

CURRICULUM VITAE

(last updated July 16, 2009)

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1 SUMMARY

Education

Ph.D. Physics 1983, **Yale University**, New Haven, Conn. USA
M. Phil. Physics 1979, **Yale University**
M. S. Physics 1976, **Yale University**
B.S. Physics 1974, **M.I.T.** Cambridge, Mass. USA

Employment/Positions held

2009 - Research Scientist, **INP Tandem, Demokritos**, Athens, Greece
1995 - Assoc. Prof., Dept. of Physics, **U. of Crete**, &
1991 - 2007 Research Scientist, **IESL-FORTH**, Heraklion
2002 - 2003 Visiting Prof., **Kansas State University**
1997 Visit. Scientist, **Univ. of Frankfurt & GSI**, Darmstadt, Germany
1996 - 1997 Visiting Prof., **Kansas State University**
1990 - 1995 Assist. Prof., Dept. of Physics, **U. of Crete**
1990 Guest Scientist, **Université de Caen**, Caen, France
1986 - 1990 Res. Assoc. **Kansas State University**, Manhattan, Kansas
1984 - 1986 Guest Scientist, **Hahn-Meitner-Institute**, Berlin, Germany

Specialization/Expertise

- Physics of highly charged ions
- Experimental atomic collision physics with accelerators
- Electron spectroscopy of highly charged ions
- Excitation and Ionization in ion-atom and electron-ion collisions
- Charged particle optics and optimization of electron spectrometers

Teaching

- Advanced Physics Laboratory (3rd-4th year physics requirement)
- Physics Laboratory II: (E&M) (2nd year physics requirement)
- Electron Optics (part of KSU physics graduate course - Spring 2003)
- Introduction to the PC (1st year physics requirement)
- Fortran 77 (1st year physics requirement)
- Contemporary Topics in Physics I (1st year physics elective)
- Contemporary Topics in Physics II (1st year physics elective)
- Quantum Mechanics (3rd year physics requirement)
- Atomic Physics and Atomic Collisions (4th year elective)
- Quantum Structure of Matter (3rd year physics requirement)
- Atomic Collisions (4th year elective/graduate)

Distinctions/Honors

- Wrote dedication honoring Prof. Pat Richard at the 12th International Conference on the Application of Accelerators in Research and Industry, November 2-5, 1992 Denton, Texas.
- Adjunct Professor – Dept. of Physics, **Kansas State University** since 2001.
- Fellow American Physical Society (2006).

Research

- 106** Refereed articles (**83** in major international journals, **12** in conference proceedings, **4** invited chapters in books and **7** invited reviews)
- 159** Contributions to international conferences
- 100** Talks & presentations (**30** invited at international conferences/workshops)
- 1463** Citations of which **1048** *without self-citations*¹ (SCI through December 2008)
- 19** h-index

Funding

- 1991:** \$6,300 (NATO91), 980,000GRD (UoC91)
- 1992:** 3,710DM (DAAD92), 500,000GRD (UoC92)
- 1993:** 8,400,000GRD (PENED91),
49,000EU (HCM Network - EU)
4,650DM (Hereaus)
- 1994:** \$5,000 (IAEA94), \$4,700 (NATO91-renewal)
- 1995:** \$5,000 (IAEA95)
- 1996:** 10,000,000GRD (PENED94)
- 1997:** 6,400DM (DAAD97)
- 1998:** 1,500,000GRD (ELKE-UoC)
- 1999:** 33,700EU (LEIF - Infrastructure Cooperation Network-EU)
- 2000:** 4,200,000GRD (Greek-German Bilateral S&T Cooperation)
4,200,000GRD (Greek-Hungarian Bilateral S&T Cooperation)
- 2004:** 11,740EU (Greek-Hungarian Bilateral S&T Cooperation)
- 2006:** user ITS LEIF - Infrastructure Cooperation Network-EU
1,200 EU (UoC travel grant for Greek-Turkish Collaboration)
- 2007:** 6,500 EU (Ministry of Education & sponsors for XX ISIAC support)

*Note: My main research program was maintained at the J.R. Macdonald (JRM) 7MV tandem accelerator laboratory at Kansas State University from **1990 to 2008** (1990-2000 as a visiting collaborator and 2000-2008 as an adjunct professor). The JRM is funded by the US Department of Energy (US-DOE) with an overall grant of about 2.5 M\$/yr. My program represents about 10-15% of this research grant shared*

¹Defined as a citation in which my name is not amongst the names of the authors of the citing reference

with Prof. Pat Richard, my main collaborator at the JRM. Since January 2009 my laboratory equipment has been moved from JRM-Kansas to the 5 MV Tandem Laboratory of the Institute of Nuclear Physics at Demokritos in Athens, Greece. A dedicated beamline for the investigation of ion-atom collisions is being presently build and experiments are being planned.

Personal

Born in Karachi, Pakistan 11/05/1951, citizen of Greece

Married 08/05/1992 to Maura Bernadette Fidelis

Children: Melina born 18/11/1994 and Leonardo born 17/01/2002

Languages

Greek & English (excellent), Spanish, French, Portuguese & German (limited).

2 PERSONAL

Education

- Ph.D. Physics 1983, **Yale University**, New Haven, Connecticut USA
Dissertation Research: *The isolation and study of continuum (Molecular Orbital) x-ray transitions observed in energetic heavy ion-atom collisions.*
 Advisor: Professor Jack S. Greenberg.
- M. Phil. Physics 1979, **Yale University**
Research: *Search for unstable bound modes in the field of a Kerr black-hole.*
 Advisor: Professor Douglas M. Eardley.
- M.S. Physics 1976, **Yale University**
- B.S. Physics 1974, **Massachusetts Institute of Technology**, Cambridge, Massachusetts USA
Thesis Research: *Calculated Spectrum of inverse-Compton scattered photons.*
 Advisor: Professor Kenneth Brecher.

Employment

- 04/29/09–present Research Scientist, **INP Tandem, Demokritos**, Athens, Greece
- 10/30/95–present Associate Professor, Dept. of Physics, **University of Crete**
- 02/01/91–31/12/07 Research Scientist, **Institute of Electronic Structure and Laser**,
 Foundation for Research and Technology-Hellas,
 P.O. Box 1527, 711 10 Heraklion, Crete, Greece
- 05/12/02–08/31/03 Visiting Prof. Dept. of Physics, Kansas State University
- 08/01/97–01/15/98 Visiting Professor, **Institut für Kernphysik**
Dept. of Physics, University of Frankfurt &
Gesellschaft für Schwerionenforschung (GSI), Darmstadt, Germany
- 05/19/96–07/31/97 Visiting Professor, **J.R. Macdonald Laboratory**,
Dept. of Physics, Kansas State University
 Manhattan, KS 66502 USA
- 07/01/90–30/10/95 Assistant Professor, Dept. of Physics
University of Crete, Heraklion, Crete, Greece
- 01/06/94–03/06/94 Visiting Asst. Prof., **J.R. Macdonald Laboratory**,
- 08/22/93–09/20/93 Guest Scientist, WE-Heraeus Stipendium
Institut für Strahlenphysik der Universität Stuttgart,
 Allmandring 3, D-70569 Stuttgart, Germany
- 07/17/92–01/15/93 Visiting Asst. Prof., **J.R. Macdonald Laboratory**,
- 03/01/90–07/01/90 Guest Scientist, Centre Interdisciplinaire de Recherche
 avec les Ions Lourds, **Université de Caen**, 14040 Caen, France
- 09/01/86–03/01/90 Research Associate, **Kansas State University**, Manhattan, Kansas, USA
- 01/01/84–05/31/86 Guest Scientist, **Hahn-Meitner-Institute**, Berlin, Germany
- 06/01/83–12/31/83 Post Doctorate Fellow, **Wright Nuclear Structure Laboratory**

	Yale University, New Haven, Connecticut USA
1975–06/01/83	Teaching & Res. Assist. Wright Nuclear Structure Laboratory
1978–1981	Teaching Assistant, Physics Department, Yale University
1975–1976	Teaching Fellow, Physics Department, Yale University

Distinctions/Honors

- Fellow American Physical Society (November 2006)
Citation: *For his many years of exploration of ion-atom collisions through high-resolution electron spectroscopy and his study of inelastic scattering of electrons from highly-charged ions through the use of quasi-free electron targets*
Nominated by the Division of Atomic, Molecular and Optical Physics
- Adjunct Professor, Physics Department, Kansas State University (May 1, 2001)
- Selected with Prof. J. Tanis to write dedication honoring Prof. Pat Richard, at the 12th International Conference on the Application of Accelerators in Research and Industry, November 2-5, 1992 Denton, Texas. Dedication appeared in Nucl. Instrum. & Meth. in Phys. Res. B**79**, ix (1993).

Experience/Skills

Extensive experience doing atomic physics research using many different types of accelerators and set-ups. This experience includes:

Accelerators

13 MV Yale Tandem Van-de-Graaff, the 500 KV HMI Van-de-Graaff, the HMI VICKSI Cyclotron, the Kansas State 7 MV Tandem, 120 kV 14.2 GHz G.A.N.I.L. ECR facility, GSI Experimental Storage Ring (ESR) facility.

Detectors:

Scintillation and Solid-State detectors for particles and radiation (NaI, HpGe, Ge(Li)), proportional gas counters, position sensitive detectors, surface barrier, multi-channel plates, channeltron and electron multipliers.

Detection Technics

High Vacuum Systems, High energy-resolution electron spectroscopy, Time-of-Flight Techniques, Coincidence electronics (nanosecond timing) with (x-ray, x-ray), (ion, recoil), (ion, electron) coincidences, position-sensitive detectors, 2-dimensional position sensitive electron detector with resistive anode and delay-line anode.

Data Analysis and Simulation Technics

Monte-Carlo transmission calculations for electron spectrometers, Data processing systems in multiparameter recording experiments. CAMAC programs for programmable precision HV power supplies. SIMION3D electron-optics simulations.

Computers:

Wrote extensive programs for the sorting, replay and analysis of data; theoretical calculations and manuscript preparation. Familiar with VAX and Unix computers and Fortran, Speakeasy, Mathematica, T_EX and L^AT_EX, LabView, Origin script language.

Professional Societies

1979 - 1990, 2003- Member of American Physical Society

Scientific Committees

2007-2009 International Committee ISIAC2009

2005-2007 Chairman and main organizer of
International Symposium on Ion-Atom collisions (ISIAC2007).

2005-2006 International Committee Member of Physics of Highly Charged Ions conference,
Belfast N. Ireland, UK 2006 (HCI06)

1999-2004 Secretary of **L**ow **E**nergy **I**on **F**acilities (LEIF) -
European Infrastructure Cooperation Network (www.leif-network.org)

1992 International Committee Member of Physics of Highly Charged Ions conference,
Manhattan, KS (USA) 1992 (HCI92)

Referee

- Nuclear Instruments & Methods in Physics Research (1991-)
- Journal of Physics B: Atomic & Molecular Physics (1992-)
- Review of Scientific Instruments (1992-)
- Physical Review A (2004-)
- Physica Scripta (2005-)
- Physical Review Letters (2004 -)

3 PUBLICATIONS (linked via the internet)

(Revised and updated July 16, 2009 – corresponding author is underlined)

3.1 Chapters in Books

- C1. **T.J.M. Zouros**, *Resonant Transfer and Excitation Associated with Auger Electron Emission*, in Recombination of Atomic Ions, eds. W. Graham, Y. Hahn, W. Fritsch & J. Tanis (Plenum Publishing Corp., NY, 1992), NATO ASI Series B: Physics, vol. **296**, pp. 271-300.(PDF)
- C2. **T.J.M. Zouros**, *Excitation and ionization in fast ion-atom collisions due to projectile electron–target electron interactions*, in Applications of Particle and Laser Beams in Materials Technology ed. P. Misailides, (Kluwer Academic Publishers, Netherlands, 1995), NATO ASI Series E: Applied Sciences, vol. **283**, pp. 37-52.(PDF)
- C3. **T.J.M. Zouros** and D.H. Lee, *Zero Degree Auger Electron Spectroscopy of Projectile Ions*, in Accelerator–Based Atomic Physics Techniques and Applications, edited by S.M. Shafroth and J.C. Austin, (AIP, NY, 1997), chapter 13, pp. 427-479. (PDF)
- C4. A. Dorn, R. Moshhammer, C.D. Schröter, **T.J.M. Zouros**, W. Schmitt, H. Kollmus, R. Mann and J. Ullrich, *Double Ionization of Helium by Fast Electron Impact*, in New Directions in Atomic Physics, (edited by C.T. Whelan, R.M. Dreizler, J.H. Macek and H.R.J. Walters) Kluwer Academic/Plenum Publishers, New York (1999) p. 203-207. (PDF)

3.2 Invited Review Articles - Refereed

- R1. **T.J.M. Zouros**, D. Schneider and N. Stolterfoht, *High Resolution Studies of Two-Electron Processes Observed in Energetic Ion-Atoms Collisions via Zero-Degree Auger Spectroscopy*, Nuclear Instruments and Methods in Phys. Research B**31**, 349-58 (1988).¹ (PDF)
- R2. **T.J.M. Zouros**, *Projectile-electron–Target-electron Interactions: Exposing the Dynamic Role of electrons in fast Ion-atom collisions*, Comments in Atomic and Molecular Physics **32**, 291 (1996).(PDF)
- R3. A. Arnau, F. Aumayr, P. M. Echenique, M. Grether, W. Heiland, H. Limburg, R. Morgenstern, P. Roncin, S. Schippers, R. Schuch, N. Stolterfoht, P. Varga, **T.J.M. Zouros** and HP. Winter, *Interaction of slow multicharged ions with solid surfaces*, Surface Science Reports **27**, 113-239 (1997). (PDF)

