address	Department of Physics, University of Ioannina GR 45110, Ioannina, Greece
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### EDUCATION

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- 2001 Ph.D. in Atomic Physics - Department of Physics, University of Crete, Greece (in collaboration with the J.R, McDonald Laboratory, Department of Physics, Kansas State University, USA).  
Thesis title: *A novel high-efficiency paracentric hemispherical spectrograph for zero-degree Auger projectile spectroscopy*
- 1996 MSc in Physics - Department of Physics, University of Crete, Greece.
- 1993 Advanced summer school in Physics, Department of Physics, University of Crete, Greece. (*Accepted into the Master Program*)
- 1993 BSc in Physics - Department of Physics, Aristotle University of Thessaloniki, Greece.

### EMPLOYMENT

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- 10/2014 - 08/2016 Collaborator Teaching Staff, Hellenic Open University, Greece.
- 09/2013 - present Assistant Professor, Department of Physics, University of Ioannina, Greece.
- 11/2009 - 08/2013 Assistant Professor (tenure), Department of Physics, University of Ioannina, Greece.
- 09/2007 - 10/2009 Associate (Application) Scientist C, Institute of Electronic Structure and Laser, Greece.
- 09/2003 - 08/2007 Research Associate, Institute of Electronic Structure and Laser, Greece.
- 08/2001 - 08/2003 Research Associate, Department of Physics, Kansas State University, USA.
- 09/1996 - 08/2001 Research Assistant, Department of Physics, Kansas State University, USA.
- 10/1993 - 12/2000 Teaching Assistant and Laboratory Instructor, Department of Physics, University of Crete, Greece.

### HONORARY DISTINCTIONS

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- Awarded as "Outstanding Reviewer" by the Journal of Physics B for 2016.
- Awarded as "Outstanding Reviewer" by the Nuclear Inst. and Methods in Physics Research B for 2018.

- SPARC Collaboration: *Atomic physics, quantum electrodynamics, ultra-high electro-magnetic fields studies with beams of highly-charged heavy ions*. Representative for Greece and Italy for the Collaboration Board (since 2017).
- Member of the Board for the “International Symposium on Ion-Atom Collisions – ISIAC” (since 2019).

## REFEREE

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### Scientific Journals

- Physical Review Letters
- New Journal of Physics
- Journal of Physics B: Atomic Molecular and Optical Physics
- Journal of Electron Spectroscopy and Related Phenomena
- Nuclear Instruments and Methods in Physics Research A
- Nuclear Instruments and Methods in Physics Research B
- Rapid Communications in Mass Spectrometry
- Journal of Instrumentation
- Journal of Optics
- Physical Chemistry Chemical Physics
- Journal of X ray spectrometry
- International Journal of Mass Spectrometry

### Textbooks

- *Wave Physics*, N. Papadogiannis and E. Bakarezos, Hellenic Academic Ebooks, Kallipos, ISBN: 978-960- 603-050-5, 2015.

### Research Proposals

- Hellenic Foundation for Research and Innovation
- Ministry of Development and Investment, Program EDBM34

### Contests

- The Odysseus contest, European youth space contest, 2013

### Faculty Election Committees in Universities

- Department of Physics, University of Ioannina
- Department of Material Science, University of Patras
- Department of Financial and Management Engineering, University of the Aegean
- Department of Electrical and Computer Engineering, University of Thessaly
- Department of Informatics, University of Thessaly
- Department of Electronic Engineering, Technological Educational Institute of Crete
- Department of Optics and Optometry, Technological Educational Institute of Western Greece

## CONFERENCES ORGANIZATION

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- 9<sup>th</sup> European Conference on Atoms Molecules and Photons (ECAMP IX), Heraklion, Crete, Greece, 6-11 May 2007. Member of the local organizing committee.
- 20<sup>th</sup> International Symposium on Ion-Atom Collisions (XX ISIAC), Agios Nikolaos, Crete, Greece, 1-4 August 2007. Member of the local organizing committee.

- Multiplier event of the program “Innovative Education & Training in High Power Laser Plasmas – PowerLaPs”, Ioannina, 30 August 2019. Organizer.

## RESEARCH

### RESEARCH

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#### Accelerator-based Atomic Physics

- Electron elastic scattering processes (Binary encounter, RTE, NTE).
- Cusp electrons (ECC, ELC).
- State-selective population of doubly and triply excited ionic states.
- Mixed-state ionic beams - Metastable components.
- Development of high-resolution high-efficiency electron spectrographs.

#### Laser-based Atomic Molecular and Optical Physics

- Lower and higher order harmonics generation.
- Non-linear dynamics in the VUV/XUV spectral region.
- Photoionization and photodissociation
- Ion acceleration with ultra-intense lasers.
- Betatron radiation sources.

### RESEARCH EXPERIENCE

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#### Experimental Skills

- High resolution Auger electron spectroscopy
- Multi-fragment imaging techniques
- Pump-probe techniques
- Electrostatic spectrometers (hemispherical, parallel plate)
- Time of flight spectrometers (mass spectrometer, magnetic bottle spectrometer)
- Pulsed jets and cold gas targets
- High and ultra high vacuum technology
- Position sensitive detectors (resistive, backgammon, delay line anode)
- Standard electronics for signal processing
- Standard laser optics components
- Engineering design

#### Computational Skills

- Specialized Scientific Packages: Mathematica, Origin, Fityk, CorelDraw SIMION3D, COWAN, TARDIS, ARGON (CDW-EIS)
- Computing Languages: FORTRAN, LUA
- Software development for data acquisition and analysis
- Software development for modeling physical processes

#### Foreign Languages

- English (excellent)

### COLLABORATION WITH INSTITUTES

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2010 – Present. Institute for Plasma Physics and Lasers, Greece

2012 – Present. National Center for Scientific Research, Demokritos, Greece

2015 – Present. GSI Helmholtz Centre for Heavy Ion Research, Germany

Earlier collaborations / visits

19/03/2006 – 29/03/2006	Max-Planck-Institut für Quantenoptik, Garching, Germany.
09/03/2003 – 16/03/2003	Lawrence Berkeley National Laboratory (ALS), USA.
02/08/2002 – 19/08/2002	Lawrence Berkeley National Laboratory (ALS), USA.
15/02/2002 – 21/02/2002	Department of Physics, Western Michigan University, USA.
06/09/1995 – 29/09/1995	Hahn-Meitner Institute, Berlin, Germany.
03/05/1995 – 23/07/1995	Manne Siegbahn Laboratory, Stockholm University, Sweden.
30/08/1994 – 18/09/1994	Manne Siegbahn Laboratory, Stockholm University, Sweden.

**FUNDING**

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**Principal Investigator**

- 2003. Marie Curie International Reintegration Grants (IRG), FP6-2002-Mobility-12. Title: *Characterization and research applications of attosecond pulses*. Budget: 80 k€.
- 2016. Granting of funds within GSI Transnational Access. Title: *Ionization Dynamics - ESR/Ben*. Budget: 4,500 €.
- 2018. Granting of funds within GSI Transnational Access. Title: *Electron Emission following 1s Adiabatic Ionization and Quasi-resonant 1s-1s Charge Transfer in Symmetric Heavy-Ion Atom Collisions - E132/Ben*. Budget: 4,700 €.

**Scientific Responsible**

- 2012. THALES, Greek Ministry of Education. Title: *APAPES - Atomic Physics with Accelerators: Projectile Electron Spectroscopy at the NCSR Demokritos Tandem accelerator*. Budget: 600 k€. Scientific Responsible for the University of Ioannina
- 2018. Large-Scale Research Infrastructure for the Greek Roadmap of Research Infrastructures. Title: *CALIBRA: Cluster of Accelerator Laboratories for Ion-Beam Research and Applications*. Joint Research Activity: Atomic Physics. Auger electron Projectile Spectroscopy. Budget: 3.5 M€. Scientific Responsible for the Atomic Physics since 01/2019.
- 2019. Researcher support with emphasis to young researchers - circle B, Ministry of Finance and Development. Title: *Development and optimization of a betatron-type radiation source generated by ultra-intense electromagnetic laser fields*. Budget ~50 000 €. Deputy Scientific Responsible.

**Member of the Scientific Team**

- 2004. Bilateral Scientific and Technological Cooperation between Greece and Hungary, Greek Ministry for Industry, Energy & Technology. Title: *Electron scattering processes in ion-atom collisions*. Budget: 11,740 €.
- 2004. Marie Curie Transfer of Knowledge Grant, Contr. Nr. MTKD-CT-2004-517145. Title: *XUV-High Order Harmonic Metrology Tools for Novel Spectroscopic Applications (X-HOMES)*. Budget: 400 k€.
- 2004. Marie Curie “Joint Research Activities” Grant. Title: *Frontiers of Optical Science: Controlling Intense Light (FOSCIL)*. Budget: 170 k€.