¹Conference contribution published in international refereed journal

- R4. **T.J.M. Zouros** and E.P. Benis, *The Hemispherical Deflector Analyser revisited: I. Generalized entry conditions, Kepler orbits and spectrometer basic equation*, Invited Review, J. Electron Spectroscopy & Related Phenomena **125**, 221-248 (2002).(PDF)
- R5. **T.J.M. Zouros**, E. P. Benis, T. W. Gorczyca, A. D. González, M. Zamkov and P. Richard, *Differential electron scattering from positive ions measured by 0° ion-atom spectroscopy*, Nucl. Instr. & Meth. in Phys. Res. B **205**, 508-516 (2003).¹ (PDF)
- R6. **T. J. M. Zouros**, E. P. Benis, T. W. Gorczyca, M. Zamkov, C. D. Lin, T. G. Lee, T. Morishita, and P. Richard, *Investigation of triply-excited states of Li-like ions in fast ion-atom collisions by zero-degree Auger projectile electron spectroscopy*, Nucl. Instr. & Meth. in Phys. Res. B **233**, 161-171 (2005).¹ (PDF)
- R7. Yuhai Jiang, A Rudenko, M Kurka, K U Kuehnel, L Foucar, Thorsten Ergler, S Luedemann, K Zrost, T Ferger, D Fischer, Alex Dorn, J Titze, T Jahnke, M Schoeffler, S Schoessler, T Havermeier, M Smolarski, K Cole, Reinhard Doerner, **T J M Zouros**, S Duesterer, R Treusch, M Gensch, C D Schroeter, R Moshhammer and Joachim Ullrich, *VUV-photon induced multiple-ionization and fragmentation dynamics: From atoms to molecules*, J. Phys. B: At. Mol. Opt. Phys. **42**, 134012 (2009). (PDF)

3.3 Publications in refereed International Journals (by Year)

1. **T.J.M. Zouros**, D.M. Eardley, *Instabilities of Massive Scalar Perturbations of a Rotating Black Hole*, Annals of Physics **118**, 139 (1979). (PDF)
2. **T.J.M. Zouros**, J.S. Greenberg and N. Tsoupas, *The Emission Anisotropy of Isolated K MO Transitions in 40 MeV Ni+Ni Collisions*, J.Phys. B: Atom. Molec. Phys. **17**, L289-94 (1984). (PDF)
3. **A. Itoh**, D. Schneider, T. Schneider, **T.J.M. Zouros**, G. Nolte, G. Schiwietz, W. Zeitz and N. Stolterfoht, *Selective Production of Li, Be and, B-Like K Vacancy States in Fast Ne Projectiles Studied by Zero-Degree Auger Spectroscopy*, Phys. Rev. A **31**, 684 (1985).(PDF)
4. **E. Liarakapis**, J.J. O'Brien, **T.J.M. Zouros**, J.S. Greenberg, *A Coincidence Study of Vacancy Sharing Between Quasi-Molecular Orbitals*, J. Phys. B: Atom. Molec. Phys. **18**, L115-9 (1985).(PDF)

¹Conference contribution published in international refereed journal

5. A. Itoh, **T.J.M. Zouros**, D. Schneider, U. Stettner, W. Zeitz, and N. Stolterfoht, *Transfer-Excitation in $He^+ + He$ Collisions Studied by Zero-Degree Electron Spectroscopy*, J. Phys. B: Atom. Molec. Phys. **18**, 4581 (1985). (PDF)
6. G. Schiwietz, U. Stettner, **T.J.M. Zouros**, and N. Stolterfoht, *Investigation of the impact-parameter dependence of electrons emitted in 30-, 100-, 350-keV H^+ and 100-keV $^3He^{2+} + Ar$ collisions*, Phys. Rev. **A35**, 598 (1987). (PDF)
7. **T.J.M. Zouros**, D. Schneider, A. Itoh, and N. Stolterfoht, *Production of $(2s^2)^1S$, $(2p^2)^1D$ and $(2s2p)^1P$ States by Double Capture in 150-500 keV $^3He^{2+} + He$ Collisions*, Phys. Rev. **A35**, 1963 (1987). (PDF)
8. E. Liarokapis, **T.J.M. Zouros**, J.S. Greenberg, *X-ray Spectroscopy of Electronic Quasimolecules. I: Isolation and Study of K MO Transitions*, Phys. Rev. **A36**, 1669 (1987). (PDF)
9. P. Richard, J. Hall, J.L. Shinpaugh, J.M. Sanders, T.N. Tipping, **T.J.M. Zouros**, D.H. Lee and H. Schmidt-Böcking, *One- and Two-Electron Processes in Collisions of Heavy Ions with H_2 and He*, Nuclear Instruments and Methods, **A262**, 69 (1987). (PDF)
10. J.M. Anthony, S.M. Shafroth, M. Benhenni, E.N. Strait, **T.J.M. Zouros**, L.D. Hendrick and D.M. Peterson, *Production of Doubly Core-Excited Configurations in C^{4+} Projectiles Through Resonant Transfer Excitation*, J. de Physique **48**, C9-301 (1987).¹ (PDF)
11. **T.J.M. Zouros**, E. Liarokapis, J.S. Greenberg, *X-Ray Spectroscopy of Electronic Quasimolecules. II: Emission Anisotropy of Selected K MO Transitions*, Phys. Rev. **A37**, 426 (1988). (PDF)
12. **T.J.M. Zouros**, D. Schneider, and N. Stolterfoht, *Observation of Resonant and Non-Resonant Transfer Excitation in 50-500 keV $^3He^+ + H_2$ Collisions*, J. Phys. B: Atom. Molec. Phys. **21**, L671 (1988). (PDF)
13. J.L. Shinpaugh, J.M. Sanders, T.N. Tipping, D.H. Lee, **T.J.M. Zouros**, P. Richard, J.M. Hall and H. Schmidt-Böcking, *Simultaneous electron-capture and target ionization in bare Fluorine plus Helium collisions*, Nucl. Instr. & Meth. in Phys. Res. **B40/41**, 36 (1989).¹(PDF)
14. D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese, B.D. DePaola and P. Richard, *A zero-degree tandem electron*

¹Conference contribution published in international refereed journal

- spectrometer and Rydberg analyzer for projectile electron studies in ion-atom collisions*, Nucl. Instr. & Meth. in Phys. Res. **B40/41**, 1229 (1989).¹(PDF)
15. B.D. DePaola, W.J. Axmann, C. Parameswaran, D.H. Lee, **T.J.M. Zouros**, and P. Richard, *Studies of High Charge State Rydberg Ions*, Nucl. Instr. & Meth. in Phys. Res. **B40/41**, 187 (1989).¹(PDF)
 16. C. Parameswaran, W.J. Axmann, **T.J.M. Zouros**, and B.D. DePaola, *RTE with Li Vapor target*, Nucl. Instr. & Meth. in Phys. Res. **B40/41**, 158 (1989).¹ (PDF)
 17. **T.J.M. Zouros**, D.H. Lee, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese and P. Richard, *High Resolution studies of electron capture and excitation by 0^0 Projectile Electron spectroscopy*, Nucl. Instr. & Meth. in Phys. Res. **B40/41**, 17 (1989).¹ (PDF)
 18. **T.J.M. Zouros**, D.H. Lee, P. Richard, J.M. Sanders, J.L. Shinpaugh, S.L. Varghese, K.R. Karim and C.P. Bhalla, *State-selective Observation of Resonance Transfer-Excitation (RTE) in collisions of F^{6+} with He and H_2 targets*, Phys. Rev. A **40**, 6246 (1989). (PDF)
 19. **T.J.M. Zouros**, D.H. Lee, and P. Richard, *Projectile $1s \rightarrow 2p$ Excitation due to Electron-Electron Interaction in Collisions of F^{6+} and O^{5+} Ions with He and H_2 targets*, Phys. Rev. Letts. **62**, 2261 (1989). (PDF)
 20. D.H. Lee, P. Richard, **T.J.M. Zouros**, J.M. Sanders, J.L. Shinpaugh and H. Hidmi, *Binary Encounter Electrons Observed at Zero Degrees in collisions of 1-2 MeV/amu H^+ , C^{6+} , N^{7+} , O^{8+} and F^{9+} Ions with H_2 and He targets*, Phys. Rev. A **41**, 4816 (1990). (PDF)
 21. E. Liarokapis, **T.J.M. Zouros**, and J.J. O'Brien, *K-Vacancy Production by 100, 160 and 200 MeV Nb Collisions with Solid Targets*, J. de Physique, **51**, 735-745, (1990). (PDF)
 22. P. Richard, D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, and J.L. Shinpaugh, *Anomalous q -dependence of 0^0 Binary Encounter electron production in energetic collisions of F^{q+} ($q = 3 - 9$) with He and H_2 targets*, J. Phys. B **23**, L213 (1990). (PDF)
 23. **T.J.M. Zouros**, C.P. Bhalla, D.H. Lee, and P. Richard, *Effects of Alignment and Interference in Resonant Transfer and Excitation for F^{6+} and O^{5+} Collisions with H_2 in 0^0 Auger measurements (RTEA)*, Phys. Rev. A **42**, 678 (1990). (PDF)

¹Conference contribution published in international refereed journal

24. Ashok Jain, R. Shingal and **T.J.M. Zouros**, *State-Selective Non-Resonant Transfer Excitation (NTE) in 50-500 keV $^3\text{He}^+ + \text{H}_2$ and He Collisions*, Phys. Rev. **A43**, 1621 (1991). (PDF)
25. D.H. Lee, P. Richard, J.M. Sanders, **T.J.M. Zouros**, J.L. Shinpaugh, S.L. Varghese, *KLL resonant transfer excitation to $F^{6+}(1s2\ell 2\ell')$ intermediate states*, Phys. Rev. **A44**, 1636 (1991). (PDF)
26. D.H. Lee, P. Richard, J.M. Sanders, **T.J.M. Zouros**, J.L. Shinpaugh, and S.L. Varghese, *Electron capture and excitation studied by state-resolved KLL Auger measurement in 0.25-2 MeV/u $F^{7+}(1s^2\ ^1S, 1s2s\ ^3S) + \text{H}_2/\text{He}$ collisions*, Nucl. Instr. & Meth. in Phys. Res. **B56/57**, 99 (1991).¹ (PDF)
27. **T.J.M. Zouros**, D.H. Lee, P. Richard and J.M. Sanders, *Effect of Electron-Electron Interaction on Projectile K-shell Ionization in Energetic Ion-atom Collisions Studied by zero-degree Auger electron spectroscopy*, Nucl. Instr. & Meth. in Phys. Res. **B56/57**, 107 (1991).¹ (PDF)
28. R. Köhrbrück, D. Lecler, F. Frémont, P. Roncin, K. Sommer, **T.J.M. Zouros**, J. Bleck-Neuhaus and N. Stolterfoht, *Electron emission in collisions of slow, highly charged ions with gases and solid surfaces*, Nucl. Instr. & Meth. in Phys. Res. B **B56/57**, 219-222 (1991).¹ (PDF)
29. J.L. Shinpaugh, J.M. Sanders, J.M. Hall, D.H. Lee, H. Schmidt-Böcking, T.N. Tipping, **T.J.M. Zouros**, and P. Richard, *Electron Capture and Target Ionization in Collisions of Bare Projectile Ions incident on Helium*, Phys. Rev. **A45**, 2922 (1992). (PDF)
30. D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, J.M. Anthony, J.L. Shinpaugh, P. Richard, Y. Wang, J. McGuire *K-shell Ionization of O^{4+} and C^{2+} ions in fast collisions with H_2 and He targets*, Phys. Rev. **A46**, 1374 (1992). (PDF)
31. H.I. Hidmi, P. Richard, J.M. Sanders, H. Schöne, J.P. Giese, D.H. Lee, **T.J.M. Zouros**, and S.L. Varghese, *Charge-State Dependence of the Binary-Encounter electron Cross Sections and Peak Energy*, Phys. Rev. **A48**, 4421 (1993). (PDF)
32. **T.J.M. Zouros**, D.H. Lee, J.M. Sanders and P. Richard, *Impulse Approximation treatment of electron-electron excitation and ionization in energetic ion-atom collisions*, Nucl. Instr. & Meth. in Phys. Res. **B79**, 166 (1993).¹ (PDF)

¹Conference contribution published in international refereed journal

33. D.H. Lee, **T.J.M. Zouros**, P. Richard, J.M. Sanders, H. Hidmi, *Zero-Degree Binary Encounter Electrons in Fast Collisions of Highly Charged F and O Ions with H₂ target*, Nucl. Instr. & Meth. in Phys. Res. **B79**, 11 (1993).¹ (PDF)
34. Y.D. Wang, J. McGuire, **T.J.M. Zouros**, Pat Richard, *Theory of Projectile Ionization By Molecular Hydrogen Targets*, Nucl. Instr. & Meth. in Phys. Res. **B79**, 124 (1993).¹ (PDF)
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73. **T.J.M. Zouros**, Omer Sise, M. Ulu and M. Dogan, *Using the fringing fields of a hemispherical spectrograph to improve its energy resolution*, Meas. Sci. Techno. **17**, N81-N86 (2006). (PDF)
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75. **H. Rothard**, R. Moshhammer, J. Ullrich, H. Kollmus, R. Mann, S. Hagmann, **T.J.M. Zouros**, *Differential Multi-Electron Emission Induced By Swift Highly Charged Gold Ions Penetrating Carbon Foils*, Nucl. Instrum. & Meth. Phys. Res. B **258**, 91-95 (2007).¹ (PDF)
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 Appeared also in *The Virtual Journal of Ultrafast Science*, Vol. 6, Issue 6, Atomic and Molecular Physics (2007).
78. **T. J. M. Zouros**, B. Sulik, L. Gulyás and K. Tökési, *Selective enhancement of $1s2s2p^4P_J$ metastable states populated by cascades in single electron transfer collisions of $F^{7+}(1s^2/1s2s^3S)$ ions with He and H_2 targets*, Phys. Rev. A **77**, 050701R (2008) (PDF)

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79. E.P. Benis and **T.J.M. Zouros**, *The hemispherical deflector analyzer revisited: II. Electron-optical properties*, J. Electr. Spectro. & Relat. Phenom. **163**, 28-39 (2008). (PDF)
80. **T.J.M. Zouros**, F.M. Spiegelhalter and David J. Manura, *Modeling the accuracy of ion optics simulations of Kepler orbits in a spherical capacitor*, Physics Procedia **1**, 461-466 (2008). (PDF)
81. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *First-order focusing and energy resolution optimization of a biased paracentric hemispherical spectrograph*, Physics Procedia **1**, 467-472 (2008). (PDF)
82. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *Comparison of Fringing Field Correction Schemes for the 180° Hemispherical Deflector Analyzer*, Physics Procedia **1**, 473-477 (2008). (PDF)