- 2008. FP7, The People Programme, Industry-Academia Partnerships and Pathways, Grant agreement ID: 218053. Title: *Femtosecond Lasers for the generation of Ultrafast XUV pulses (FLUX)*. Budget: 682,490€.
- 2010. ELI-GR, Ministry of Education/General Secretariat for Research and Technology/EU. *Hellenic network for the European Research Infrastructure "ELI"*. Budget: 120 k€.
- 2010. HiPER-GR, Ministry of Education/General Secretariat for Research and Technology/EU. *Hellenic network for the European Research Infrastructure "HiPER"*. Budget: 120 k€.
- 2011. University of Ioannina. Title: *Supply of optical components for use in the fs pump-probe experimental setup*. Budget: 5,000 €.
- 2012. THALES, Greek Ministry of Education. Title: *ISEPUMA - Interaction of ultrashort intense electromagnetic pulses with matter*. Budget: 600 k€.
- 2012. COST Action MP1203, European Cooperation in Science and Technology. Title: *Advanced X-ray spatial and temporal metrology*
- 2014. University of Ioannina. Title: *Supply of optical components for integration in the fs pump-probe experimental setup*. Budget: 9,840 €.
- 2019. COST Action CA17126, European Cooperation in Science and Technology. Title: *Towards understanding and modelling intense electronic excitation*. Budget: ~ 420k€.
- 2018. Large-Scale Research Infrastructure for the Greek Roadmap of Research Infrastructures. Title: *HELLAS-CH, cooperation of ELI - LASERLAB Europe, HiPER & IPERION-CH*. Program code: MIS 5002735. Budget: ~ 3 M€.

#### **Employment contracts**

- 01/11/1994-21/12/1995. ELKE, University of Crete, Program code: KA501.
- 01/09/1996-30/08/1998. ELKE, University of Crete, Program code: KA728. Title: *Differential cross section measurements of Resonance Transfer Excitation (RTE) in collisions of light ions with H<sub>2</sub> and He targets using position sensitive detection (PSD) with zero-degree Auger electron spectroscopy*.
- 01/10/1998-31/10/1998. ELKE, University of Crete, Program code: KA1009. Title: *Undergraduate Training & World Wide Web - EPEAK*.
- 01/10/2000-31/12/2000. Institute of Electronic Structure and Laser, Bilateral Scientific and Technological Cooperation between Greece and Hungary, SEA00184-1. Title: *Study of two-electron mechanisms in collisions of highly-charged ions with atoms*.
- 01/10/2015-31/12/2015. ELKE, TEI of Crete, Program code: MIS 376841. *National Research Infrastructure for the HiPER Project, Work Package 4*.

## TEACHING & SUPERVISION

### COURSES IN BACHELOR & MASTERS PROGRAMS

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09/2010 - Present: Department of Physics, University of Ioannina

- Modern Physics I (3<sup>rd</sup> semester)
- Modern Physics II (4<sup>th</sup> semester)
- Physics of Lasers (7<sup>th</sup> semester )
- Atomic Physics (7<sup>th</sup> semester )
- Laboratory courses in Modern Physics I (7<sup>th</sup> semester )
- Laboratory courses in Wave Physics and Optics (4<sup>th</sup> semester )
- Laboratory courses in Electromagnetism (3<sup>rd</sup> semester)

10/2010 - 08/2013: Department of Chemistry, University of Ioannina

- Laboratory courses in Experimental Physics (1st semester)

10/2014 - 08/2015: Hellenic Open University

- Quantum Physics

10/2010 - 08/2013: Department of Chemistry, University of Ioannina

- Laboratory courses in Experimental Physics (1<sup>st</sup> semester)

09/2016 - Present: Department of Biological Applications and Technology, University of Ioannina

- General Physics (1<sup>st</sup> semester)

10/2015 - 08/2018: Department of Electronics Engineering, TEI of Crete, Masters Program PLAPA – Plasma Physics and Applications

- Atomic Processes in Plasma

10/2018 - 08/2019: Department of Electronics Engineering, TEI of Crete, Masters Program LAPLA - Lasers, Plasma and Applications

- Lasers Spectroscopy

10/2019 - Present: Department of Electronics Engineering, Hellenic Mediterranean University, Masters Program LAPLA - Lasers, Plasma and Applications

- Lasers Spectroscopy

### COURSES IN TRAINING PROGRAMS & SUMMER SCHOOLS

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- 2011 & 2012 & 2013: LLP/Erasmus IP, summer school, Heraklion, Crete, Greece, CPOTS – *Introduction to Charged Particle Optics: Theory and Simulation*.  
20 hrs yearly: Imaging Spectrometers / Magnetic bottle electron spectrometer / SIMION 3D laboratories.
- 2013: LLP/Erasmus IP summer school, Rethymnon, Crete, Greece, HIPOLIN – *An introduction to high power light-matter interactions*.  
2 hrs: Atomic and molecular dynamics using strong laser pulses.
- 2016: Erasmus+: Key Action 1, Higher Education Student and Staff Mobility, Dublin City University, Ireland,

8 hrs: Strong field laser-matter interactions / Higher order harmonic generation / Attosecond pulses / Non-linear dynamics in the VUV/XUV spectral region / Charged Particle Optics: Introduction to the operational principles of lenses, spectrometers and spectrographs / Charged Particle Optics: Hands on simulations using the SIMION package.

- Erasmus+: Key Action: Cooperation for innovation and the exchange of good practices, 2017-2019. PowerLaPs – *Innovative Education & Training in High Power Laser Plasmas*. Rethymnon, Crete, Greece, 2018 & 2019  
6 hrs: Basics of laser-atom interactions and atomic processes in plasma / Atomic Physics in Plasma Diagnostics

### TEXTBOOKS & NOTES

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- *Atomic Physics* – Notes, Open Academic Courses (2013).
- *Physics of Lasers* – Notes, Open Academic Courses (2013).
- *General Physics* – Notes, Open Academic Courses (2016).
- *Principles and Practice of Physics*, E. Mazur, Broken Hill Publishers Ltd, Member of the team for the translation in Greek and the translation editing (2018-2019).
- *College Physics*, R. A. Freedman, T. Ruskell, P.R. Kesten and D.L. Tauck, Broken Hill Publishers Ltd, Member of team for the translation in Greek editing (2019).

### FUNDED TEACHING/TRAINING PROGRAMS

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- 2011. LLP/Erasmus IP, summer school, Heraklion, Crete, Greece, CPOTS – *Introduction to Charged Particle Optics: Theory and Simulation*. Scientific Responsible for the University of Ioannina. Budget: 30,313 €.
- 2012. LLP/Erasmus IP, summer school, Heraklion, Crete, Greece, CPOTS – *Introduction to Charged Particle Optics: Theory and Simulation*. Scientific Responsible for the University of Ioannina. Budget: 37,880 €.
- 2013. LLP/Erasmus IP, summer school, Heraklion, Crete, Greece, CPOTS – *Introduction to Charged Particle Optics: Theory and Simulation*. Scientific Responsible for the University of Ioannina. Budget: 40,000 €.
- 2017-2019. Erasmus+: Key Action: Cooperation for innovation and the exchange of good practices, PowerLaPs – *Innovative Education & Training in High Power Laser Plasmas*. Scientific Responsible & Management for the University of Ioannina. Budget: 269,602 € (36,000€ for UoI).

### SUPERVISION OF THESES

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#### PhD

1. *High brightness coherent XUV radiation pulsed sources using strong laser pulses* Stilianos Petrakis (ongoing).
2. *Particle acceleration with an ultra-intense laser*, Anastasios Grigoriadis (ongoing).

#### Co-supervision of PhD Theses (3-member advisory committee)

1. *Interactions of molecules with asymmetric  $\omega/2\omega$  laser fields*, Nikoletta Kotsina, Supervisor: Prof. C. Kosmidis (2015).



2. *Ultra-fast molecular dynamics of toluene and its products in the vacuum ultraviolet spectrum*, Christina Papadopoulou, Supervisor: Prof. C. Kosmidis (2017).
3. *Atomic Physics with Accelerators: Projectile electron spectroscopy at the NCSR Demokritos Tandem accelerator*, Ioannis Madesis. Supervisor: Prof. T.J.M. Zouros (ongoing)..
4. *Zero-degree Auger projectile spectroscopy of He-like ions*, Angelos Laoutaris, Supervisor: Prof. T.J.M. Zouros (ongoing).

### Master

1. *Tunable femtosecond UV/VUV light source based on harmonic generation in static and semi-infinite gas cells utilizing optical parametric amplification*, Lazaros Varvarezos (2015).
2. *Comparative ionization of atoms and diatomic molecules in strong infrared laser fields*, Emmanouil Kechaoglou (2017).
3. *Hydrodynamic simulations of collisional shockwaves in gas targets for improved ion acceleration*, Stylianos Passalidis, Department of Electronic Engineering, TEI of Crete (2018).
4. *Electron capture to continuum in fast collisions of protons with gases*, Stefanos Nanos (2019).

### Bachelor

1. *Study of the VMI spectrometer properties*, Elisavet Bizaki (2011).
2. *Temporal characterization of short laser pulses via 2<sup>nd</sup> order autocorrelation*, Evangelia Delli (2012).
3. *Development and study of the magnetic bottle spectrometer*, Socratis Anastasopoulos (2012).
4. *Theoretical study and simulation of the magnetic bottle spectrometer*, Alcmene-Vasiliki Dagli (2012).
5. 'Modeling of the harmonic generation via the interaction of laser radiation with atoms ', Ioannis Makos (2013).
6. *Dissociation of ionic molecular hydrogen in strong laser fields: Floquet picture*, Spiros Divanis (2013).
7. *The role of volume effects in the dissociation of H<sub>2</sub><sup>+</sup> in interactions with strong laser fields*, Stylianos Passalidis (2014).
8. *Study of the optimization conditions for the generation of the 3<sup>rd</sup> and 5<sup>th</sup> harmonics in interactions of strong laser fields with Ar gas in a static cell*, Lazaros Varvarezos (2014).
9. *Study of the applicability of the Intensity Selective Scanning (ISS) technique in the molecular dissociation of H<sub>2</sub><sup>+</sup> in interactions with strong laser fields*, Anastasios Grigoriadis (2015).
10. *Study of the lower order harmonic generation in interactions of strong laser fields with Ar gas in a pulsed jet*, Emmanouil Kechaoglou (2015).
11. *Determination of J-levels lifetimes of the 1s2s2p <sup>4</sup>P<sub>J</sub> metastable state*, Stefanos Nanos (2016).
12. *Study of the vacuum conditions achieved using a differentially pumped pulsed jet*, Giorgos Arabatzoglou (2017).
13. *Conditioning of an electron gun operation*, Andreas Natsis (2017).
14. *Angular dependence of the 5<sup>th</sup> harmonic generated along the focal area in interactions of strong laser fields with Ar gas in a pulsed jet*, Christina Chrysohoou (2018).
15. *Atomic structure of Li-like ions using the COWAN code*, Sofoklis Nikolaou (2018).
16. *Optical properties of the electrostatic lens of a hemispherical analyzer spectrometer*, Evangelos Patelis (2019).
17. *Optics of fast ion trajectories in magnetic sector spectrometer*, Christos Karvounis (2019).
18. *Pulsed jet density characterization*, Ioannis Romanidis (2019).

**DEFENSE COMMITTEES**

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**PhD**

1. *Study of the interaction of alkyl-halide molecular clusters with strong laser fields*, Gabriel Karras, Department of Physics, University of Ioannina (2011).
2. *Photoelectron and phasmatoscopic study of autoionizing states*, Anastasios Dimitriou, Department of Physics, University of Ioannina (2014).
3. *Interactions of molecules with asymmetric  $\omega/2\omega$  laser fields*, Nikoletta Kotsina, Department of Physics, University of Ioannina (2015).
4. *Study of high frequency elastic waves in multi-layered metal/Silicon materials by ultra-short laser pulses*, Irini Tzianaki, Department of Physics, University of Ioannina (2016).
5. *Ultra-fast molecular dynamics of toluene and its products in the vacuum ultraviolet spectrum*, Christina Papadopoulou, Department of Physics, University of Ioannina (2017).

**Master**

1. *Plasmonic applications based on graphene*, Spyros Doukas, Department of Materials Science & Engineering, University of Ioannina (2016).
2. *Hydrodynamic simulations of collisional shockwaves in gas targets for improved ion acceleration*, Stylianos Passalidis, Department of Electronic Engineering, TEI of Crete (2017).
3. *Study of laser produced plasma during the interaction of 40 TW ultra-short laser pulses with solid and gas targets*, Anastasios Grigoriadis, Department of Electronic Engineering, TEI of Crete (2018).
4. *Plasma dynamics in single wire Z-pinch under moderate electrical explosion*, Ioannis Fitis, Department of Electronic Engineering, TEI of Crete (2018).
5. *Study of X-pinch plasma dynamics using a 40kA pulsed power plasma device*, Nikolaos Ligopsihakis, Department of Electronic Engineering, TEI of Crete (2019).
6. *Experimental and numerical study of laser induced particle acceleration from solid targets*, Ioannis Tazes, Department of Electronic Engineering, Hellenic Mediterranean University (2019).

## PUBLICATIONS (IN CHRONOLOGICAL ORDER)

### PUBLICATIONS IN REFERRED INTERNATIONAL JOURNALS

1. *Search for inelastic electrons scattered off ions in energetic ion-atom collisions*  
T.J.M. Zouros, C. Liao, S. Hagmann, E.C. Montenegro, G. Toth, P. Richard and E.P. Benis  
Nucl. Instrum. Methods Phys. Res. B **98**, 371 (1995).
2. *A new hemispherical analyser with 2-D PSD and focusing lens for use in  $0^\circ$  electron spectroscopy*  
E.P. Benis, K. Zaharakis, M. M. Voultzidou and T.J.M. Zouros  
Nucl. Instrum. Methods Phys. Res. B **146**, 120 (1998)
3. *High resolution RTE measurements at zero degrees using a hemispherical analyser with lens and 2-D PSD*  
E.P. Benis, T.J.M. Zouros and P. Richard  
Nucl. Instrum. Methods Phys. Res. B **154**, 276 (1999)
4. *Hemispherical analyser with 2-D PSD for zero-degree Auger projectile spectroscopy*  
E.P. Benis, T.J.M. Zouros, H. Aliabadi and P. Richard  
Phys. Scr. **T80B**, 529 (1999)
5. *Improving the energy resolution of a hemispherical spectrograph using a paracentric entry at a non-zero potential*  
E.P. Benis and T.J.M. Zouros  
Nucl. Instrum. Methods Phys. Res. A **440**, 462 (2000)
6. *Energy dependence of the metastable fraction in  $B^{3+}(1s^2\ ^1S, 1s2s\ ^3S)$  beams produced in collisions with solid and gas targets*  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara, T.J.M. Zouros  
Phys. Rev. A **64**, 052702 (2001)
7. *Absolute cross section and decay rates for the triply excited  $B^{2+}(2s2p^2\ ^2D)$  resonance in electron-metastable-ion collisions*  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros  
Phys. Rev. A **65**, 032705 (2002)
8. *Technique for the determination of the  $1s2s\ ^3S$  metastable fraction in two-electron ion beams*  
E.P. Benis, T.J.M. Zouros, M. Zamkov, and P. Richard  
Phys. Rev. A **65**, 064701 (2002)
9. *Fraction of metastable  $1s2s\ ^3S$  ions in fast He-like beams ( $Z=5-9$ ) produced in collisions with carbon foils*  
M. Zamkov, E.P. Benis, P. Richard, and T.J.M. Zouros  
Phys. Rev. A **65**, 062706 (2002)
10. *The hemispherical deflector analyzer revisited: I. Motion in the ideal  $1/r$  potential, generalized entry conditions, Kepler orbits and spectrometer basic equation*  
T. J. M. Zouros and E.P. Benis  
J. Electr. Spectr. Rel. Phenom. **125**, 221 (2002); Erratum: **142**, 175 (2005).
11. *Triple electron capture in fast 0.5-1.1 MeV/u  $C^{6+}$  on Ar collisions*  
M. Zamkov, E.P. Benis, P. Richard, T.G. Lee, and T.J.M. Zouros  
Phys. Rev. A **66**, 042714 (2002)
12. *Absolute measurements and calculation of triple electron capture in fast 0.5-1.1 MeV/u  $C^{6+}$  on Ar collisions*

- M. Zamkov, E.P. Benis, T.G. Lee, P. Richard, and T.J.M. Zouros  
Nucl. Instrum. Methods Phys. Res. B **205**, 522 (2003)
13. *Comparison of two experimental techniques for the determination of the  $1s2s^3S$  metastable beam fraction in energetic  $B^{3+}$  ions*  
E.P. Benis, M. Zamkov, P. Richard, and T.J.M. Zouros  
Nucl. Instrum. Methods Phys. Res. B **205**, 517 (2003)
14. *Differential electron scattering from positive ions measured by zero-degree ion-atom spectroscopy*  
T.J.M. Zouros, E.P. Benis, T.W. Gorczyca, A.D. Gonzalez, M. Zamkov, and P. Richard  
Nucl. Instrum. Methods Phys. Res. B **205**, 508 (2003)
15. *Experimental observation and theoretical calculations of triply excited  $2s2p^2\ ^2S^e$ ,  $^2\ ^4P^e$ ,  $^2D^e$ , and  $2p^3\ ^2P^o$ ,  $^2D^o$  states of fluorine*  
M. Zamkov, E.P. Benis, C.D. Lin, T.G. Lee, T. Morishita, P. Richard and T.J.M. Zouros  
Phys. Rev. A. **67**, R050703 (2003)
16. *Large-angle elastic resonant and non-resonant scattering of electrons from  $B^{3+}(1s^2)$  and  $B^{4+}(1s)$  ions: Comparison of experiment and theory*  
T.J.M. Zouros, E.P. Benis, and T.W. Gorczyca  
Phys. Rev. A **68**, R010701 (2003)
17. *Rescattering double ionization of  $D_2$  and  $H_2$  by intense laser pulses*  
A.S. Alnaser, T. Osipov, E.P. Benis, A. Wech, C. L. Cocke, X. M. Tong, and C. D. Lin  
Phys. Rev. Lett. **91**, 163002, (2003)
18. *Isoelectronic study of triply excited state Li-like states*  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, M. Zamkov, and P. Richard  
J. Phys. B **36**, L341 (2003)
19. *Elastic resonant and non-resonant differential scattering of quasi-free electrons from  $B^{4+}(1s)$  and  $B^{3+}(1s^2)$  ions*  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, A.D. Gonzalez and P. Richard  
Phys. Rev. A **69**, 052718 (2004); Erratum: **73**, 029901 (2006)
20. *Vibrationally resolved K-shell photoionization of CO with circularly polarized light*  
T. Jahnke, L.Foucar, J.Titze, R Wallauer, T. Osipov, E.P. Benis, A Alnaser, O. Jacutzki, W. Arnold, S.K. Semenov, N.A. Cherepkov, L. Schmidt, A. Czasch, A. Staudte, M. Schoffler, C.L. Cocke, M.H. Prior, H. Schmidt-Bocking, and R. Doerner  
Phys. Rev. Lett. **93**, 083002 (2004)
21. *Ionization suppression of  $Cl_2$  molecules in intense laser fields*  
E.P. Benis, J.F. Xia, X.M. Tong, M. Faheem, M. Zamkov, B. Shan, P. Richard, C.D. Lin and Z. Chang  
Phys. Rev. A **70**, 025401 (2004)  
[Selected for the September 2004 issue of Virtual Journal of Ultrafast Science.]
22. *Electron correlation in the formation of Li-like ions*  
A.S. Alnaser, A. Landers, D.J. Pole, S. Hossain, E.P. Benis, S.M. Ferguson, and J.A. Tanis  
Phys. Scr. **T110**, 137 (2004)
23. *Second order autocorrelation of an XUV attosecond pulse train*  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, K. Witte, and G.D. Tsakiris  
Phys. Rev. Lett. **94**, 113905, (2005)  
[Selected for the April 2005 issue of Virtual Journal of Ultrafast Science.]