83. **T. J. M. Zouros**, B. Sulik, L. Gulyás and K. Tökési, *Non-statistical population of $1s2s2p^4P$ quartet states by electron transfer into multiply charged ions*, J. of Physics: Conference Series **163**, 012004 (2009). (PDF)

PAPERS SUBMITTED

1. G. Zhu, M. Schuricke, J. Steinmann, J. Albrecht, J. Ullrich, I. Ben-Itzhak, **T. J.M. Zouros**, J. Colgan, M. Pindzola, A. Dorn, *Controlling two-electron threshold dynamics in double photoionization of lithium by initial state preparation*, PRL June 10 (2009)

3.4 Publications in refereed International Conference Proceedings (by Year)

- CP1. **T.J.M. Zouros**, J.S. Greenberg and N. Tsoupas, *Measurement of the Emissions Anisotropy of the $2p\sigma \rightarrow 1s\sigma$ Transition in 40-MeV Ni+Ni Collisions*, in High-Energy Ion-Atom Collisions, Proceedings of the 2nd Workshop on High-Energy Ion-Atom Collisions Processes, Debrecen, Hungary, August 27-28, 1984, Edited by D. Berényi and G. Hock (Akadémiai Kiadó, Budapest, 1985), pp. 105-113. (PDF)
- CP2. D. Schneider, N. Stolterfoht, A. Itoh, T. Schneider, G. Schiwietz, W. Zeitz and **T.J.M. Zouros**, *Auger Spectroscopy of Highly Stripped Atoms*, in: Electronic and Atomic Collisions, eds., D.D. Lorents and W.E. Meyerhof, J.R. Peterson, (Elsevier, Amsterdam, 1986) pp. 671-83. (PDF)
- CP3. **T.J.M. Zouros**, D.H. Lee, P. Richard, *Observation of electron-electron interaction in collisions of O^{5+} ions with H_2 targets*, in The Physics of Electronic and Atomic Collisions, eds. A. Dalgarno, R.S. Freund, P.M. Koch, M.S. Lubell and T.B. Lucatorto (American Institute of Physics, New York, 1990) pp. 568-571. (PDF)
- CP4. **T.J.M. Zouros**, P. Richard and D.H. Lee, *Z_p and q -dependence of 0° binary encounter electrons in 1-2 MeV/u collisions of ions with H_2 and He targets*, in High-Energy Ion-Atom Collisions, Invited Contribution, Proceedings of the 4th Workshop on High-Energy Ion-Atom Collision Processes, Debrecen, Hungary, September 17-21, 1990, Edited by D. Berényi and G. Hock, Lecture Notes in Physics (Springer-Verlag, Berlin, 1991) **376**, pp. 61-65. (PDF)
- CP5. H.I. Hidmi, P. Richard, J.M. Sanders and **T.J.M. Zouros**, *Energy Shifts in the Binary Encounter Peak of 0.5 MeV/amu $Cu^{9+} + H_2$* , VIth International Conference on the Physics of Highly-Charged Ions, AIP Conf. Proc. **274**, 319 (1993). (PDF)
- CP6. D.H. Lee, **T.J.M. Zouros**, J.M. Sanders and P. Richard, *Electron-electron Interactions in K-shell Excitation of F^{6+} Ions in Fast Collisions with H_2 targets*, VIth International Conference on the Physics of Highly-Charged Ions, AIP Conf. Proc., **274**, 323 (1993). (PDF)
- CP7. **T.J.M. Zouros**, H.I. Hidmi, J.M. Sanders, P. Richard, S.L. Varghese, M.L.A. Raphaelian, C.P. Bhalla, *Interference between RTEA and elastically scattered target electrons in 20 MeV $F^{6+} + H_2$ collisions*, VIth International Conference on the Physics of Highly-Charged Ions, AIP Conf. Proc. **274**, 331 (1993). (PDF)

- CP8. **T. J. M. Zouros**, E. P. Benis and J.E. Schauer, *Charge particle trajectories in an ideal paracentric hemispherical deflection analyzer*, AIP Conf. Proc. **576**, 76-9 (2001). (PDF)
- CP9. **M. Zamkov**, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara and **T. J. M. Zouros**, *Stripping energy dependence of a $B^{3+}(1s^2\ ^1S, 1s2s\ ^3S)$ beam metastable fraction*, AIP Conf. Proc. **576**, 149-52 (2001). (PDF)
- CP10. **M. Zamkov**, E.P. Benis, P. Richard, T. G. Lee and **T. J. M. Zouros**, *Doubly-excited KLL states formed in triple electron capture*, AIP Conf. Proc. **680**, 24-27 (2003). (PDF)
- CP11. **T. J. M. Zouros**, E.P. Benis, A.D. González, T. G. Lee, P. Richard and T.W. Gorczyca, *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*, AIP Conf. Proc. **680**, 36-39 (2003). (PDF)
- CP12. **E.P. Benis**, M. Zamkov, P. Richard, **T. J. M. Zouros** and K.R. Karim, *Production of the $2s2p^2\ ^2D^e$ triply excited state in collisions of quasi-free electrons with He-like B^{3+} , C^{4+} , N^{5+} , O^{6+} and F^{7+} ions*, AIP Conf. Proc. **680**, 168-171 (2003). (PDF)

3.5 Non-Refereed publications

(Revised and updated Thursday 16th July, 2009)

3.5.1 Scientific Articles

1. B. Sulik, **T.J.M. Zouros**, A. Orbán and L. Gulyas, *Transfer-loss process in 0.2-2 MeV/u O^{5+} + He collisions*, Scientific Herald of Uzhgorod University, Serial: Physics **8** (2000) 325.
2. B. Sulik, A. Orbán, L. Gulyas and **T.J.M. Zouros**, *Cascade feeding of the $1s2s2p\ ^4P$ state in collisions of O^{5+} with H_2 and He targets*, ATOMKI, Annual Report (2002), Debrecen, Hungary.

3.5.2 Scientific Articles appearing in Newsletters on the www

1. E.P. Benis and **T.J.M. Zouros**, *Improving the energy resolution of a hemispherical spectrograph using a paracentric entry at a non-zero potential*, LEIF Newsletter No. 3 (December 2002).

2. **T.J.M. Zouros**, E.P. Benis, and T.W. Gorczyca, *Large-angle elastic resonant and non-resonant scattering of electrons from ground-state $B^{3+}(1s^2)$ and $B^{4+}(1s)$ ions: Comparison of experiment and theory*, LEIF Newsletter No. 4 (June 2003).
3. **T.J.M. Zouros**, E.P. Benis, and T.W. Gorczyca, *Isoelectronic study of triply excited Li-like states*, LEIF Newsletter No. 5 (November 2003).
4. **T.J.M. Zouros** and E.P. Benis, *Ultimate energy resolution of a hemispherical analyzer with virtual entry aperture*, LEIF Newsletter No. 8 (January 2005).

3.5.3 Dedications

1. **T.J.M. Zouros** and J.A. Tanis, *Patrick Richárd*, Personal Report, Nucl. Instum. & Meth. in Phys. Res. **B79**, ix (1993). Dedication honoring Prof. Pat Richard, at the 12th International Conference on the Application of Accelerators in Research and Industry, November 2-5, 1992 Denton, Texas. (PDF)

3.6 Unpublished

1. **T.J.M. Zouros**, *Calculated Spectrum of inverse-Compton scattered photons*, Bachelor of Science Thesis, Massachusetts Institute of Technology (1974).
2. **T.J.M. Zouros**, *The isolation and study of continuum (Molecular Orbital) x-ray transitions observed in energetic heavy ion-atom collisions*, Ph. D. Thesis, Yale University (1983).

4 TALKS AND SEMINARS

(Revised and updated July 16, 2009)

4.1 Invited Talks at Major International Conferences

Given by **Theo J.M. Zouros**:

1. *Measurement of the Emission Anisotropy of the $2p\sigma \rightarrow 1s\sigma$ Transition in 40-MeV Ni+Ni Collisions*, Invited Talk, 2nd Workshop on High-Energy Ion-Atom Collisions Processes, Debrecen, Hungary, August 27 (1984).
2. *High Resolution Studies of Two-Electron Processes Observed in Energetic Ion-Atom Collisions Via Zero-Degree Auger Spectroscopy*, Invited Talk, Symposium on Atomic Spectroscopy and Highly-Ionized Atoms, Lisle, IL, Aug. 16-21 (1987).
3. *High Resolution Studies of Electron Capture and Excitation by Zero-degree Projectile electron Spectroscopy*, Invited Poster talk, Tenth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 7-9 November (1988).
4. *Observation of electron-electron Interaction in collisions of O^{5+} and F^{6+} Ions with H_2 and He Targets*, Invited Talk, Hot Topics, ICPEAC, New York, N.Y., July 26 - August 1 (1989).
5. *Relating electron-electron Interactions in ion-atom collisions to electron-electron interactions in free-electron - ion collisions*, Invited Poster talk, XI ISIAC, Manhattan, Kansas, August 3-4 (1989).
6. *Z_p and q -dependence of 0° binary encounter electrons in 1-2 MeV/u collisions of ions with H_2 and He targets*, Invited Contribution, 4th Workshop on High-Energy Ion-Atom Collisions Processes, Debrecen, Hungary, September 17-21 (1990).

7. *Effect of Electron-Electron Interaction on Projectile K-shell Ionization in Energetic Ion-atom Collisions Studied by zero-degree Auger electron spectroscopy*, Invited Talk, Eleventh Conference on the Application of Accelerators in Research and Industry, Denton, Texas, 5-8 November (1990).
8. *Resonant Transfer and Excitation associated with Auger emission*, Invited Talk, NATO Research Workshop on the Recombination of Atomic Ions, Belfast Northern Ireland, October 6-9 (1991).
9. *Impulse Approximation treatment of electron-electron excitation and ionization in energetic ion-atom collisions*, Invited Talk, 12th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 2-5 (1992).
10. *Determination of Metastable Fraction of Be-like Ions in the $1s^2 2s 2p^3 P$ state by zero degree Auger electron spectroscopy*, Invited Poster talk, 12th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 2-5 (1992).
11. *Excitation and ionization in fast ion-atom collisions due to projectile-electron-target-electron interactions*, Invited talk, Applications of Particle and Laser Beams in Materials Technology, NATO Summer school, Chalkidiki, Greece, May 8-20 (1994).
12. *Zero-degree Auger electron spectroscopy*, Invited Review Talk, Workshop on Experimental Techniques in Ion-Atom collisions, Invited Talk, Satellite meeting of the 13th International Conference on the Application of Accelerators in Research and Industry, Denton Texas, November 5 (1994).
13. *Identification of very low energy projectile autoionizing transitions in high velocity collisions using zero-degree Auger electron spectroscopy*, Invited Talk, 13th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 7-11 (1994).

14. *Recent developments in Zero-degree Auger Projectile Spectroscopy*, Invited Talk, 14th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 8 (1996).
15. *Projectile-electron-target-electron interactions in ion atom collisions* Invited Talk, 15th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 4 (1998).
Could not attend - Talk given by my collaborating Ph.D. student G. Toth.
16. *A novel paracentric ESCA-type hemispherical electron spectrometer with improved energy resolution for use with large area position-sensitive detectors*, Invited Talk, 16th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 1-4 (2000).
17. *Production of Li-like $B^{2+}(2s2p^2\ ^2D)$ hollow ionic states by Resonance Transfer and Excitation (RTE) in collisions of 2-7 MeV metastable $B^{3+}(1s2s\ ^3S)$ with H_2* , Invited Talk, International Symposium on Ion-Atom Collisions (ISIAC), Ensenada, Mexico, July 27 (2001).
18. *Differential electron-impact excitation cross sections of positive ions measured by zero-degree ion-atom spectroscopy*, Invited Talk, 11th International Conference on the Physics of Highly Charged Ions (HCI-2002), Caen, France, September 1-6 (2002).
19. *Investigation of resonant (RTE) and non resonant (NTE) transfer excitation in energetic B^{4+} and B^{3+} collisions with gas targets by zero-degree Auger projectile electron spectroscopy*, Invited Talk, 17th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 12-16 (2002).
20. *Investigation of ionic triply-excited states using zero-degree Auger electron spectroscopy*, Invited Talk, 8th Workshop on Fast Ion-Atom Collisions,

Debrecen, Hungary, September 1-3 (2004).

21. *Transfer-Loss in O^{5+} Collisions With He And H_2 Targets*, Invited talk, International Symposium on Ion Atom Collisions (ISIAC), Rio de Janeiro, Brazil, July 27-28 (2005).
22. *Transfer-Loss in O^{5+} and F^{6+} Collisions With He And H_2 Targets*, Invited Talk, International Workshop on *Interdisciplinary Research with Slow Ion Beams*, Caen, France, October 10-11 (2005).
23. *Zero-degree Auger Projectile electron spectrometry in the New experimental Storage Ring (NESR)*, Invited Talk, Topical Workshop of the SPARC Collaboration *Novel Research Opportunities for Atomic Physics with Heavy Ions: Facilities and Instrumentation*, Paris, France, Feb. 14 (2007).
24. *Zero-degree Auger Projectile electron spectroscopy of multi-electron processes at SPIRAL2*, Invited Talk, *Atomic Physics with the SPIRAL2 project*, Paris, France, March 27-28 (2008).
25. *Non-statistical population of $1s2s2p^4P$ quartet states by charge transfer into multiply charged ions*, HCI, Tokyo, Japan, August 30 - September 5 (2008).
26. *30 years of high resolution projectile electron spectroscopy in 20 minutes: Past successes and future prospects*, Invited talk, International Symposium on Ion Atom Collisions (ISIAC), Norfolk, Virginia, July 17 - 20 (2009).

4.2 Invited Talks at Special meetings

27. *Zero-degree Auger Projectile e^- Spectroscopy and the Electron Scattering Model in ion-atom collisions: A historical perspective*, *Atomic Collisions And Electron Spectroscopy: A Seminar To Honor The 65th Birthday Of Nico Stolterfoht*, Invited talk, Berlin, March 21 (2005).