24. *Optimal energy resolution of a hemispherical analyzer with virtual entry*  
T.J.M. Zouros and E.P. Benis  
Appl. Phys. Lett. **86**, 094105 (2005)
25. *The attosecond science frontiers: generation, metrology and paths to applications*  
P. Tzallas, G.D. Tsakiris, L.A.A. Nikolopoulos, N.A. Papadogiannis, K. Witte, E.P. Benis, and D. Charalambidis  
J. Electr. Spectr. Rel. Phenom. **144-147**, 1129 (2005)
26. *Investigation of triply-excited states of Li-like ions in fast ion-atom collisions by zero-degree Auger projectile electron spectroscopy*  
T.J.M. Zouros, E.P. Benis, M. Zamkov, C.D. Lin, T.G. Lee, P. Richard, T.W. Gorczyca, T. Morishita  
Nucl. Instrum. Methods Phys. Res. B **233**, 161 (2005)
27. *Attosecond pulse trains: generation metrology and application perspectives*  
P. Tzallas, E.P. Benis, D. Charalambidis, G.D. Tsakiris, K. Witte, and L.A.A. Nikolopoulos  
Laser Phys. **15**, 821, (2005)
28. *Optimization of the energy resolution of an ideal ESCA-type hemispherical analyzer*  
T.J.M. Zouros, E.P. Benis, and I. Chatzakis  
Nucl. Instrum. Methods Phys. Res. B **235**, 535 (2005)
29. *Spectral phase distribution retrieval through coherent control of harmonic generation*  
E. Papalazarou, M. Kovacev, P. Tzallas, E.P. Benis, C. Kalpouzos, G.D. Tsakiris, and D. Charalambidis  
Phys. Rev. Lett. **96**, 163901 (2006)  
[Selected for the May 2006 issue of Virtual Journal of Ultrafast Science.]
30. *Frequency resolved photoelectron spectra of two-photon ionization of He by an attosecond pulse train*  
E.P. Benis, P. Tzallas, L.A.A. Nikolopoulos, M. Kovacev, C. Kalpouzos, D. Charalambidis and G.D. Tsakiris  
New J. Phys. **8**, 92 (2006)
31. *Comment on "Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part I. Experimental study of multiphoton and single-photon processes*  
D. Charalambidis, P. Tzallas, N.A. Papadogiannis, L.A.A. Nikolopoulos, E.P. Benis, and G.D. Tsakiris  
Phys. Rev. A **74**, 037402 (2006)  
[Selected for the October 2006 issue of Virtual Journal of Ultrafast Science.]
32. *Two-photon double ionization of rare gases by a superposition of harmonics*  
E.P. Benis, D. Charalambidis, T.N. Kitsopoulos, G.D. Tsakiris, and P. Tzallas  
Phys. Rev. A **74**, 051402R (2006)
33. *Single photon induced symmetry breaking of H<sub>2</sub> dissociation*  
F. Martin, J. Fernandez, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schoffer, L. Schmidt, T. Jahnke, A.L. Landers, O. Jakutzki, A. Czasch, E.P. Benis, T. Osipov, A. Belkacem, M.H. Prior, H. Schmidt-Böcking, C.L. Cocke, and R. Dörner  
Science **315**, 629 (2007)
34. *Laser-induced field free alignment of OCS molecule*  
V. Loriot, P. Tzallas, E.P. Benis, E. Herz, B. Lavorel, D. Charalambidis and O. Faucher  
J. Phys. B **40**, 2503 (2007)

35. *Full temporal reconstruction of a lower order harmonic superposition*  
P. Tzallas, E. Skantzakis, E.P. Benis, A. Bonarou, G.D. Tsakiris, and D. Charalambidis  
New J. Phys. **9**, 232 (2007)
36. *Generation of intense continuum XUV radiation by many-cycle laser fields*  
P. Tzallas, E. Skantzakis, C. Kalpouzos, E.P. Benis, G.D. Tsakiris and D. Charalambidis  
Nat. Phys. **3**, 846 (2007)
37. *Exploring intense attosecond pulses*  
D. Charalambidis, P. Tzallas, E.P. Benis, E Skantzakis, G. Maravelias, L.A.A. Nikolopoulos, A. Peralta Conde and G.D. Tsakiris  
New J. Phys. **10**, 025018 (2008)
38. *The hemispherical deflector analyzer revisited II. Electron optical properties*  
E.P. Benis and T.J.M. Zouros  
J. Electr. Spectr. Rel. Phenom. **163**, 28 (2008)
39. *Realization of time resolved two-VUV-photon ionization*  
A. Peralta Conde, J. Kruse, O. Faucher, P. Tzallas, E. P. Benis, and D. Charalambidis  
Phys. Rev. A **79**, 061405 (2009)
40. *Four-dimensional investigation of the 2<sup>nd</sup>-order volume autocorrelation technique*  
O. Faucher, P. Tzallas, E. P. Benis, J. Kruse, A. Peralta Conde, C. Kalpouzos and D. Charalambidis  
Appl. Phys. B. **97**, 505 (2009)
41. *Carbon K-shell photoionization of CO: Molecular frame angular distribution of normal and conjugate shake up satellites*  
T. Jahnke, J. Titze, L. Foucar, R. Wallauer, T. Osipov, E. P. Benis, O. Jagutzki, W. Arnold, A. Czasch, A. Staudte, M. Schoffler, A. Alnaser, T. Weber, M. H. Prior, H. Schmidt-Bocking, and R. Dörner  
J. Electr. Spectr. Rel. Phenom. **183**, 48 (2011)
42. *Role of broadband-laser-pulse temporal extent in H<sub>2</sub><sup>+</sup> photodissociation*  
E. P. Benis, M. Bakarezos, N. A. Papadogiannis, M. Tatarakis, S. Divanis, C. O Broin, and L.A.A. Nikolopoulos  
Phys. Rev. A **86**, 043428 (2012)
43. *Determination of the solid angle and response function of a hemispherical spectrograph with injection lens for Auger electrons emitted from long lived projectile states*  
S. Doukas, I. Madesis, A. Dimitriou, A. Laoutaris, T. J. M. Zouros and E. P. Benis  
Rev. Sci. Instrum. **86**, 043111 (2015)
44. *Evaluation of the effective solid angle of a hemispherical deflector analyser with injection lens for metastable Auger projectile states*  
E.P. Benis, S. Doukas, T.J.M. Zouros, P. Indelicato, F. Parente, C. Martins, J.P. Santos, J.P. Marques  
Nucl. Instrum. Methods Phys. Res. B **365**, 457 (2015)
45. *Evidence for the non-statistical population of the 1s2s2p <sup>4</sup>P metastable state by selective electron capture in 4 MeV collisions of B<sup>3+</sup> (1s2s <sup>3</sup>S) with H<sub>2</sub> targets*  
E.P. Benis, S. Doukas, T.J.M. Zouros  
Nucl. Instrum. Methods Phys. Res. B **369**, 83 (2016)
46. *Determination of the 1s2l2l' state production ratios <sup>4</sup>P<sup>o</sup>/<sup>2</sup>P, <sup>2</sup>D<sup>o</sup>/<sup>2</sup>P and <sup>2</sup>P<sub>+</sub>/<sup>2</sup>P from fast (1s<sup>2</sup>, 1s2s <sup>3</sup>S) mixed-state He-like ion beams in collisions with H<sub>2</sub> targets*  
E.P. Benis and T.J.M. Zouros  
J. Phys. B **49**, 235502 (2016)

47. *High resolution Auger projectile electron spectroscopy of Li-like ions produced by electron capture in collision of He-like ions with gaseous targets*  
A. Dimitriou, A. Laoutaris, I. Madesis, S. Doukas, E.P. Benis, B. Sulik, O. Sise, A. Lagoyannis, M. Axiotis and T.J.M. Zouros  
J. of Atom. Mol. Cond. and Nano Physics **3**, 125 (2016)
48. *Radiative transition rates of  $1s2s(^3S)3p$  levels for Li-like ions with  $5 \leq Z \leq 10$*   
J. P. Santos, F. Parente, M. C. Martins, P. Indelicato, E. P. Benis, T. J. M. Zouros, J. P. Marques  
Nucl. Instrum. Methods Phys. Res. B **408**, 100 (2017)
49. *Experimental determination of the effective solid angle of long-lived projectile states in zero-degree Auger projectile spectroscopy*  
E. P. Benis, I. Madesis, A. Laoutaris and T. J. M. Zouros  
J. Electr. Spectr. Rel. Phenom. **222**, 31 (2018)
50. *Mixed-state ionic beams. An effective tool for collision dynamics investigations*  
E. P. Benis, I. Madesis, A. Laoutaris, S. Nanos and T.J.M. Zouros  
Atoms **6**(4), 66 (2018)
51. *Innovative Education and Training in High Power Laser Plasmas (PowerLaPs) for Plasma Physics*  
High Power Laser Matter Interactions and High Energy Density Physics - Theory and Experiments  
J. Pasley, G. Andrianaki, A. Baroutsos, D. Batani, E.P. Benis, M. Borghesi, E. Clark, D. Cook, E. D'Humieres, V. Dimitriou, B. Dromey, M. Ehret, I. Ftilis, A. Grigoriadis, S. Kar, E. Kaselouris, O. Klimo, M Koenig, K. Kosma, G. Koundourakis, M. Kucharik, A. Lavery, J. Limpouch, Y. Orphanos, N.A. Papadogiannis, S. Petrakis, D. Riley, M.S. Rivetta, L.T. Pascual, J.J. Santos, A. Skoulakis, I. Tazes, V. Tikhonchuk, J. Trela, C. Tsitou, L. Volpe, S. White, M. Yeung, and Michael Tatarakis  
High Power Laser Science and Engineering **7**, e23 (2019)
52. *Population of the  $1s2s(^3S)nl^2L$  states in collisions of mixed-state ( $1s^2\ ^1S$ ,  $1s2s\ ^3S$ )  $B^{2+}$  and  $C^{3+}$  ion beams with He/ $H_2$  targets*  
E. P. Benis, I. Madesis, A. Laoutaris, S.K. Nikolaou, A. Dubois, T.W. Gorczyca and T.J.M. Zouros  
X-Ray Spectrometry (2019)

#### **PUBLICATIONS IN REFERRED CHAPTERS IN BOOKS (INVITED)**

1. *Attosecond scale multi-XUV-photon processes*  
D. Charalambidis, P. Tzallas, E.P. Benis, and G.D.Tsakiris  
Progress in ultrafast intense laser science IV, edited by K. Yamanouchi, A Becker, R. Li and S.L. Chin, Springer, pp. 133-158, (2009)
2. *Projectile electron spectroscopy: new answers to old questions. Latest results at the new atomic physics beamline in Demokritos, Athens*  
I. Madesis, A. Laoutaris, T.J.M. Zouros, S. Nanos and E. P. Benis  
Interdisciplinary Research on Particle Collisions and Quantitative Spectroscopy", World Scientific Publishing, Singapore, Editor-in-Chief: Dzevad Belkic (In Press)

#### **PUBLICATIONS IN REFERRED INTERNATIONAL CONFERENCE PROCEEDINGS**

1. *Charged particle trajectories in an ideal paracentric hemispherical deflection analyzer*  
T.J.M. Zouros, E.P. Benis and J.E. Schauer  
AIP Conf. Proc. **576**, 76 (2001)
2. *Stripping energy dependence of a  $B^{3+}(1s^2\ ^1S, 1s2s\ ^3S)$  beam metastable fraction*  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros  
AIP Conf. Proc. **576**, 149 (2001)

3. *Doubly excited KLL states formed in triple electron capture*  
M. Zamkov, E.P. Benis, T.G. Lee, P. Richard, and T.J.M. Zouros  
AIP Conf. Proc. **680**, 24 (2003)
4. *Resonant (RTE) and non resonant (NTE) transfer excitation in 4 MeV  $B^{4+}$  collisions with  $H_2$ , He and Ar studied by zero-degree Auger projectile electron spectroscopy*  
T.J.M. Zouros, E.P. Benis, A.D. Gonzalez, T.G. Lee, P. Richard, and T.W. Gorczyca  
AIP Conf. Proc. **680**, 36 (2003)
5. *Electron correlation leading to double K-shell vacancies in Li-like ions*  
A.S. Alnaser, A. Landers, D.J. Pole, S. Hossain, E.P. Benis, S.M. Ferguson, and J.A. Tanis  
AIP Conf. Proc. **680**, 77 (2003)
6. *Production of the  $2s2p^2D^e$  triply excited state in collisions of quasi-free electrons with He-like  $B^{3+}$ ,  $C^{4+}$ ,  $N^{5+}$ ,  $O^{6+}$ , and  $F^{7+}$  ions*  
E.P. Benis, M. Zamkov, P. Richard, T.J.M. Zouros, and K. R. Karim  
AIP Conf. Proc. **680**, 168 (2003)
7. *Extending fs pulse metrology to attosecond XUV pulses*  
P. Tzallas, G.D. Tsakiris, K. Witte, L.A.A. Nikolopoulos, E.P. Benis, M. Kovacev, and D. Charalambidis  
Proc. SPIE Int. Soc. Opt. Eng. **5448**, 538 (2004)
8. *On the second order autocorrelation of an XUV attosecond pulse train*  
E.P. Benis, L.A.A. Nikolopoulos, P. Tzallas, D. Charalambidis, K. Witte, and G.D. Tsakiris,  
Proc. XXIV ICPEAC. Published in Photonic, Electronic and Atomic Collisions, Eds. P.D. Fainstein, M.A.P. Lima, J.E. Miraglia, E.C. Montenegro and R.D. Rivarola  
World Scientific, pp. 168 – 172, ISBN 981-270-412-4 (2006)
9. *Monte Carlo calculations of the detection solid angle of electrons emitted from slowly decaying projectile ion Auger states*  
S. Doukas, N. Angelinos, A. Kanellakopoulos, I. Madesis, A. Dimitriou, E.P. Benis and T.J.M. Zouros  
Conference Proceedings of the 6<sup>th</sup> IC-SCCE, pg 282-288 (2014)
10. *Atomic Physics with Accelerators: Projectile Electron Spectroscopy (APAPES)*  
I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, T. Mertzimekis, M. Andrianis, S. Harissopoulos, E.P. Benis, B. Sulik, I. Valastyán, T.J.M. Zouros  
Journal of Physics: Conference Series **583**, 012014 (2015)
11. *Method for determining the lifetimes of the long-lived  $1s2s2p^4P_J$  state J-levels*  
S. Nanos and E. P. Benis  
AIP Conference Proceedings **2075**, 200001 (2019)

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Nuclear Instruments and Methods in Physics Research B.....	11
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X-Ray Spectrometry .....	1
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Journal of Atomic, Molecular, Condensate & Nano Physics ..	1
High Power Laser Science and Engineering .....	1
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#### INVITED TALKS IN CONFERENCES, WORKSHOPS AND MEETINGS

1. *Absolute doubly differential cross section measurements for 180° resonant elastic scattering of quasi-free electrons on B<sup>3+</sup> ions*  
DAMOP02 meeting of The American Physical Society, Williamsburg, Virginia, USA, 29 May -1 June 2002
2. *Production of the 2s2p<sup>2</sup>D<sup>e</sup> triply excited state in collisions of quasi-free electrons with He-like B<sup>3+</sup>, C<sup>4+</sup>, N<sup>5+</sup>, O<sup>6+</sup>, and F<sup>7+</sup> ions*  
17<sup>th</sup> International Conference on the Application of Accelerators in Research and Industry (CAARI), Denton, Texas, USA, 12-16 November 2002
3. *Excited states of three-electron systems*  
XVIII International Seminar on Ion-Atom Collisions, Stockholm (ISIAC), Sweden, 30 July -1 August 2003
4. *Auger electron yields of metastable Li-like projectile states repopulated by radiative cascades and Auger depletion*  
12<sup>th</sup> Topical Workshop of the Stored Particles Atomic Physics Research Collaboration (SPARC), Fodele, Crete, September 22-27, 2015
5. *On the production of the 1s2s2p<sup>2,4</sup> P states in collisions of 0.5-1.25 MeV/u He-like mixed (1s<sup>2</sup> <sup>1</sup>S, 1s2s<sup>3</sup>S) ionic states with gaseous targets*  
14<sup>th</sup> Topical Workshop of the Stored Particles Atomic Physics Research Collaboration (SPARC), Caen, France, September 11-14, 2017
6. *Mixed state (1s<sup>2</sup> <sup>1</sup>S, 1s2s<sup>3</sup>S) He-like ions in collisions with gas targets – search for the elusive cascades*  
18<sup>th</sup> International Conferences on the Physics of Highly Charged Ions (HCI), Lisboa, Portugal, September 03-07, 2018
7. *Influence of metastable states in ionic beams colliding with atomic targets*  
International Symposium on Ion-Atom Collisions (ISIAC), Paris, France, July 20-22 2019