4.3 Invited Talks given by my Ph.D. students on our work together

Given by E.P. Benis (Ph.D. Physics, University of Crete, 2001):

28. *Absolute doubly differential cross section measurements for 180° resonant elastic scattering of quasi-free electrons on B^{3+} ions*, Invited Talk, Division of Atomic, Molecular and Optical Physics (DAMOP), APS, Williamsburg, Virginia, USA, 29 May-1 June 2002.
29. *Production of the $2s2p^2\ ^2D^e$ triply excited state in collisions of quasi-free electrons with He-like B^{3+} , C^{4+} , N^{5+} , O^{6+} , and F^{7+} ions*, Invited Talk, 17th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 12-16 November 2002.
30. *Excited states of three-electron systems*, Invited Talk, XVIII International Seminar on Ion-Atom Collisions (ISIAC-2003), Stockholm, Sweden, 30 July - 1 August 2003.

4.4 Invited Talks at Universities and Research Institutes

31. "Inner Shell Vacancy Production in Heavy Ion-Atom Collisions and Molecular Orbital X-Rays," Seminar, Wright Nuclear Structure Laboratory, Yale University, New Haven, Connecticut, April 1983.
32. "The X-Ray Spectroscopy of Electronic Quasimolecules," Colloquium, Hahn Meitner Institute, Berlin, February 1984.
33. "Focusing Properties of Parallel Plate Electron Spectrometers," Seminar, Hahn Meitner Institute, Berlin, May 1984.
34. "Production of $(2s^2)^1S$, $(2p^2)^1D$ and $(2s2p)^1P$ States by Double Capture in 150-500 keV $^3He^{2+} + He$ Collisions," Seminar, Hahn Meitner Institute, Berlin, November 1984.
35. "Electronic Quasimolecules," Colloquium, Pontificia Universidade Catholica, Departamento de Fisica, Rio de Janeiro, Brasil, January 1985.

36. "Molecular Orbital X-Rays," Colloquium, Universidade do Sao Paulo, Instituto de Fisica, Sao Paulo, Brasil, January 1985.
37. "The X-Ray Spectroscopy of Electronic Quasimolecules," Colloquium, Research Center of Crete, Herakleon, Crete, Greece, December 1985.
38. "The X-Ray Spectroscopy of Electronic Quasimolecules," Colloquium, Greek Atomic Energy Commission, Nuclear Research Center "Demokritos," Aghia Paraskevi, Athens, Greece, January 1986.
39. "High Resolution Measurements of Two-Electron Systems Studied via 0° Auger Spectroscopy," Department of Physics, Kansas State University, Manhattan, Kansas 66506 USA, June 1986.
40. "High Resolution Measurements of Two-Electron Systems Studied via 0° Auger Spectroscopy," Triangle Universities Nuclear Physics Laboratory, Durham, North Carolina, USA, June 1986.
41. "High Resolution Measurements of Two-Electron Systems Studied Via 0° Auger Spectroscopy," Department of Physics, University of Connecticut, Storrs, Connecticut 06268 USA, June 1986.
42. "High Resolution Measurements of Two-Electron Systems Studied Via 0° Auger Spectroscopy," Fysisch Laboratorium, Rijksuniversiteit, Utrecht, The Netherlands, July 1986.
43. "The X-Ray Spectroscopy of Electronic Quasimolecules," Department of Physics, Kansas State University, Manhattan, KS 66506, USA, November 1986.
44. "High Resolution Studies of Two-Electron Processes Observed in Energetic Ion-Atom Collisions Via Zero-Degree Auger Spectroscopy," Colloquium, Greek Atomic Energy Commission, Nuclear Research Center "Demokritos," Aghia Paraskevi, Athens, Greece, December, 1987.
45. "High Resolution Studies of Two-Electron Processes Observed in Energetic Ion-Atom Collisions Via Zero-Degree Auger Spectroscopy," Colloquium, Research Center of Crete, Heraklion, Crete, Greece, July 1, 1988.

46. "Projectile excitation by target electrons in 4.5-38 MeV $F^{6+} + He$ and H_2 studied by 0^0 Auger electron spectroscopy," Wildcorn Conference, Kansas State University, Manhattan, Kansas November 19, 1988.
47. "Fundamentals of High Resolution Projectile Electron Spectroscopy in Ion-Atom Collisions," Seminar, Kansas State University, Manhattan, Kansas, February 8, 1989.
48. "State-selective studies of energetic Ion-Atom Collision Processes by zero-degree projectile electron spectroscopy," Colloquium, Kansas State University, Manhattan, Kansas, March 2, 1989.
49. "State-selective studies of energetic Ion-Atom Collision Processes by zero-degree projectile electron spectroscopy," Colloquium, University of California at Fullerton, California, March 7, 1989.
50. "Inner-shell projectile electron excitation due to electron-electron interactions in Ion-Atom Collisions," Seminar, Kansas State University, Manhattan, Kansas, April, 1989.
51. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, Universität Frankfurt, W. Germany, June 14, 1989.
52. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, Universität Giessen, W. Germany, June 19, 1989.
53. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, HMI-Berlin, W. Germany, June 22, 1989.
54. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, Research Center of Crete, Heraklion, Crete, Greece, July 28, 1989.
55. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, Oak Ridge National Laboratory, Oak Ridge, Tenn., October 5, 1989.
56. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, I.S.M.R.A., University of Caen, Caen, France, March 19, 1990.

57. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, University of Bordeaux, Talence, France, April 28, 1990.
58. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, GSI, Darmstadt, Germany, May 10, 1990.
59. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, Mannes Siegbahn Institute, Stockholm University, Stockholm, Sweden, June 5, 1990.
60. "The Role of electron-electron Interactions in high energy ion-atom collisions," Seminar, University of Aarhus, Aarhus, Denmark, June 8, 1990.
61. "The Role of electron-electron Interactions in high energy ion-atom collisions," Colloquium, University of Western Michigan, Kalamazoo, Michigan, November 13, 1990.

62. "Atomic Physics with Accelerators: The Role of electron-electron Interactions," Colloquium, part I, University of Crete, Heraklion, Crete, Greece, January 31, 1991 (in Greek).
63. "Atomic Physics with Accelerators: The Role of electron-electron Interactions," Colloquium, part II, University of Crete, Heraklion, Crete, Greece, February 6, 1991 (in Greek).

64. "Do we really understand everything about Resonance Transfer and Excitation?", Atomic Physics Seminar, Kansas State University, Dept. of Physics, September 11, 1992.

65. "Atomic Physics with Accelerators: Two-electron Interactions in Fast Ion-atom Collisions," Colloquium, University of Crete, Heraklion, Crete, Greece, April 8, 1993 (in Greek).
66. "Do we really understand everything about Resonance Transfer and Excitation?", Atomic Physics Seminar, Institut für Strahlenphysik, University of Stuttgart, September 2, 1993.
67. "Dynamic electron-electron Interactions in fast ion-atom collisions," Colloquium, Institut für Strahlenphysik, University of Stuttgart, September 15,

1993.

68. "Everything you wanted to know about electron-electron Interactions in fast ion-atom collisions, but were afraid to ask," Atomic Physics Seminar, Kansas State University, January 28, 1994.
69. "Search for Dynamic electron-electron Interactions in fast ion-atom collisions," Colloquium, University of North Texas, Denton, TX, February 23, 1994.
70. "Excitation and ionization in fast ion-atom collisions due to projectile-electron-target-electron interactions", Atomic Physics Seminar, Mannes-Siegbahn Institute, Stockholm University, Stockholm, Sweden, September 5, 1994.
71. "Excitation and Ionization in fast ion-atom collisions due to projectile-electron-target-electron interactions," Colloquium, Institut für Strahlenphysik, University of Stuttgart, January 19, 1995.
72. "Zero-degree Auger Projectile Spectroscopy (ZAPS): A high-resolution tool for studying few-electron projectiles in energetic ion-atom collisions", Colloquium, University of Missouri-Rolla, May 1, 1997.
73. "Quasi-free electron scattering on highly charged ions", Student seminar, Institut für Kernphysik, University of Frankfurt Friday November 14, 1997.
74. "Quasi-free electron scattering on highly charged ions", Colloquium, Universität Giessen, Germany, Monday November 17, 1997.
75. "Quasi-free electron scattering on highly charged ions", Seminar, Institut für Kernphysik, University of Frankfurt, Monday November 24, 1997.
76. "Quasi-free electron scattering on highly charged ions", Seminar, GSI-Darmstadt, Wednesday November 26, 1997.
77. "Quasi-free electron scattering on highly charged ions", Seminar, University of Freiburg, Friday November 28, 1997.

78. “Quasi-free electron scattering on highly charged ions”, Seminar, CIRIL-Caen, Monday December 8, 1997.
79. “Quasi-free electron scattering on highly charged ions”, Colloquium, Institute of Accelerator Systems and Applications, University of Athens, Thursday, February 3, 1998.
80. “Quasi-free electron scattering off highly charged ions”, Colloquium, University of Crete, Department of Physics, Thursday, February 19, 1998 (in Greek).
81. “Paracentric entry hemispherical analyser with 2-D PSD for zero-degree projectile electron spectrometry”, Seminar, ATOMKI, Debrecen, Hungary, October 12, 2000.
82. “Differential electron scattering from positive ions measured by 0° ion-atom spectroscopy”, Colloquium, University of Missouri-Rolla, April 24, 2003.
83. “Quasi-free electron scattering from highly charged ions”, Atomic Physics seminar, Kansas State University, August 27, 2003.
84. “Quasi-free electron scattering from highly charged ions”, Colloquium, Institute für Allgemeine Physik, Technische Universität Wien, Austria, November 4, 2003.
85. “Quasi-free electron scattering from highly charged ions: A Unique Atomic Physics Testing Ground of Two-potential Scattering”, Colloquium, Department of Physics, University of Crete, Heraklion, November 13, 2003.
86. “Quasi-free electron scattering from highly charged ions”, Atomic Physics Seminar, National Hellenic Research Foundation, Athens, January 26, 2004.
87. “Quasi-free electron scattering from highly charged ions”, Atomic Physics Seminar, Department of Physics, Queens University Belfast, N. Ireland, January 28, 2004.

88. "Probing the atomic structure of highly charged ions", Colloquium, Department of Physics and Technology, University of Bergen, Norway, October 1, 2004.
89. "Selective cascade feeding of metastable states in ion-atom collisions", Atomic Physics seminar, Kansas State University, Manhattan, KS, January 18, 2006.
90. "Selective cascade feeding of metastable states in ion-atom collisions", Atomic Physics seminar, IESL-FORTH, Heraklion, March 7, 2006.
91. "Selective cascade feeding of metastable states in ion-atom collisions", Atomic Physics seminar, Max Planck Institute for Nuclear Physics, Heidelberg, Germany, November 24, 2006.
92. "Selective cascade feeding of metastable states in ion-atom collisions and new developments in hemispherical spectrometers", Atomic Physics seminar, ATOMKI, Debrecen, Hungary, November 29, 2006.
93. "Electron Spectrometry of Highly Charged Ions: Exploring the collision dynamics of few-electron systems", Colloquium, Institute of Nuclear Physics, National Center for Scientific Research - DEMOKRITOS, Ag. Paraskevi, Athens, October 29, 2007.
94. "Electron Spectrometry of Highly Charged Ions: Exploring the collision dynamics of few-electron systems", Colloquium, Dept. of Physics, University of Crete, Heraklion, November 1, 2007.
95. "Electron Spectrometry of Highly Charged Ions: Exploring the collision dynamics of few-electron systems", Colloquium, Dept. of Physics, Afyon Kocatepe University, Turkey, December 12, 2007.
96. "Electron Spectrometry of Highly Charged Ions: Exploring the collision dynamics of few-electron systems", Colloquium, Atomic Physics Laboratory, RIKEN 2-1 Hirosawa, Wako-shi, Saitama, 351-0198 Japan, August 28, 2008.
97. "Electron Spectrometry of Highly Charged Ions: Exploring the collision dynamics of few-electron systems", Colloquium, Department of Nuclear Engineering, Kyoto University, 606-8501 Kyoto, August 30, 2008.

4.5 Talks at International Network Meetings in the European Union

98. *Differential electron-impact excitation cross sections of positive ions measured by zero-degree ion-atom spectroscopy*, 3rd annual LEIF meeting, Igls,

Austria, June 29-July 3 (2002).

99. *Isoelectronic ($Z = 5 - 9$) study of the $2s2p^2 \ ^2D$ triply excited state formed in collisions of quasi-free electrons with $1s2s \ ^3S$ He-like ions*, 4th annual LEIF meeting, Belfast, N. Ireland, UK, June 27-July 2 (2003).
100. *High resolution Auger Projectile electron spectroscopy: A state-selective tool to study highly-charged ion-atom collisions*, LIBRA kick-off meeting, Institute of Nuclear Physics, DEMOKRITOS, Athens, Greece, March 11, 2009.

4.6 Talks at Summer schools, special lectures etc.

101. *Electron spectroscopy*, invited lecture given as part of the course PHY953. Advanced Atomic interactions, Kansas State University, Dept. of Physics, spring semester 2003.
102. *Kinematics of Zero-degree Auger Projectile Electron spectroscopy*, invited lecture given as part of the course PHY953. Advanced Atomic interactions, Kansas State University, Dept. of Physics, spring semester 2003.
103. *Electron scattering model - recent results*, invited lecture given as part of the course PHY953. Advanced Atomic interactions, Kansas State University, Dept. of Physics, spring semester 2003.
104. *Accelerator-based atomic physics*, lecture given as part of the 18th Summer school of Advanced Physics, Dept. of Physics University of Crete and IESL-FORTH, Heraklion, Crete, July 11, 2006.

5 INTERNATIONAL CONFERENCES

(Revised and updated July 16, 2009)

5.1 International conference contributions¹ by Year

1. E. Liarokapis, J.J. O'Brien, J. Schweppe, **T.J.M. Zouros**, J.S. Greenberg, *A Test of the Vacancy Sharing Mechanism with (MO X-Ray, K X-Ray) Coincidence Studies*, Abstract, Bul. Am. Phys. Soc. **24**, April 1979.
2. **T.J.M. Zouros**, J.S. Greenberg, N. Tsoupas, M. Fewell, *Measurements of the Emission Anisotropy of K MO X-Rays in Coincidence with K X-Rays*, Abstract, Bul. Am. Phys. Soc. **27**, April 1982.
3. N. Stolterfoht, A. Itoh, D. Schneider, T. Schneider, G. Schiwietz, H. Platten, G. Nolte, R. Glodde, U. Stettner, W. Zeitz and **T.J.M. Zouros**, *Principles of Zero Degree Auger Spectroscopy for Fast Highly Ionized Projectiles*, Int. Conf. on X-Rays and Inner Shell Processes in Atoms, Molecules and Solids, Invited Lecture, edited by A. Meisel (University Press, Leipzig, 1983).
4. A. Itoh, D. Schneider, U. Stettner, W. Zeitz, **T.J.M. Zouros** and N. Stolterfoht, *Transfer Excitation for 70- to 500-keV He⁺ + He Collisions Studied by Zero-Degree Auger Spectroscopy*, 9th ICAP, Abstracts, Eds. R.S. Van Dyk Jr. and E.N. Fortson (Seattle, Washington, 1984) p. A107.
5. A. Itoh, D. Schneider, T. Schneider, **T. Zouros**, G. Schiwietz, G. Nolte and N. Stolterfoht, *Zero-Degree Auger Spectroscopy for Highly Charged Ne Projectiles*, Inter. Conf. on X-Rays and Inner Shell Processes in Atoms, Molecules and Solids, Leipzig, East Germany, August 1984.
6. **T.J.M. Zouros**, J.S. Greenberg and N. Tsoupas, *Emission Anisotropy of $2p\sigma \rightarrow 1s\sigma$ MO transition in 40 MeV Ni+Ni Collisions*, Second International Workshop on the Physics of Inner Shell Processes, Debrecen, Hungary, August 1984.

¹Conferences attended with abstract, talk or poster

7. **T.J.M. Zouros**, A. Itoh, D. Schneider, T. Schneider, W. Zeitz, U. Stettner, G. Schiwietz and N. Stolterfoht, *Production of $(2s^2)^1S$, $(2p^2)^1D$ and $(2s2p)^1P$ States by Double Capture in 150-500 keV $^3He^{2+} + He$ Collisions*, Second European Conference on Atomic and Molecular Physics, Amsterdam, Netherlands, April 1985.
8. G. Schiwietz, **T.J.M. Zouros**, U. Stettner and N. Stolterfoht, *Impact Parameter Dependent Emission of Electrons in Ion-Atom Collisions*, contributed paper, XIV ICPEAC, Stanford, California, USA, July 1985.
9. D. Schneider, N. Stolterfoht, A. Itoh, T. Schneider, G. Schiwietz, W. Zeitz, **T.J.M. Zouros**, *Auger Spectroscopy of Highly Stripped Ions*, invited paper, XIV ICPEAC, Stanford, California, USA, July 1985.
10. G. Schiwietz, N. Stolterfoht, H. Platten, U. Stettner, **T.J.M. Zouros**, *Untersuchung der Stoßparameterabhängigkeit der Ionisation von He- und Ar-Atomen durch leichte Ionen*, Deutsche Physikalische Gesellschaft e.V., Heidelberg, W. Germany, March 17-21, 1986.
11. R. Kowallik, K. Musiol, H. Platten, G. Schiwietz, D. Schneider, T. Schneider, N. Stolterfoht, U. Wille, W. Zeitz, und **T. Zouros**, *Einfluß äußerer elektrischer Felder auf Rydbergzustände schneller Sauerstoff- und Neon-Ionen*, Deutsche Physikalische Gesellschaft e.V., Heidelberg, W. Germany, March 17-21, 1986.
12. T. Schneider, D. Schneider, W. Zeitz, G. Schiwietz, H. Platten, **T.J.M. Zouros**, und N. Stolterfoht, *Hochauflösende Spektroskopie von autoionisierenden Rydbergzuständen an 80-MeV- Ne^{6+} - und 80 MeV- O^{4+} Ionen*, Deutsche Physikalische Gesellschaft e.V., Heidelberg, W. Germany, March 17-21 1986.
13. **T.J.M. Zouros**, D. Schneider and N. Stolterfoht, *Production of $(2s^2)^1S$, $(2p^2)^1D$ and $(2s2p)^1P$ States by Double Electron Capture in 150-500 keV $^3He^{2+} + He$ Collisions*, Talk, Ninth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 10-12 November 1986.
14. **T.J.M. Zouros**, N. Stolterfoht and D. Schneider, *State-Selected Observation of Resonance (RTE) and Non-Resonance (NTE) Transfer Excitation in Near-Symmetric $^3He^+ + H_2$ Collisions*, Talk, Ninth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 10-12 November 1986.

15. L.D. Hendrick, D.M. Peterson, J.M. Anthony, J.K. Swenson, M. Behnenni, S.M. Shafroth, **T.J.M. Zouros**, *Projectile Electron Spectra Arising from Decay of 3 and 4 Electron States in C^{2+} and C^{3+} at 9.6° , 20° , 30° and 40° for 5 MeV C^{2+} on Ne*, 18th Annual Meeting of the Division of Atomic, Molecular and Optical Physics, Cambridge, MA, 18-20 May 1987.
16. J.M. Anthony, S.M. Shafroth, M. Behnenni, D.M. Peterson, L.D. Hendrick, **T. Zouros**, J.K. Swenson, and E.N. Strait, *Angular Distributions of Projectile Auger Electrons in MeV Collisions of C^{2+} with Ne*, Poster, Brighton, England, ICPEAC 1987.
17. J.M. Anthony, S.M. Shafroth, M. Behnenni, D.M. Peterson, L.D. Hendrick, **T. Zouros**, J.K. Swenson, and E.N. Strait, *Electron Capture by MeV C^{4+} on H_2 , He and Ne Into $n=2$ States and Their Auger Decay*, Poster, Brighton, England, ICPEAC 1987.
18. H. Platten, G. Schiwietz, T. Schneider, D. Schneider, W. Zeitz, K. Musiol, **T. Zouros**, R. Kowallik and N. Stolterfoht, *Evidence for Polarization Effects in the Observation of Directly Ionized Electrons in Bare-Ion Helium Collisions*, Poster, Brighton, England, ICPEAC 1987.
19. **T.J.M. Zouros**, N. Stolterfoht, D. Schneider, *Possible Evidence for RTE-NTE Interference in 80-500 keV Collisions of $^3He^+$ with He and H_2 Targets Studied via 0° Auger Electron Spectroscopy*, Poster, ISIA X, Bad Soden, W. Germany July 30-31, 1987.
20. J.M. Anthony, S.M. Shafroth, M. Behnenni, E.N. Strait, **T.J.M. Zouros**, L.D. Hendrick and D.M. Peterson, *Production of Doubly Core-Excited Configurations in C^{4+} Projectiles Through Resonant Transfer Excitation*, Poster, X-Ray and Atomic Inner-Shell Physics Conference, Paris, September 1987.
21. J.M. Anthony, S.M. Shafroth, M. Behnenni, E.N. Strait, **T.J.M. Zouros**, L.D. Hendrick and D.M. Peterson, *High Resolution Electron Spectrometer Used as a Target Recoil Ion Detector*, South East Section of APS, Nashville, Tennessee, November 20, 1987.
22. B.D. DePaola, **T. Zouros** and R. Parameswaran, *Experimental Studies of Ion-Atom Collisions Using Laser-Excited Lithium as a Target*, Talk, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Baltimore, Maryland, April 1988.

23. D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese and P. Richard, *Field Ionized Rydberg States Observed by Zero-Degree Projectile Electron Spectroscopy*, Talk, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Baltimore, Maryland, April 1988, Bull. Am. Phys. Soc. **33**, 1002 (1988).
24. **T.J.M. Zouros**, D.H. Lee, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese and P. Richard, *State-Selective Studies of Electron Capture and Excitation by Zero-Degree Projectile Electron Spectroscopy*, Talk, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Baltimore, Maryland, April 1988, Bull. Am. Phys. Soc. **33**, 1002 (1988).
25. J.L. Shinpaugh, J.M. Sanders, T.N. Tipping, D.H. Lee, **T.J.M. Zouros**, J. Hall, H. Schmidt-Böcking and P. Richard, *Simultaneous Electron-Capture and Target Ionization in Bare Fluorine Plus Helium Collisions*, Talk, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Baltimore, Maryland, April 1988, Bull. Am. Phys. Soc. **33**, 1001 (1988).
26. S.M. Shafroth, M. Benhenni, J.K. Swenson, L.D. Hendrick and D.M. Peterson, J.M. Anthony, **T.J.M. Zouros**, E.N. Strait, *Angular Distribution of electrons emitted from RTE and single dipole excitation states for $O^{5+} + He$ at 13 MeV*, Poster, International Conference on Atomic Physics, France 1988.
27. **T.J.M. Zouros**, D.H. Lee, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese and P. Richard, *High Resolution Studies of Electron Capture and Excitation by Zero-degree Projectile electron Spectroscopy*, Talk, Invited Poster, Tenth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 7-9 November 1988.
28. R. Parameswaran, W.J. Axmann, **T.J.M. Zouros**, B.D. Depaola, *RTE with Li Vapor Target*, Invited Poster talk, Tenth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 7-9 November 1988.
29. B.D. Depaola, W.J. Axmann, C. Parameswaran, D.H. Lee, **T.J.M. Zouros** and P. Richard, *Studies of High Charge State Rydberg Ions*, Talk, Tenth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 7-9 November 1988, Bull. Am. Phys. Soc. **33**, 1776 (1988).
30. J.L. Shinpaugh, J.M. Sanders, T.N. Tipping, D.H. Lee, **T.J.M. Zouros**, J. Hall, H. Schmidt-Böcking and P. Richard, *Simultaneous Electron-Capture and Target Ionization in Bare Fluorine Plus Helium Collisions*, Talk, Tenth Conference on the Application of Accelerators in Research and Industry,

- Denton, Texas, USA, 7-9 November 1988, Bull. Am. Phys. Soc. **33**, 1777 (1988).
31. D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, S.L. Varghese, B.D. Depaola and P. Richard, *A zero-degree Tandem electron spectrometer and Rydberg Analyser for Projectile Electron Studies in Ion-Atom Collisions*, Talk, Tenth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 7-9 November 1988, Bull. Am. Phys. Soc. **33**, 1779 (1988).
 32. J.M. Anthony, S.M. Shafroth, M. Benhenni, E.N. Strait, **T.J.M. Zouros**, L.D. Hendrick and D.M. Peterson, *Evidence for Interference between RTE and NTE, for C^{4+} on He and H_2* , South East Section of APS, Raleigh, North Carolina, November 10-12, 1988.
 33. **T.J.M. Zouros**, D.H. Lee, and P. Richard, *Observation of Inner-Shell Projectile Electron Excitation by a Target electron in Energetic Collisions of Li-like Ions with H_2 and He Targets*, Poster, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Windsor, Ontario, May 17-19, 1989, Bull. Am. Phys. Soc. **33**, 1779 (1989).
 34. P. Richard, D.H. Lee, **T.J.M. Zouros**, J.M. Sanders, J.L. Shinpaugh, T.N. Tipping, *Binary Encounter Electrons Observed at Zero-degrees in Collisions of Highly Charged Fast Ions with H_2 and He Gas Targets*, Poster, Annual Division of Atomic, Molecular and Optical Physics, APS Meeting, Windsor, Ontario, May 17-19, 1989, Bull. Am. Phys. Soc. **34**, 1396 (1989).
 35. **T.J.M. Zouros**, D.H. Lee, and P. Richard, *Observation of electron-electron Interaction in collisions of O^{5+} and F^{6+} Ions with H_2 and He Targets*, Abstract, ICPEAC 1989, July 26 - August 1, New York, N.Y., USA.
 36. **T.J.M. Zouros**, D.H. Lee, and P. Richard, *Relating electron-electron Interactions in ion-atom collisions to electron-electron interactions in free-electron - ion collisions*, Invited Poster, ISIAC XI 1989, August 3-4, Manhattan, Kansas, USA.
 37. **T.J.M. Zouros**, H. Hidmi, D.H. Lee, B. DePaola, C.P. Bhalla, J. Sanders, J. Shinpaugh and P. Richard, *Effects of Alignment and Interference in 0^0 Auger Resonant Transfer Excitation (RTEA) for $F^{6+,8+}$ and $O^{5+,7+}$ collisions with H_2* , Annual Division of Atomic, Molecular and Optical Physics,

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119. E.P. Benis, M. Zamkov, P. Richard, and **T.J.M. Zouros**, *Techniques for the Determination of the $1s2s^3S$ Metastable Fraction in Two-electron Ion Beams*, Poster, 11th International Conference on the Physics of Highly Charged Ions (HCI-2002), September 1-6, 2002, Caen, France.
120. **T.J.M. Zouros**, E.P. Benis, M. Zamkov, and P. Richard, "Investigation of resonant (RTE) and non resonant (NTE) transfer excitation in energetic B^{4+} and B^{3+} collisions with gas targets by zero-degree Auger projectile electron spectroscopy", Talk, 17th International Conference on the Application of Accelerators in Research and Industry, November 12-16, 2002 Denton, Texas.
121. E.P. Benis, M. Zamkov, P. Richard, and **T.J.M. Zouros**, "Production of the $2s2p^2$ $2D$ triply excited state in collisions of quasi-free electrons with He-like B^{3+} , C^{4+} , N^{5+} , O^{6+} , and F^{7+} ions", Talk, 17th International Conference on the Application of Accelerators in Research and Industry, November 12-16, 2002 Denton, Texas.
122. **T. J. M. Zouros**, E. P. Benis, M. Zamkov, and P. Richard, *Zero-degree Auger projectile electron spectroscopy of 1.5 MeV Li^+ on H_2 collisions*, Poster, APS DAMOP, Boulder, 21-24 May (2003).
123. M Zamkov, E. P. Benis, C. D. Lin, P. Richard, **T. J. M. Zouros**, T. Morishita, *Study of triply excited $2s2p^2$ 2S , 2P , 2D , and $2p^3$ 2P , 2D states of fluorine produced by triple electron capture*, Poster, APS DAMOP, Boulder, 21-24 May (2003).
124. E. P. Benis, M. Zamkov, P. Richard, **T. J. M. Zouros**, T.W. Gorczyca, *Isoelectronic ($Z = 5 - 9$) study of the $2s2p^2$ 2D triply excited state formed*

in collisions of quasi-free electrons with $1s2s^3S$ He-like ions, Poster, APS DAMOP, Boulder, 21-24 May (2003).