**ORAL PRESENTATIONS IN CONFERENCES, WORKSHOPS AND MEETINGS**

---

1. *B<sup>3+</sup>(2p<sup>2</sup>1D) doubly-excited state formed in energetic collisions of B<sup>4+</sup> + H<sub>2</sub> by resonant transfer and excitation*  
DAMOP01 meeting of The American Physical Society, London, Ontario, Canada, 15-19 May 2001  
(given for T.J.M. Zouros)
2. *Charge state dependence of 0<sup>o</sup> binary encounter electron production in B<sup>q+</sup> (q=2-5) in collisions with H<sub>2</sub>*  
DAMOP01 meeting of The American Physical Society, London, Ontario, Canada, 15-19 May 2001.
3. *Towards frequency resolved XUV gating*  
Symposium on attosecond generation and metrology, Ringberg castle, D-83700 Rottach-Egern Germany, 4-7 April 2004
4. *Developments towards frequency resolved XUV gating*  
XTRA meeting Santorini, Greece, 14-17 October 2004
5. *Suppression of laser field ionization of Cl<sub>2</sub> molecule*  
Conference on Super Intense Laser Atom Physics, Southfork Ranch, Dallas Texas, USA, 16-19 November 2003 (given by J.F. Xia)
6. *On the second order autocorrelation of an XUV attosecond pulse train*  
XXIV International Conference on Photonic, Electronic, and Atomic Collisions, Rosario, Argentina, 20-26 July 2005 (special talk)
7. *Formation mechanisms of the 1s2s2p <sup>4</sup>P<sub>J</sub> metastable state in 12 MeV C<sup>4+</sup> (1s<sup>2</sup>1S, 1s2s<sup>3</sup>S) collisions with H<sub>2</sub>, He, Ne and Ar*  
Photon and fast Ion induced Processes in Atoms, Molecules and Nanostructures, Debrecen, Hungary, March 24-26, 2015
8. *Solid angle correction factors for hemispherical and two-stage parallel plate analysers in the detection of long lived projectile Auger states*  
9th International Physics Conference of the Balkan Physical Union, Istanbul University, Istanbul, Turkey, 24-27 August, 2015
9. *The APAPES project at the tandem accelerator facility of "Demokritos": A progress report*  
28th Symposium of the Hellenic Nuclear Physics Society, Physics Dept., Aristotle Univ. of Thessaloniki, Thessaloniki, Greece, May 31-June 1, 2019

**SEMINARS**

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1. *A novel high-efficiency paracentric hemispherical spectrograph for use in zero-degree Auger projectile spectroscopy*  
Kansas State University, Department of Physics, 24-02-1999
2. *A new hemispherical spectrograph for use in zero-degree Auger projectile spectroscopy*  
Kansas State University, Department of Physics, 18-04-2001
3. *Absolute cross section measurements in metastable-ion atom collisions*  
Kansas State University, Department of Physics, 06-02-2002
4. *Absolute doubly-differential cross section measurements for 180<sup>o</sup> elastic scattering of quasi-free electrons on B<sup>3+</sup> ions*  
Western Michigan University, Department of Physics, 18-02-2002
5. *Non-linear XUV optics with and for attosecond pulses*  
Max-Planck-Institut fur Quantenoptik, Garching, 29-03-2006

6. *Ultra-short VUV pulses: realization, metrology and exploitation*  
University of Ioannina, Department of Physics, 26-09-2008
7. *Case studies in metrology and exploitation of ultra-short VUV/EUV pulses*  
Dublin City University, Department of Physics, 08-07-2009
8. *Formation mechanisms of the  $1s2s2p^4P_J$  metastable state in collisions of highly charged ions with gaseous targets*  
Institut für Kernphysik, Frankfurt, 21-05-2015

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**POSTER PRESENTATIONS & ABSTRACT CONTRIBUTIONS IN CONFERENCES, WORKSHOPS AND MEETINGS**

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1. *Search for inelastic electrons scattered off ions in energetic ion-atom collisions*  
T.J.M. Zouros, C. Liao, S. Hagmann, E.C. Montenegro, G. Toth, P. Richard and E.P. Benis  
VII International Conference on the Physics of Highly Charged Ions, Vienna, Austria, 19-23 September 1994
2. *SIMION3D electron optics studies of zero-degree Auger projectile electron spectrometers*  
M.M. Voultzidou, E.P. Benis, T.J.M. Zouros and P. Richard,  
American Physical Society Meeting, Washington, DC, USA, April 1997.
3. *A zero-degree Hemispherical electron spectrometer with 2-Dimensional position-sensitive detector*  
E.P. Benis, M.M. Voultzidou, T.J.M. Zouros, P. Richard and S. Hagmann  
American Physical Society Meeting, Washington, DC, USA, April 1997
4. *A hemispherical analyzer with 2-D PSD for use in zero-degree Auger projectile spectroscopy*  
E.P. Benis, T.J.M. Zouros, M.M. Voultzidou, P. Richard and M. Stockli  
XX International Conference on Photonic, Electronic and Atomic Collisions, Vienna, Austria, 23-29 July 1997
5. *A Hemispherical electron spectrometer with 2-Dimensional position sensitive detector for use in zero-degree Auger projectile spectroscopy*  
E.P. Benis, K. Zaharakis, M.M. Voultzidou and T.J.M. Zouros  
XV International Seminar on Ion-Atom Collisions, Budapest, Hungary, 1-2 August 1997
6. *Measurement of  $0^\circ$  binary encounter electron production using a hemispherical analyzer with 2-D PSD and focusing lens*  
E.P. Benis, T.J.M. Zouros, K. Zaharakis, and P. Richard  
Fourth International Symposium on Swift Heavy Ions in Matter, Berlin, Germany, 11-15 May 1998
7. *Focusing properties of a hemispherical analyzer with 2-D PSD for electrons entering along a non-central path*  
E.P. Benis, T.J.M. Zouros, K. Zaharakis and P. Richard  
DAMOP98 meeting of The American Physical Society, Santa Fe, New Mexico, USA, 27-30 May 1998
8. *High Resolution RTE Measurements at zero degrees using a Hemispherical Analyser with Lens and 2-D PSD*  
E.P. Benis, T.J.M. Zouros and P. Richard  
7<sup>th</sup> Workshop on Fast Ion-Atom Collisions, Debrecen, Hungary, 9-11 September 1998
9. *Hemispherical analyser with 2-D PSD for  $0^\circ$  Auger projectile spectroscopy*  
E.P. Benis, T.J.M. Zouros, H. Aliabadi and P. Richard

- IX International Conference on the Physics of Highly Charged Ions, GSI, Bensheim, Germany, 14-18 September 1998
10. *Production of triply excited states in Boron and Fluorine*  
E.P. Benis, T.J.M. Zouros, P.A. Zavodszky, H. Aliabadi and P. Richard  
XXI International Conference on Photonic Electronic and Atomic Collisions, Sendai, Japan, 22-27 July 1999
  11. *Binary Encounter of ground state and laser excited states of lithium*  
C. Verzani, E.P. Benis, T.J.M. Zouros and B.D. DePaola  
XXI International Conference on Photonic, Electronic and Atomic Collisions, Sendai, Japan, 22-27 July 1999
  12. *Stripping energy dependence of  $B^{3+}(1s2s^3S)$  metastable beam fraction produced in a tandem accelerator*  
M. Zamkov, H. Aliabadi, T. Gray, H. Tawara, P. Richard, E.P. Benis and T.J.M. Zouros  
16th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 1-4 November 2000
  13. *Formation of the  $1s2s2p^4P$  state by transfer-loss in collisions of Li-like  $O^{5+}$  ions with He gas target*  
Orban, B. Sulik, T.J.M. Zouros, E.P. Benis, and L. Gulyas  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001
  14. *Observation of two-electron transfer-excitation in 4.5 MeV collisions of  $B^{3+}(1s^2)$  ions with Ar*  
T.J.M. Zouros, E.P. Benis, M. Zamkov, H. Aliabadi, H. Tawara and P. Richard  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001
  15. *PC-based fast position delay-line detection technology for high count-rate high-resolution measurements using a hemispherical electron spectrometer*  
T.J.M. Zouros, E.P. Benis, O. Jagutzki, K. Ullmann-Pfleger and H. Schmidt-Bocking  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001
  16. *Study of processes contributing to the production of the metastable  $1s2s^3S$  state in He-like beams*  
M. Zamkov, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001
  17. *Production of doubly excited states in He-like Boron*  
E.P. Benis, T.J.M. Zouros and P. Richard  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001
  18. *Production of Li-like  $B^{2+}(2s2p^2D^e)$  hollow ionic states by resonance transfer and excitation (RTE) in collisions of 2-7 MeV metastable  $B^{3+}(1s2s^3S)$  with  $H_2$*   
T.J.M. Zouros, M. Zamkov, E.P. Benis, P. Richard, H. Tawara, P.A. Zavodszky  
XVII International Seminar on Ion-Atom Collisions, Ensenada, Mexico, 26-27 July 2001
  19. *Doubly excited KLL states formed by triple electron capture*  
M. Zamkov, E.P. Benis, P. Richard, T.G. Lee and T.J.M. Zouros  
11th International Conference on the Physics of Highly Charged Ions, Caen, France, 1-6 September 2002
  20. *Techniques for the determination of the  $1s2s^3S$  metastable fraction in two-electron ion beams*  
E.P. Benis, M. Zamkov, P. Richard, and T.J.M. Zouros,