125. **T. J. M. Zouros**, E. P. Benis, M. Zamkov, and P. Richard, *Zero-degree Auger projectile electron spectroscopy of 1.5 MeV Li^+ on H_2 collisions*, 4th annual LEIF meeting, Belfast, June 27-July 2 (2003).
126. E.P. Benis, **T.J.M. Zouros**, T.W. Gorczyca, A.D. González, and P. Richard, *Collisional energy dependence study for elastic scattering of quasi-free electrons from $B^{3+}(1s^2)$ ions*, Poster at the 23rd International Conference on Photonic, Electronic and Atomic Collisions (XXIII ICPEAC) Stockholm, Sweden, July 23-29, 2003, Abstracts of Contributed Papers.
127. **T.J.M. Zouros**, A. Orbán, L. Gulyás and B. Sulik, *Cascade feeding of the $1s2s2p^4P$ state in O^{5+} collisions with H_2 and He*, Poster at the 23rd International Conference on Photonic, Electronic and Atomic Collisions (XXIII ICPEAC) Stockholm, Sweden, July 23-29, 2003, Abstracts of Contributed Papers.
128. E.P. Benis, **T.J.M. Zouros**, T.W. Gorczyca, M. Zamkov, P. Richard, *Iso-electronic study of triply excited Li-like states*, Invited Talk, International Symposium on Ion-atom collisions (ISIAC), July 3, 2003 The Baltic Sea.
129. P. Richard, E.P. Benis, M. Zamkov, **T.J.M. Zouros**, C.D. Lin, T.W. Gorczyca, and T.G. Lee, *Selective Excitation of Triply-Excited States of Three-Electron Ions Observed in Ion-Atom Collisions*, Invited Talk, The 35th Meeting of the Division of Atomic, Molecular and Optical Physics, May 25-29, 2004 Tucson, Arizona.
130. **T.J.M. Zouros**, E.P. Benis, M. Zamkov, T.W. Gorczyca, C.D. Lin, T.G. Lee, T. Morishita, and P. Richard, *Investigation of triply excited states of Li-like ions in fast ion-atom collisions by zero-degree Auger projectile electron spectroscopy*, Abstract, 8th Workshop on Fast Ion-Atom Collisions, September 1-3, 2004, Debrecen, Hungary.
131. **T.J.M. Zouros**, E.P. Benis, J. Chatzakis, *Ultimate energy resolution of an ideal ESCA-type hemispherical spectrometer*, Poster at the 12th International Conference on the Physics of Highly Charged Ions, HCI-2004, September 6-10, 2004, Vilnius, Lithuania.

132. **T.J.M. Zouros**, E.P. Benis and P. Richard, *Zero-degree Auger projectile electron spectroscopy of B^{2+} in 3-8 MeV collisions with H_2* , Poster, XXIV ICPEAC, July 20-26, 2005, Rosario Argentina.
133. **T.J.M. Zouros** and E.P. Benis, *Ultimate energy resolution of a hemispherical analyzer using a cylindrically symmetric injection lens and virtual entry aperture*, Poster, XXIV ICPEAC, July 20-26, 2005, Rosario Argentina.
134. **T.J.M. Zouros**, R. Mann and S. Hagmann, *Relativistic Kinematics Of Electrons Emitted From Fast Projectiles: Kinematic Broadening And High Resolution Measurements*, Poster, XXIV ICPEAC, July 20-26, 2005, Rosario Argentina.
135. **T. J. M. Zouros**, B. Sulik, L. Gulyas, A. Orbán, *Transfer-Loss in O^{5+} Collisions With He And H_2 Targets*, Abstract, International Symposium on Ion-atom collisions (ISIAC), July 27-28, 2005, Rio de Janeiro, Brazil.
136. **T. J. M. Zouros**, B. Sulik, L. Gulyas, A. Orbán, *Transfer-Loss in O^{5+} and F^{6+} Collisions With He And H_2 Targets*, Poster, International Workshop on *Interdisciplinary Research with Slow Ion Beams*, October 10-11, 2005, Caen, France.
137. R. Moshhammer, L. Foucar, A. Rudenko, Th. Ergler, C.D. Schroter, S. Ludemann, K. Zrost, D. Fischer, J. Tietze, T. Jahnke, M. Schoffler, T. Weber, R. Dorn, **T. J. M. Zouros**, A. Dorn, T. Ferger, K.U. Kuhnel and J. Ullrich, *Few-photon multiple ionization of atoms and molecules with FEL-radiation*, Int. Conf. on Many particle spectroscopy of atoms, molecules and surfaces, 22-24 June 2006, University of Rome, Rome, Italy.
138. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *Fringing field effects on the focusing properties and energy resolution of a large interradsial distance paracentric hemispherical spectrograph*, Oral presentation, CPO7–Seventh International Conference on Charged Particle Optics, 24-28 July 2006, Trinity College, Cambridge, England.
139. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *Comparison of Fringing Field Correction Schemes for the 180° Hemispherical Deflector Analyzer*, Oral presentation, CPO7–Seventh International Conference on Charged Particle Optics, 24-28 July 2006, Trinity College, Cambridge, England.
140. F.M. Spiegelhalder, **T. J. M. Zouros**, Omer Sise, and David J. Manura, *Modeling SIMIONs Accuracy for Hemispherical Deflector Analyzers using a Spherical Capacitor*, Poster presentation, CPO7–Seventh International

Conference on Charged Particle Optics, 24–28 July 2006, Trinity College, Cambridge, England.

141. H. Rothard, R. Moshhammer, J. Ullrich, H. Kollmus, R. Mann, S. Hagmann, **T.J. M. Zouros**, *Differential Multi-Electron Emission Induced By Swift Highly Charged Gold Ions Penetrating Carbon Foils*, Poster presentation, 16th International Workshop on Inelastic Ion-Surface Collisions (IISC-16), September 17 - 22, 2006, Schloss Hernstein, Austria.

142. F.M. Spiegelhalder, **T. J. M. Zouros** and David J. Manura, *Modeling SIMIONs Accuracy for Hemispherical Deflector Analyzers using a Spherical Capacitor*, Poster presentation, 2nd annual ITS LEIF meeting, May 2-5, 2007, Fodele, Crete.

143. Omer Sise, **T. J.M. Zouros**, Melike Ulu, Mevlut Dogan, *Correction Of Fringing Field Effects In Hemispherical Deflector Analyzers Using Biased Paracentric Entry*, Poster presentation, IX ECAMP, May 6-11, 2007, Crete.

144. R. Moshhammer, L. Foucar, A. Rudenko, Th. Ergler, C.D. Schröter, K. Zrost, S. Ldemann, D. Fischer, J. Tietze, T. Jahnke, M. Schöffler, T. Weber, R. Dörner, **T. J.M. Zouros**, A. Dorn, T. Ferger, K.U. Khnel, R. Treusch, P. Radcliff, E. Plnjes, Y.H. Jiang, and J. Ullrich, *Few-Photon Multiple Ionization Of Atoms By Intense FEL Radiation*, Invited Plenary talk, IX ECAMP, May 11, 2007, Crete.

145. O. Sise, **T. J. M. Zouros**, M. Ulu, N. Okumus, M. Cinar, M. Karabacak, M. Dogan, *Novel And Traditional Fringing Field Correction Schemes For The Hemispherical Analyzer*, Poster presentation, XXV ICPEAC, July 25-31, 2007, Freiburg, Germany.

146. Mevlut Dogan, Omer Sise, **T. J.M. Zouros**, Melike Ulu, *Construction of a High Resolution Biased Paracentric Hemispherical Analyzer for the Study of Collision Physics*, International Symposium on (e,2e), Double Photoionization and Related Topics & 14th International Symposium on Polarization and Correlation in Electronic and Atomic Collisions, August 1-4, 2007, Königstein, Germany.

147. Kai-Uwe Kühnel, Daniel Fischer, Siegbert Hagmann, Thomas Ferger, Marco Schöfer, Muaffaq Nofal, Christophor Kozhuharov, Christina Dimopoulou, Markus Steck, Thomas Stöhlker, Carsten Brandau, Harald Bräuning, **T. J.M. Zouros**, Hermann Rothard, Gaetano Lanzano, Enrico de Filippo, Robert Moshhammer and Joachim Ullrich, *First Experiments With The In-Ring Reaction-Microscope In The Experimental Storage Ring*

- (*ESR*) At GSI, Invited Talk, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
148. Y. H. Jiang, A. Rudenko, L. Foucar, Th. Ergler, C. D. Schröter, S. Lüdemann, K. Zrost, D. Fischer, J. Titze, T. Jahnke, M. Schöffler, T. Weber, R. Dörner, **T. J. M. Zouros**, A. Dorn, T. Ferger, K. U. Kühnel, S. Düsterer, R. Treusch, M. Gensch, M. Kurka, S. Schüssler, T. Havermeier, M. Smolarski, K. Cole, R. Moshhammer, J. Ullrich, *Two-Photon Double Ionization Of Atoms At FLASH*, Invited Talk, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 149. F.M. Spiegelhalder, **T. J. M. Zouros** and David J. Manura, *Modeling SIMIONs Accuracy for Hemispherical Deflector Analyzers using a Spherical Capacitor*, Poster presentation, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 150. Omer Sise, **T. J.M. Zouros**, Melike Ulu, Mevlut Dogan, *Correction Of Fringing Field Effects In Hemispherical Deflector Analyzers Using Biased Paracentric Entry*, Poster presentation, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 151. **T.J.M. Zouros**, B. Sulik, K. Tökési, *Enhancement Of $1s2s2p^4P$ States In Electron Capture Due To Selective Cascade Feeding*, Poster presentation, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 152. **T.J.M. Zouros**, R. Mann and S. Hagmann, A. Kumar and S. Fritzsche, *Relativistic Kinematics Of Electrons Emitted From Fast Projectiles: Kinematic Broadening And High Resolution Considerations*, Poster presentation, Topical SPARC meeting on Electron Spectrometry at the NESR, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 153. B. Sulik, Z. Juhász, K. Tökési, T. Ricsóka, **T. J.M. Zouros**, *Fermi-Shuttle Acceleration Of Electrons In Collisions Of Nitrogen Molecular Ions With Noble Gas Targets*, Poster presentation, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 154. A. Kumar, F. Bosch, G. Garcia, S. Hagmann, C. Kozhuharov, X. Ma, R. Mann, Th. Stöhlker, B. Sulik, J. Ullrich, **T. J. M. Zouros**, *High Resolution Electron Spectrometry At The NESR*, Invited talk, Topical SPARC meeting on Electron Spectrometry at the NESR, XX ISIAC, Aug. 1-4, 2007, Agios Nikolaos, Crete.
 155. N. Okumus, O. Sise, **T. J. M. Zouros**, G. Martinez, M. Ulu, and M. Dogan, *Motion Of Electrons In Ideal And Fringing Field Hemispherical Deflector Analyzers*, Poster presentation, Turkish Physical Society 25th International Physics Conference August 25-29, 2008 Bodrum, Turkey.

156. Omer Sise, **Theo J. M. Zouros**, Melike Ulu, Mevlut Dogan, *A new design for a high-resolution gas phase electron spectrometer*, Oral presentation, 41st EGAS Conference 8-11 July 2009, Gdansk, Poland
157. Omer Sise, **Theo J. M. Zouros**, Melike Ulu, Mevlut Dogan, *Design and performance of a biased paracentric hemispherical deflector analyzer for atomic collisions*, Poster presentation, XXI ISIAC, July 17-20, 2009 Old Dominion University, Norfolk, Virginia, USA
158. **T. J. M. Zouros** and N. Stolterfoht, *30 years of high resolution projectile electron spectroscopy in 20 minutes: Past successes and future prospects*, Abstract of Invited talk, XXI ISIAC, July 17-20, 2009 Old Dominion University, Norfolk, Virginia, USA
159. G. Zhu, J. Steinmann, M. Schuricke, J. Albrecht, A. Dorn, J. Colgan, I. Ben-Itzhak, **T.J.M. Zouros**, J. Ullrich, *Controlling the Double Photoionization Dynamics of Li Atoms by Optical Pumping*, Poster presentation, XXVI ICPEAC, July 22-28, 2009, Kalamazoo, Michigan, USA.

5.2 International Advisory Boards

- *6th International Conference of the Physics of Highly Charged Ions*, Kansas State University, Manhattan, KS, USA, September 28-October 2, 1992.
- *13th International Conference of the Physics of Highly Charged Ions*, Queens University Belfast, Northern Ireland, UK
28th August-1st September 2006.
<http://www.hci2006.qub.ac.uk>
- *20th International Symposium on Ion-Atom Collisions* (XX ISIAC), chair Agios Nikolaos, Crete, Greece, August 2-3, 2007.
<http://isiac-2007.physics.uoc.gr>
- *14th International Conference of the Physics of Highly Charged Ions*, Chofu, Tokyo, JAPAN 1-5th September, 2008.
<http://yebisu.ils.uec.ac.jp/hci2008/>
- *21st International Symposium on Ion-Atom Collisions* (XXI ISIAC), Norfolk, Virginia, USA, July/August 2009.

- *15th International Conference of the Physics of Highly Charged Ions*, Fudan University, Shanghai, China 2010.