- 11th International Conference on the Physics of Highly Charged Ions, Caen, France, 1-6 September 2002
21. *Differential resonant inelastic scattering cross sections for electron collisions on  $B^{4+}(1s)$*   
 H. Aliabadi, P. Richard, E.P. Benis, and T.W. Gorczyca  
 17th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 12-16 November 2002
  22. *Fragment Distributions From the Photo-ionization and Dissociation of Aligned  $H_2$  and  $D_2$  Molecules*  
 L.M. Foucar, M.H.Prior, M. Schöffler, L. Schmidt, H. Schmidt-Böcking, R. Dörner, A. Landers, T. Osipov, E.P. Benis, and C.L. Cocke  
 DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003
  23. *Study of triply excited  $2s2p^2\ ^2S$ ,  $^2\ ^4P$ ,  $^2D$ , and  $2p^3\ ^2P$ ,  $^2D$  states of fluorine produced by triple electron capture*  
 M. Zamkov, E.P. Benis, C.D. Lin, P. Richard, T.J.M Zouros, and T. Moroshita  
 DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003
  24. *Zero-degree Auger projectile spectroscopy of 1.5 MeV  $Li^+$  ions on  $H_2$  collisions*  
 T.J.M. Zouros, E.P. Benis, M. Zamkov and P. Richard  
 DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003
  25. *Isoelectronic ( $Z=5-9$ ) study for the  $2s2p^2\ ^2D^e$  triply excited state formed in collisions of quasi-free electrons with He-like ions*  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, M. Zamkov and P. Richard  
 DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003
  26. *Electron correlation in the formation of Li-like ions*  
 A.S. Alnaser, A. Landers, D.J. Pole, S. Hossain, E.P. Benis, S. M. Ferguson, and J.A. Tanis  
 XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003
  27. *Rescattering Ionization of  $D_2$  in intense laser field*  
 A.S. Alnaser, E.P. Benis, T. Osipov, A. Wech, C. Wyant, J. Stuhlman, E. Edgu-Fry, Z. Chang, B. Shan, and C. L. Cocke  
 XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003
  28. *Collisional energy dependence study for elastic scattering of quasi-free electrons from  $B^{3+}(1s^2)$  ions*  
E.P. Benis, T.J.M Zouros, T.W. Gorczyca, A.D. Gonzalez, and P. Richard  
 XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003
  29. *Optimization of the energy resolution of an ideal ESCA-type hemispherical analyzer*  
 T.J.M. Zouros, E.P. Benis, and I. Chatzakis  
 12<sup>th</sup> International Conference on Highly Charged Ions, Vilnius, Lithuania, 6-3 September 2004
  30. *High intensity coherence XUV light source*  
 P. Tzallas, E.P. Benis, and D. Charalambidis,  
 Workshop on Ultra-high Intensity Interaction Plasma Emission Diagnostic, CCLRC Rutherford Appleton Laboratory, 4-5 April 2005.
  31. *On the generation metrology and applications of XUV attosecond pulses*  
 P. Tzallas, E.P. Benis, M. Kovacev, E. Papalazarou, L.A.A Nikolopoulos, G.D. Tsakiris, and D. Charalambidis  
 XXI International Symposium on Molecular Beams, Hersonissos, Crete, 15-20 May 2005

32. *Zero-degree projectile electron spectroscopy of  $B^{2+}$  in 3-8 MeV collisions with  $H_2$*   
T.J.M. Zouros, E.P. Benis, and P. Richard  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina,  
20-26 July 2005
33. *Ultimate energy resolution of a hemispherical analyzer using a cylindrically symmetric injection lens and virtual entry aperture*  
T.J.M. Zouros and E.P. Benis  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina,  
20-26 July 2005
34. *XUV attosecond pulses: generation, metrology, and potential applications*  
E.P. Benis, L.A.A. Nikolopoulos, P. Tzallas, G.D. Tsakiris, and D. Charalambidis  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina,  
20-26 July 2005
35. *On the second order autocorrelation of an XUV attosecond pulse train*  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, K. Witte, and G.D. Tsakiris  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina,  
20-26 July 2005
36. *Numerical ab-initio study of non-linear response of helium under an XUV radiation*  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, and G.D. Tsakiris  
International Conference on Computational Methods in Sciences and Engineering, Loutraki,  
Korinthos, Greece, 21-26 October 2005
37. *Single photon-induced symmetry breaking of  $H_2$  dissociative ionization*  
F. Martín, J. Fernández, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schöffler, L. Schmidt,  
T. Jahnke, O. Jagutzki, A. Czasch, E. P. Benis, T. Osipov, A. L. Landers, A. Belkacem, M. H. Prior,  
H. Schmidt-Böcking, C. L. Cocke, R. Dörner  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
38. *Single photon-induced symmetry breaking of  $H_2$  dissociation*  
F. Martín, J. Fernández, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schöffler, L. Schmidt,  
T. Jahnke, O. Jagutzki, A. Czasch, E. P. Benis, T. Osipov, A. L. Landers, A. Belkacem, M. H. Prior,  
H. Schmidt-Böcking, C. L. Cocke, R. Dörner  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
39. *Towards intense isolated pulses*  
P. Tzallas, E. Skantzakis, C. Kalpouzos, E.P. Benis, A. Bonarou, G.D. Tsakiris, and D. Charalambidis  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
40. *Full temporal reconstruction of lower order harmonic superposition*  
E. Skantzakis, P. Tzallas, E. Papalazarou, C. Kalpouzos, A. Bonarou, E.P. Benis, G.D. Tsakiris, and  
D. Charalambidis  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
41. *Two photon direct double ionization: a non-linear medium for xuv metrology*  
E.P. Benis, P. Tzallas, G.D. Tsakiris, and D. Charalambidis  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
42. *Spatiotemporal effects in attosecond pulse train metrology*  
E.P. Benis, J. Kruse, P. Tzallas, E. Skantzakis, G.D. Tsakiris, and D. Charalambidis  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007
43. *Non-linear XUV processes @ femto / atto-second temporal scales*  
P. Tzallas, E.P. Benis, L.A.A. Nikolopoulos, O. Faucher, E. Skantzakis, G.D. Tsakiris, and D.

Charalambidis

XXV International Conference on Photonic Electronic and Atomic Collisions, Freiburg, Germany, 25-31 July 2007

44. *Two photon double ionization of rare gases by a superposition of high order harmonics*  
E.P. Benis, P. Tzallas, T.N. Kitsopoulos, G.D. Tsakiris, and D. Charalambidis  
20<sup>th</sup> International Symposium on Ion-Atom Collisions, Agios Nikolaos, Crete, Greece, 1-4 August 2007
45. *H<sub>2</sub><sup>+</sup> photodissociation under 7 fs chirped laser pulses*  
E.P. Benis, M. Bakarezos, N.A. Papadogiannis, M. Tatarakis, L.A.A. Nikolopoulos  
Science @ FELs (Satellite Meeting to the 11th International Conference on Synchrotron Radiation Instrumentation in Lyon), DESY in Hamburg, Germany, 15-18 July 2012
46. *Ionization/dissociation of toluene under strong asymmetric two-color laser fields of fs duration*  
S. Kaziannis, N. Kotsina, E.P. Benis, S. Danakas and C. Kosmidis  
11th European Conference on Atoms, Molecules and Photons, Aarhus, Denmark, 24-28 June 2013
47. *Molecular dynamics utilizing pump-probe technique at the VUV region*  
C. Papadopoulou, S. Kaziannis, S. Danakas, E.P. Benis and C. Kosmidis  
COST Action MP1203 meeting at Dublin, Ireland, 21-23 October 2013
48. *Atomic Physics with Accelerators: Projectile Electron Spectroscopy (APAPES)*  
I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, T. Mertzimekis, M. Andrianis, E.P. Benis, S. Harissopoulos, B. Sulik, I. Valastyán, T.J.M. Zouros  
23rd Conference on Application of Accelerators in Research & Industry, San Antonio, TX, 25 - 30 May 2014
49. *Treatment of the metastable Auger decay in fast ion-atom collisions in an effective Monte Carlo type simulation*  
S. Doukas, N. Angelinos, A. Kanellakopoulos, E.P. Benis, I. Madesis, A. Dimitriou and T.J.M. Zouros  
6<sup>th</sup> International Conference from Scientific Computing to Computational Engineering, Athens, Greece, 9 - 12 July 2014.
50. *Atomic Physics with Accelerators: Projectile Electron Spectroscopy (APAPES)*  
I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, T. Mertzimekis, M. Andrianis, E.P. Benis, S. Harissopoulos, B. Sulik, I. Valastyán, T.J.M. Zouros  
International Conferences on the Physics of Highly Charged Ions, San Carlos de Bariloche, Argentina, Aug. 31 - Sept 5 2014
51. *The Auger-KLL spectrum of carbon in 12 MeV C<sup>4+</sup> + Ne collisions: Comparison of experimental measurements and SIMION simulations*  
E.P. Benis, I. Madesis, A. Dimitriou, S. Doukas, A. Laoutaris, B. Sulik, I. Valastyán, T.J.M. Zouros  
11th Topical Workshop of the Stored Particles Atomic Physics Research Collaboration, Worms, Germany, Oct. 16-17, 2014
52. *High resolution Auger projectile electron spectroscopy of Li-like ions produced by electron capture of He-like ions in collisions with gaseous targets*  
I. Madesis, A. Dimitriou, A. Laoutaris, A. Lagoyannis, M. Axiotis, T. J. Mertzimekis, M. Andrianis, E. P. Benis, S. Harissopoulos, B. Sulik, I. Valastyan, T. J. M. Zouros  
CDAMOP 2015, New Delhi, India, Mar 11-14, 2015
53. *Formation mechanisms of the 1s2s2p <sup>4</sup>P<sub>j</sub> metastable state in 12 MeV C<sup>4+</sup> (1s<sup>2</sup>1S, 1s2s <sup>3</sup>S) collisions with H<sub>2</sub>, He, Ne and Ar*  
E.P. Benis, I. Madesis, A. Dimitriou, A. Laoutaris, B. Sulik, O. Sise and T.J.M. Zouros