5.3 Organization of Conferences/Meetings/Workshops

1. *Annual meeting of Human Capital and Mobility Network*, Agapi Beach hotel, September 1995. About 30 network participants. Local organizer.
2. *Labview seminar*, Physics Department, University of Crete, Heraklion, Sept 12-13, 2001. About 12 participants from Univ. of Crete/IESL and 28 participants from Europe. Principal organizer.
3. *2nd Annual meeting of the Infrastructure Cooperation Network LEIF*, Fodele Beach Hotel, Sept 14-17, 2001. About 60 participants from all over Europe. Local organizer.
4. *2nd Annual meeting of the Ion Technology and Spectroscopy at Low Energy Ion Beam Facilities (ITS LEIF) European I3 Network*, Fodele Beach Hotel, April 30-May 5, 2007. About 90 participants from all over Europe. Local organizer.
5. *XX International Symposium on Ion Atom Collisions (XX ISIAC)*, August 1-4, 2007, Mirabello Beach, Agios Nikolaos, chair and principal organizer. 78 participants from 21 countries. <http://isiac-2007.physics.uoc.gr>
6. *SPARC topical meeting: High resolution electron spectrometry in the New Experimental Storage Ring (NESR)*, August 4, 2007, Mirabello Beach, Agios Nikolaos, chair and principal organizer. About 25 participants. <http://isiac-2007.physics.uoc.gr>

5.4 Scientific Session Chair at Meetings

1. *6th Workshop on High-Energy Ion-Atom Collisions Processes*, Debrecen, Hungary, September 3-6, 1996, chairman of session 2: *Fundamental Processes – Experiment*
2. *7th Workshop on High-Energy Ion-Atom Collisions Processes*, Debrecen, Hungary, September 9-11, 1998, chairman of poster session, Thursday Sept 10, 1998. *Fundamental Processes – Experiment*
3. *Workshop on Many-particle dynamics in Coulomb systems*, Wilhelm and Else Heraeus seminar, Physikzentrum, Bad Honnef, Germany, May 28 - June 2, 2000.

4. *Workshop on HCI ion sources*, Institute of Physics and Astronomy, University of Aarhus, Aarhus, Denmark, May 18-19, 2001.
5. *2nd annual Low Energy Ion Facilities meeting*, Heraklion, Sept 12-19, 2001. Chaired opening session: *Presentation of user-projects, (ions, atoms and molecules)*
6. *4th annual Low Energy Ion Facilities meeting*, Belfast, June 27-July 2, 2003. Chaired closing session IX on I³ JRA talks.
7. *2nd annual ITS LEIF meeting*, Fodele, Crete, May 2-5, 2007. Chaired session with poster presentations on Thursday May 3.

5.5 Participation in European Network meetings as Principal contractor

1. Network meeting on Ion-surface interactions, Les Houches, France, March 11-16, 1996.
2. LEIF network kick-off meeting, May 22-23, 2000, Grenoble, France.
3. LEIF network 1st ISO meeting, July 7, 2000, Grenoble, France.
4. LEIF network 1st annual meeting, Oct 20-21, 2000, Berlin, Germany.
5. LEIF network Ion sources workshop meeting, May 17-20, 2001, Aarhus, Denmark.
6. LEIF network NMB meeting, March 15, 2002, Paris, France.
7. LEIF network 3rd annual meeting, June 29-July 3, 2002, Igls, Austria.
8. LEIF network 4th annual meeting, June 27-July 2, 2003, Belfast, N. Ireland.
9. LEIF network closing meeting, December 5 - 10, 2003, Stockholm, Sweden.

5.6 Attendance at other meetings/workshops

1. SPARC collaboration meeting and workshop, October 29-30, 2004, GSI, Darmstadt, Germany.
2. Brainstorming meeting on "Perspectives for time-resolved studies and imaging with laser and FEL photon sources", DESY, Hamburg, 24-25 June, 2009.

6 COLLABORATIONS

(Revised and updated July 16, 2009)

6.1 Collaboration with the J.R. Macdonald Laboratory, Dept. of Physics, Kansas State University

Principal collaborator: Prof. Pat Richard

Other collaborators: Profs. Brett DePaola, Lew Cocke, Siegbert Hagmann and various Ph.D. students and Postdoctoral fellows during the years.

Topic: Study of highly charged ions in collisions with atoms and electrons

Principal technique: Zero-degree Auger Projectile Spectroscopy (ZAPS).

Dates: 8/1-30/1991, 7/17/92-1/15/93 (semester leave)

1/6/-3/6/94, 3/5-3/20/95

05/19/96 - 07/31/97 (sabbatical), 05/15/-06/20/98

01/16-02/2/99, 05/25-06/25/99

12/27/1999-01/27/2000, 22/10-30/10/2000

01/06/-01/28/2001, 05/20/-07/31/2001

26/05/-28/06/2002, 01/08/2002-31/08/2003(sabbatical)

1/28/04-2/21/04, 1/11-29/05, 1/9-28/06, 1/9-27/07, 1/7-26/08

Activity: Research in atomic collisions performed at Kansas State accelerator

Expenses: covered by grants from NATO and DOE.

My ongoing collaboration with the accelerator facility known as the J.R. Macdonald laboratory has been extremely fruitful and beneficial to both sides. Presently my entire research apparatus consisting of a collision chamber, hemispherical spectrometer and all associated electronics is hosted on beamline LB-15 on the 7MV EN Tandem and dedicated to zero-degree Auger projectile electron spectroscopy.

The lab and my collaboration with Pat Richard and his colleagues has been invaluable. The JRM lab has provided financial support for my Ph.D. students, travel support for my visits to Kansas as well as to international conferences and also technical support (vacuum, electronics, machine shop etc.) Furthermore, I have been able to use a large amount of beam time free of charge as an active member of the JRM research initiative. The JRM has been funded over the last 30 years primarily by the Dept. of Energy (DOE) with an overall grant of about 2.5 M\$/yr. My program represents about 10-15% of this research grant shared with Prof. Pat Richard. In 2001 I was elected Adjunct Professor at K-State which allows me to supervise K-State Ph.D. students. My first such student is Mr. I. Chatzakis, my new Ph.D. student since January 2004. He is presently helping with ongoing experiments.

6.2 EU Network collaborations

1. 2009-2012 Title: **LIBRA: Low-Energy Ion-Beam Research and Applications** http://www.inp.demokritos.gr/tandem/libra/LIBRA_index1.html
The LIBRA project is funded by the European Commission within the "Research Potential" (REGPOT) scheme of the FP7-Capacities program
General Coordinator: Dr. Sotirios V. Harissopulos, Tandem Accelerator Laboratory, Institute of Nuclear Physics, NCSR "Demokritos", P.O. Box 60228, 15310 Aghia Paraskevi, Athens, Greece, e-mail: sharisop@inp.demokritos.gr
Research directions: Nuclear Astrophysics, Nuclear Structure, and Ion-Beam Applications.
2. 2006-2010 Title: **ITS LEIF: Ion Technology And Spectroscopy At Low Energy Ion Beam Facilities** <http://www.its-leif.org>
European Integrated Infrastructure Initiative (I3) Network
General Coordinator: Dr. Bernd Huber, Commissariat à l'Énergie Atomique (CEA) - CIRIL, Caen, France.
Continuation of LEIF EU Infrastructure Cooperation Network.
Action: Access to Research Infrastructures,
Participate as a preferred facility user.
3. 2000-2004 Title: **LEIF: Low-Energy Ion beam Facilities**
General Coordinator: Dr. Bernd Huber, Commissariat à l'Énergie Atomique (CEA) - Grenoble, <http://www.leif-network.org>
European Commission, 5th Framework programme: Improving the Human Research Potential and the Socio-economic knowledge base,
Action: Access to Research Infrastructures,
Implementation: Infrastructure Cooperation Networks (EC)
Other members included: TU-Wien, MSL-Stockholm, Aarhus University, HMI-Berlin, Innsbruck University, University of Pierre and Marie Curie - Paris VI, Queen's University Belfast, University of Giessen, University of Bielefeld, KVI-Groningen.
4. 1992-1996 Title: **Interaction of slow highly charged ions with solid surfaces**
General Coordinator: Prof. Nico Stolterfoht - Hahn-Meitner Institute, Berlin
Human Capital & Mobility: Networks (EEC)
Other members included: MSL-Stockholm, HMI-Berlin, TU-Vienna, KVI-Groningen, Orsay, Aarhus University, University of Giessen.

6.3 Other personal international Collaborations

Listed with most recent first.

1. **Max Planck Institute für Kernphysik, Heidelberg, Germany and University of Stockholm**

Collaborated with: Drs. Daniel Fischer (Univ. of Stockholm) and R. Moshhammer, and Prof. Joachim Ullrich (MPIK-Heidelberg)

Topic: First experiments with the new ESR Reaction Microscope: Ionization dynamics in relativistic heavy-ion atom collisions.

Activity: Performed first test COLTRIMS measurement of double ionization of helium and multiple ionization of neon in a storage ring the ESR at GSI.

Experimental details: Ni beams, 10ns pulse width up to 200MHz repetition. Dates: April 13-18, 2007.

2. **Max Planck Institute for Nuclear Physics, Heidelberg, Germany**

2009 Collaborated with: Drs. A. Dorn, and Prof. Joachim Ullrich

Dates: May 11-30, 2009.

2008 Collaborated with: Drs. A. Dorn, and Prof. Joachim Ullrich

Topic: Li MOT double ionization by FLASH photons

Activity: Performed first COLTRIMS measurement of double ionization of Li in a MOT target in the Li(2s) ground state and in the laser-excited Li(2p) state using the Free electron Laser (FEL) at DESY in Hamburg, FLASH.

Experimental details: Photon energy 90 eV.

Dates: January 20-30, 2008.

2005 Collaborated with: Drs. R. Moshhammer, C.D. Schroter and Prof. Joachim Ullrich

Topic: Multi-photon Multiple-Ionization of Atoms and Molecules using Reaction Microscopes

Activity: Performed first test of COLTRIMS measurement of double ionization of He, Ne and Ar using the Free electron Laser (FEL) at the TESLA VUV-FEL Test facility of DESY in Hamburg, Germany.

Experimental details: Photon energy 28 eV, 100fs, 2 Hz repetition, 0.2-2mJ, spot size $100\mu m^2$.

Dates: December 3-9, 2005.

3. **Afyon Kocatepe University, Science and Arts Faculty, Department of Physics Afyon, TURKEY**

Collaborated with: Prof. Mevlut Dogan and graduate student Omer Sise.
 Topic: Fringing field correction schemers for electron spectrometer
 Activity: worked on the theoretical analysis and simulations of various electron spectrometers using SIMION. 5 Papers already published and more in preparation
 Visits: Jan 2006 (O. Sise in Heraklion), 11-17/12/2007 (T. Zouros in Afyon)
 Dates: August 2005 -

4. **ATOMKI**, Debrecen, Hungary

Collaborated with: Dr. Bela Sulik and Dr. Karoly Tokesi
 Topic: basic atomic physics processes on highly charged ions
 Visits: 07/02/-07/12/1999 (Heraklion), 07/01/-07/29/2000 (Heraklion)
 10/11/-10/19/2000 (in Debrecen), 12/7/-12/17/2000 (Debrecen)
 08/08/-08/26/2005 (Heraklion), 19/9/-28/9/2005 (Debrecen)
 Activity: worked on the theoretical analysis and interpretation of various data
 Expenses: payed by research grant at ELKE (in 1999) and IESL (Greek-Hungarian Bilateral intergovernmental S & T cooperation 2000, 2004)

5. **Western Michigan University, Department of Physics**, Kalamazoo, Michigan

Collaborated with: Prof. T.W. Gorczyca
 Topic: Electron-ion single differential calculations
 Date: August 2001 -
 Visits: Heraklion, April 3-7, 2005
 Expenses: covered by grants from DOE and NASA.

6. **GSI**, Darmstadt

Collaboration with: Dr. Rido Mann and Prof. Siegbert Hagmann
 Topic: Relativistic zero-degree electron spectroscopy within the SPARC collaboration
 Date: October 2004-
 Visits: GSI, Darmstadt, October 29-30, 2004
 Activity: Discussed design problems and technical report.

7. **Giessen University, Institute für Strahlenphysik**, Giessen

Collaborated with: Prof. Alfred Müller
 Topic: ERASMUS collision course and experiments in ion-electron collisions
 Dates: 11/22-11/26/2000, 03/20-22/2002
 Activity: discussions on physics of e-e interactions in ion-atom collisions and planning of joint atomic collision course for 2002 for Erasmus. The

course was given in Heraklion May 20-22, 2002

Expenses: covered by grants from LEIF network and Erasmus

8. **University of Frankfurt-Institut für Kernphysik**, Frankfurt, Germany
 Collaborated with: Profs. H. Schmidt-Böcking and Dr. Ottmar Jagutzki
 Topic: implementation of delay-line detector in electron spectrometer
 Visits: IKF, Frankfurt, May 18-June 2, 2000
 JRML, KSU, Manhattan, KS, January 2001
 Activity: Tests performed at IKF and JR Macdonald Lab KSU.
 Expenses: payed by IESL (Greek-German Bilateral intergovernmental S & T cooperation 2000)
9. **University of Freiburg**, Freiburg, Germany
 Collaborated with: Prof. J. Ullrich
 Topic: (e,2e),(e,3e) experiments using COLTRIMS
 Visits: 08/20/-09/20/98, 01/12-15/99
 Activity: Various aspects of COLTRIMS data analysis
 Expenses: University of Freiburg
10. **GSI**, Darmstadt &
University of Frankfurt-Institut für Kernphysik, Frankfurt, Germany
 Collaborated with: Profs. H. Schmidt-Böcking and J. Ullrich
 Topic: (e,2e),(e,3e) experiments using COLTRIMS
 Date: 15/8/1997-15/01/98 (part of sabbatical)
 Activity: Measurements performed at GSI
 Expenses: DAAD and European Large scale facility contract
11. **University of Stuttgart-Institute für Strahlenphysik**, Stuttgart
 Collaborated with: Prof. Alfred Müller
 Topic: 0° Auger spectroscopy in ion-electron collisions
 Dates: 8/22/-9/20/1993 and 1/18/-1/21/1995
 Activity: Built apparatus for ion-electron experiment
 Expenses: covered by grants from DAAD and WE-Heraeus-Stiftung
12. **Prof. Nico Stolterfoht-Hahn-Meitner Institute**, Berlin
 Activity: Preparation of review on *One- and Two-electron processes studied by zero-degree Auger spectroscopy* for Physics Reports.
 Dates: 8/17/-8/28/1994 (Heraklion), 1/11/-1/18/1995 (Berlin) and 7/15-7/25/1995 (Heraklion), 9/6/95-9/29/95 (Berlin)
 Expenses: covered by EU grant on Human Capital & Mobility: Networks
13. **University of Stockholm-Mannes Siegbahn Institutet**, Stockholm
 Collaborated with: Prof. Reinhold Schuch
 Topic: Interaction of slow highly charged ions with solid surfaces
 Dates: 8/30/-9/18/1994, 5/20/-7/12/95

6.3 Other personal international Collaborations

Activity: Built apparatus and performed measurements for ion-surface experiment using the CRYISIS facilities of University of Stockholm
Expenses: covered by EEC grant on Human Capital & Mobility: Networks

14. **Prof. Mike Wilson – Royal Holloway College, University of London**

Activity: Worked on Hartree-Fock calculations for zero-degree Auger data.
Dates: 8/8/-8/15/1995 (Heraklion)
Expenses: covered by EEC grant on Human Capital & Mobility: Networks

15. **Prof. Alekos Clouvas – Aristotelian University, Salonika, Greece**

Activity: Worked on electron emission measurements at the 5 MV Tandem accelerator at the Institute for Nuclear Studies-Demokritos, Athens.
Dates: 7/10/-7/14/1995 (Demokritos-Athens)
Expenses: covered by Bilateral Scientific and Technological Cooperation with Germany (Greek Ministry for Industry, Energy & Technology).

16. **Hahn-Meitner-Institut für Kernforschung, Berlin**

Collaborated with: Drs. N. Stolterfoht and D. Schneider
Topic: 0° Auger Spectroscopy Study of Transfer-Excitation in $\text{He}^+ + \text{H}_2$ Collisions.
Date: 15-20/7/1987, 9/3/95-9/29/95 Activity: Measurements performed at HMI accelerator

17. **University of North Carolina, Chapel Hill, North Carolina**

Collaborated with: Prof. Steve Shafroth
Topic: Angular Dependence Studies of State Selective Charge Exchange using Auger Spectroscopy
Dates: 12/20-4/1986, 3/18-24/1987 & 10/2-9/1989
Activity: Measurements were performed at TUNL, Duke University, Durham, NC and ORNL, Oak Ridge, Tennessee, USA
Expenses: covered by grants from DOE

6.4 Local Collaborations

1. Department of Physics, University of Crete
Principal Investigator: Prof. George Tsironis
Title: New directions in undergraduate physics education (postmodern physics at the Univ. of Crete)
Dates: 10/01/2004-12/31/2005
Activity: Prepared and send out questionnaire form to former UoC Physics Dept. graduates
Expenses: covered by EPEAEK grant.
2. Department of Physics, University of Crete
Principal Investigator: Prof. Kanaris Tsinganos
Title: Evaluation of Teaching and other services of the Physics Dept. of the Univ. of Crete
Dates: 1999
Activity: Prepared and analyzed existing faculty teaching evaluations by the students for the period 1996-1999.
Expenses: covered by EPEAEK grant.
3. Department of Physics, University of Crete
Principal Investigator: Prof. George Tsironis
Topic: Research on Department of Physics graduates
Dates: 1998
Activity: Prepared 2 physics courses for the department web pages.
Expenses: covered by EPEAEK grant.
4. Department of Physics, University of Crete
Principal Investigator: Prof. George Tsironis
Title: Apply Multimedia in Science Education (AMUSE)
Dates: 1994
Activity: Edited and reviewed electronic (multimedia) physics articles for secondary education
Expenses: EU

7 FUNDING

(Revised and updated July 16, 2009)

7.1 Research Grants & Awards

7.1.1 Equipment & Personnel

Funded

1. 11,740 EU, Bilateral Scientific and Technological Cooperation between Greece and Hungary (Greek Ministry for Industry, Energy & Technology), 2004
 Title: **Electron scattering processes in Ion-atom collisions**
 Principal Investigators: Prof. Theo Zouros (IESL) - Dr. Bela Sulik ATOMKI, Debrecen
2. 4,200,000 GDR, Bilateral Scientific and Technological Cooperation between Greece and Hungary (Greek Ministry for Industry, Energy & Technology), 1999
 Title: **Study of two-electron mechanisms in collisions of highly-charged ions with atoms**
 Principal Investigators: Prof. Theo Zouros (IESL) - Dr. Bela Sulik ATOMKI, Debrecen
3. 4,200,000 GDR, Bilateral Scientific and Technological Cooperation between Greece and Germany (Greek Ministry for Industry, Energy & Technology), 1999
 Title: **Implementation of PC-based position-sensitive delay-line detection technology in a hemispherical spectrometer for high-count rate, high-resolution measurements**
 Principal Investigators: Prof. Theo Zouros (IESL) - Prof. H. Schmidt-Böcking (IKF), Univ. Frankfurt
4. 500,000 EU, European Commission, Framework programme: Improving the Human Research Potential and the Socio-economic knowledge base, Action: Access to Research Infrastructures, Implementation: Infrastructure Cooperation Networks (EC), 1999
 Title: **LEIF: Low-Energy Ion beam Facilities** (<http://www.leif-network.org>)
 General Coordinator: Dr. Bernd Huber, Commissariat à l' Energie Atomique (CEA) - Grenoble
 IESL-FORTH participation: 33,700 EUR
5. 1,500,000 GDR, Univ. of Crete, Special Research Account, 1998
 Title: **Development of fast two-dimensional electron detection**

system for use in Auger electron spectrometry of highly charged ions

Award for equipment

6. 10,000,000 GDR, ΠΕΝΕΔ Grant, (Greek Ministry for Industry, Energy & Technology), 1996

Title: **Differential cross section measurements of Resonance Transfer Excitation (RTE) in collisions of light ions with H₂ and He targets using position sensitive detection (PSD) with zero-degree Auger electron spectroscopy.**

Dr. John Zaharakis was employed under this program (Greek from abroad) for 6 months as a postdoctoral fellow

7. \$5,000, International Atomic Energy Agency, 1994

Renewal application of Research Contract No. 7750/RB Grant number 21033

Title: **Experimental Setup for 0° Auger electron spectroscopy in ion-atom and ion-electron collisions**

Award for equipment

8. \$5,000, International Atomic Energy Agency, 1993

Research Contract No. 7750/RB Grant number 21033

Title: **Experimental Setup for 0° Auger electron spectroscopy in ion-atom and ion-electron collisions**

Award for equipment

9. 49,000 ECU, Human Capital & Mobility: Networks (EEC), 1992

Title: **Interaction of slow highly charged ions with solid surfaces**

General Coordinator: Prof. Nico Stolterfoht - Hahn-Meitner Institute, Berlin

Collaboration with MSI-Stockholm, HMI-Berlin, TU-Vienna and KVI-Groningen

10. 8,400,000 GDR, ΠΕΝΕΔ Grant, (Greek Ministry for Industry, Energy & Technology), 1991

Title: **Electron Excitation Mechanisms in ion-atom collisions**

7.1.2 Collaborations & Travel

Funded

1. 560 EU, ERASMUS Lifelong Learning Programme - Academic year 2007 / 2008, Teaching programme

Visited Afyon Kocatepe University in Afyon Karahisar, Turkey (11/12-17/12/2007) and gave lecture on ion-atom collisions as well as discussed research collaboration in building hemispherical deflector analysers.

2. 1,200 EU, University of Crete, Greek-Turkish academic collaborations 2006
Title: **Electron spectroscopy**
Collaboration with Profs. Mevlut Dogan, Kocatepe Univ. Afyon, Turkey
3. 6,400 DM, DAAD (FDR), 1997
Title: **Cold target Recoil Ion momentum spectroscopy**
Collaboration with Profs. H. Schmidt-Böcking, Univ. of Frankfurt.
4. Bilateral Scientific and Technological Cooperation with Germany (Greek Ministry for Industry, Energy & Technology), 1993
Title: **Particle Induced Electron Emission from Solid Surfaces**
Principal Investigator: Prof. Alekos Clouvas, Univ. of Salonica
Experiments in Greece to be performed at 5 MV Tandem Demokritos.
5. \$4,713.40 NATO CRG, 1994 (renewal)
Title: **Electron-electron interactions in fast ion-atom collisions**
Collaboration with Prof. Pat Richard at K-State.
6. 4,650 DM, WE-Heraeus-Stiftung (FDR), 1993
Title: **0° Auger spectroscopy in ion-electron collisions**
Collaboration with Prof. A. Müller at Institute für Strahlen Physik, U. of Stuttgart.
7. 3,710 DM, DAAD (FDR), 1992
Title: **0° Auger spectroscopy in ion-atom and ion-electron collisions**
Collaboration with Prof. A. Müller at Institute für Strahlen Physik, U. of Stuttgart.
8. \$6,378.50, NATO CRG, 1991
Title: **Electron-electron interactions in ion-atom collisions**
Collaboration with Prof. Pat Richard at K-State.

7.2 Teaching Grants

Funded

1. 180,000,000 GDR, EEC, 1994
Title: **Apply Multimedia in Science Education (AMUSE)**
Principal Investigator: Prof. G. Tsironis, Univ. of Crete
2. 500,000 GDR, U. of Crete, 1992
Title: **SPEAKEASY for Physics Research and Education**
Introduce SPEAKEASY package to the University of Crete

3. 980,000 GDR, U. of Crete, 1991

Title: **Using Mathematica in Physics**

Introduce Mathematica package to the University of Crete

8 SUPERVISION

8.1 Postdoctorate fellows

1. **Dr. Konstantine Zaharakis** (Ph.D. Physics, Western Michigan University 1994).
Was employed for 6 months under my 1996 PENED grant as a greek from abroad. Collaboration resulted in publication no. 55 and conference contributions no. 83, 87-88 and 90.
2. **Dr. Emmanouil M. Benis** (Ph.D. Physics, University of Crete, 2001).
Was employed at the Kansas State University, JRM Laboratory from 2001-2003. Worked on Zero-degree Auger projectile spectroscopy projects leading to publications 64-70, 72-74, 76-77, 88-92 and conference contributions no. 118, 120-128, 130-135.

8.2 PhD students

1. **Emmanouil M. Benis**
Thesis title: *A Novel High-efficiency Paracentric Hemispherical Spectrograph for zero-degree Auger projectile spectroscopy*, University of Crete, Department of Physics, May 2001.
Collaboration resulted in publications no. 8-10, 48, 55, 58-59, 61, 63-70, 72-74, 76-77, 79, 97-101 and conference contributions no. 65, 78-79, 82-83, 87-88, 90, 93-95, 97-98, 103, 105-112, 114-116, 118-126, 128-133. Dr. Benis is presently working as a researcher at the Institute of Electronic Structure and Laser with Prof. D. Charalambidis.
2. **Ioannis Chatzakis**, started his PhD. thesis with me in February 2004. He had already obtained a MS from the Chemistry Dept. of UoC working in laser projects at the IESL-FORTH. He was accepted to the physics graduate student program at Kansas State University in 2004. Collaboration so far resulted in publication no. 77 and conference contribution no. 131. In 2006, Mr. Chatzakis, decided to switch to laser physics as more appropriate to his liking/interest and also matching to his past laser experience at the IESL and is therefore not my advisee anymore.

8.3 Diploma/undergraduate students

1. **Frederik Spiegelhalder**, Diplome University of Heidelberg 2005.
Visited our department in Heraklion and worked with me on electron spectroscopy simulation issues using SIMION, October 6 - November 19, 2005. Work led to publications no. 84, 89 and conference contributions no. 140, 142, 146.

2. **Matthew T. Horne**, K-State Physics Dept. REU Student
Topic: Building an Improved Electron Spectrometer
Period: Summer 2001 at Kansas State University.
3. **John E. Schauer**, K-State Physics dept. REU Student
Topic: Study of electron trajectories in hemispherical analyzer
Period: Summer 1999 at Kansas State University and Spring 2000 in Heraklion.
Work led to publication number 97.
4. **Marotesa M. Voultzidou**
Thesis title: *An Ion-Optics Simulation Study of a Tandem 45° Parallel Plate Spectrometer*, University of Crete, Department of Physics, September 1997.
Collaboration resulted in publications no. 55 and conference contributions no. 78-79, 82-83. Following, Ms. Voultzidou pursued her Ph.D. in the Physics Dept. of the University of Crete with other faculty members.

8.4 Ph.D. students which have worked closely with me

1. **Do-Hyung Lee**, *Electron-electron interactions in ion-atom collisions studied by projectile state-resolved Auger electron spectroscopy*, Ph.D. student of Prof. Pat Richard, Department of Physics, Kansas State University, 1990.
2. **Hisham I. Hidmi**, *Systematics of Binary Encounter Electrons from High Z projectiles*, Ph.D. student of Prof. Pat Richard, Department of Physics, Kansas State University, 1993.
3. **Gabor Toth**, *Electronic excitation processes in highly charged fast ion-atom collisions*, Ph.D. student of Prof. Pat Richard, Department of Physics, Kansas State University, 1997.
4. **Mikhail Zamkov**, *Multi-electron processes in ion-atom collisions*, Ph.D. student of Prof. Pat Richard, Department of Physics, Kansas State University, 2003.

9 UNIVERSITY OF CRETE COMMITTEES

1. 2007 - Univ. of Crete committee in charge of the new gym to open in May 2007.
2. 2007 - **Dept. of Physics representative to the Univ. of Crete, School of Science on the committee for teaching adequacy**
3. 2007 - **Dept. of Physics Evaluation committee**
4. 2006 - **Univ. of Crete/ELKE Research council** - Physics Dept. main representative
5. 2005 - 2006 **Physics & Biology coffee shop supervisory Committee** - Sole member supervised the Physics and Biology Dept. coffee shop run by undergraduates.
6. 1991 - 2002 **Undergraduate Studies Committee** - Edited the undergraduate course syllabus culminating in its printout by PEK press in 1998. Arranged annual teaching program for all faculty - Discuss issues relevant to undergraduate education in the Physics Dept - Analysed and tabulated the results of the teaching evaluations each semester.
7. 1999 - 2002 **ERASMUS/SOCRATES Department liaison** - In charge of Erasmus program for student exchange visits to other European universities. Presently have about 8 participating universities and about 5-10 students make exchange visits every year. Edited the english version of the course syllabus.
8. 1999 **EPEAEK Department Evaluation Report** - Was in charge of the teaching evaluation report of the department.
9. 1999 **Graduate Student Seminars** - Organized the graduate student weekly seminars series. This was discontinued in 2000 after popular demand by the students themselves as they claimed it interfered with their own informal seminar series.
10. 2002 **25 year anniversary issue** - appointed by department head to be responsible for the information required to represent our department in the 25 year anniversary web (<http://25years.uoc.gr/>) page and commemorative issue.