- Photon and fast Ion induced Processes in Atoms, Molecules and Nanostructures, Debrecen, Hungary, Mar 24-26, 2015
54. *The role of the effective solid angle in the determination of the electron yield of metastable projectile Auger states*  
E.P. Benis, S. Doukas, I. Madesis, A. Dimitriou, A. Laoutaris, T.J.M. Zouros, F. Parente, C. Martins, J. P. Marques, P. Indelicato and J. P. Santos  
 9th International Symposium on Swift Heavy Ions in Matter, Darmstadt, Germany, May 18-21, 2015
  55. *Energy levels, transition rates and lifetimes for Li-like ions with  $Z \leq 10$  in the  $1s2s(^3S)3l$  states*  
 J. P. Santos, J. P. Marques, M. C. Martins, P. Indelicato, E. P. Benis, T. J. M. Zouros, F. Parente  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015
  56. *Investigation of the dependence of the energy resolution of a hemispherical deflection analyzer on the distance of the position sensitive detector from the focal plane*  
 C. Nounis, A. Laoutaris, I. Madesis, A. Dimitriou, O. Sise, E.P. Benis, T.J.M. Zouros  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015
  57. *Use of gas and foil strippers for the production of He-like ionic beams in both pure ground state ( $1s^2$ ) and mixed states ( $1s^2, 1s2s$ ) for zero-degree Auger projectile electron spectroscopy*  
 A. Laoutaris, I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, E.P. Benis, T.J.M. Zouros  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015
  58. *Separation and solid angle correction of the metastable  $1s2s2p^4P$  Auger yield produced in ion-atom collisions using the biased gas cell technique: A tool for the determination of the population mechanisms*  
 I. Madesis, A. Laoutaris, S. Doukas, A. Dimitriou, E.P. Benis, T.J.M. Zouros  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015
  59. *Evaluation of  $1s2l2l' ^4P^{\circ}/^2P, ^2P_{+}/^2P_{-}, ^2D^{\circ}/^2P$  ratios from collisions of mixed state ( $1s^2 ^1S, 1s2s ^3S$ ) He-like ion beams with  $H_2$  and He targets*  
E. P. Benis, I. Madesis and T. J. M. Zouros  
 18th International Conferences on the Physics of Highly Charged Ions, Sep 11-16, Kielce, Poland, 2016
  60. *Modeling the  $1s2l2l'$  Auger projectile spectrum in  $C^{4+}(1s2s^3S)$  collisions with He including radiative cascade repopulation and Auger depletion*  
 I. Madesis, A. Laoutaris, E.P. Benis, T.J.M. Zouros, T. Kirchner, J.P. Santos, F. Parente and M. C. Martins  
 18th International Conferences on the Physics of Highly Charged Ions, Sep 11-16, Kielce, Poland, 2016
  61. *Cascade of  $1s2s(^3S)3l$  states for Li-like ions with  $Z \leq 10$*   
 J. P. Santos, J. P. Marques, M. C. Martins, P. Indelicato, E. P. Benis, T. J. M. Zouros, F. Parente  
 18th International Conferences on the Physics of Highly Charged Ions, Sep 11-16, Kielce, Poland, 2016
  62. *Determination of the  $^4P^{\circ}/^2P$  ratio in single electron capture of  $C^{4+} (1s^2, 1s2s^3S)$  mixed state ion beams in 6-18 MeV collisions with  $H_2, He, Ne$  and Ar targets*  
 I. Madesis, A. Laoutaris, E. P. Benis, T. Kirchner, T. J. M. Zouros



- XXIX International Conference on Photonic, Electronic and Atomic Collisions, Cairns, Tropical Queensland, Australia, July 26 – August 1, 2017
63. *Effective solid angle correction factors for long-lived Auger states populated in low-Z ion collisions with gas targets*  
E. P. Benis, S. Nanos, I. Madesis, A. Laoutaris, T. W. Gorczyca, T. J. M. Zouros  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Cairns, Tropical Queensland, Australia, July 26 – August 1, 2017
64. *Investigation of  $2s2p\ ^{3,1}P$  excitation and  $(1s2s\ ^3S)nl$  capture lines in 6-18 MeV  $C^{4+}$  ( $1s^2$ ,  $1s2s\ ^3S$ ) collisions with gas targets*  
 A. Laoutaris, I. Madesis, E. P. Benis, T. J. M. Zouros  
 XXIX International Conference on Photonic, Electronic and Atomic Collisions, Cairns, Tropical Queensland, Australia, July 26 – August 1, 2017
65. *Multi-electron processes in MeV/u mixed-state  $C^{4+}$  ( $1s^2$ ,  $1s2s\ ^3S$ ) + He collisions: Comparison of AOCC calculations and experiments*  
E.P. Benis, A. Dubois, J.W. Gao, A. Laoutaris, I. Madesis and T.J.M. Zouros  
 19th International Conferences on the Physics of Highly Charged Ions, Lisboa, Portugal, Sep 3-9, 2018
66. *The role of He-like mixed ( $1s^2\ ^1S$ ,  $1s2s\ ^1,3S$ ) ionic states in the investigation of population mechanisms of He-like and Li-like excited states*  
E. P. Benis, I. Madesis<sup>2,3</sup>, A. Laoutaris, J.W. Gao, A. Dubois and T. J. M. Zouros  
 15th Topical Workshop of the Stored Particles Atomic Physics Research Collaboration, Lisboa, Portugal, Sep 9-13, 2018
67. *High harmonics generation and characterization using the Zeus laser at CPPL*  
 S. Petrakis, Y. Orphanos, I. Ftilis, E. L. Clark, V. Dimitriou, M. Bakarezos, M. Tatarakis, E.P. Benis and N.A. Papadogiannis  
 35th European Conference on Laser Interaction with Matter, Rethymno, Crete, Greece, 22-26 October, 2018
68. *Energetic particles source using the Zeus 45 TW laser at CPPL*  
 G. Andrianaki, A. Grigoriadis, I. Tazes, E. L. Clark, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I. K. Nikolos, V. Dimitriou, E. P. Benis, N. A. Papadogiannis and M. Tatarakis  
 35th European Conference on Laser Interaction with Matter, Rethymno, Crete, Greece, 22-26 October, 2018.
69. *Novel gel dosimetry diagnostic for the secondary sources of ZEUS 45TW laser system at CPPL*  
 E. L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I. K. Nikolos, V. Dimitriou, E. P. Benis, N. A. Papadogiannis and M. Tatarakis  
 3rd European Conference on Plasma Diagnostics (ECPD), Lisbon, Portugal, 6-9 May 2019
70. *Secondary sources generated with the ZEUS 45TW laser system at CPPL*  
 E. L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I. K. Nikolos, V. Dimitriou, E. P. Benis, N. A. Papadogiannis and M. Tatarakis  
 International Conference on Applications of Nuclear Techniques, Rethymno, Crete, 09-15 June, 2019
71. *Coherence effects in dielectronic processes during swift  $C^{4+}(1s^2)$  collisions with helium and hydrogen*  
 T.J.M. Zouros, I. Madesis, E. P. Benis, A. Laoutaris, J. W. Gao and A. Dubois  
 XXVI Int. Symposium on Ion-Atom Collisions, Paris, France, Jul 19-22, 2019.

72. *Li-like carbon Auger KLL measurements of mixed-state  $C^{4+}(1s^2\ ^1S, 1s2s\ ^3S)$  ions in 6-15 MeV collisions with He and comparison to 3eAOCC calculations*  
I. Madesis, A. Laoutaris, E. P. Benis, T. J.M. Zouros, A. Dubois,  
XXXI International Conference on Photonic, Electronic and Atomic Collisions, Deauville,  
Normandy, France, July 23-30, 2019
73. *Electron capture to continuum in 0.5-4.5 MeV/u collisions of protons and deuterons with gas targets*  
S. Nanos, A. Laoutaris, I. Madesis, T. J. M. Zouros and E.P. Benis  
16th Topical Workshop of the Stored Particles Atomic Physics Research Collaboration, Jena,  
Germany, Sep 9-13, 2019