

# ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

## ΠΡΟΣΩΠΙΚΑ ΣΤΟΙΧΕΙΑ

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Όνοματεπώνυμο	Εμμανουήλ Μπενής
Ημερομηνία Γέννησης	8 Νοεμβρίου 1970
Τόπος Γέννησης	Καβάλα
Εθνικότητα / Υπηκοότητα	Ελληνική
Οικογενειακή κατάσταση	Έγγαμος, 2 παιδιά
Στρατιωτική κατάσταση	03/1999 -11/2000, σμηνίτης στην Πολεμική Αεροπορία.
Διεύθυνση επικοινωνίας	Τομέας Ατομικής και Μοριακής Φυσικής, Τμήμα Φυσικής, Πανεπιστήμιο Ιωαννίνων, Ιωάννινα, 45110.
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## ΕΡΕΥΝΗΤΙΚΑ ΕΝΔΙΑΦΕΡΟΝΤΑ

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- Ατομική/Μοριακή Φυσική με ισχυρούς παλμούς Laser
  - Γρήγορες διαδικασίες μοριακής φωτοδιάσπασης και φωτοϊονισμού.
  - Μη γραμμικές διαδικασίες στην φασματική περιοχή VUV/XUV.
  - Παραγωγή χαμηλής και υψηλής τάξης αρμονικών συχνοτήτων.
  - Μετρολογία υπερβραχέων παλμών - παλμοί αττοδευτερολέπτων.
- Ατομική/Μοριακή Φυσική με Επιταχυντές: Κρούσεις ταχέων ιόντων-ατόμων
  - Φασματοσκοπία Auger ηλεκτρονίων υψηλής διακριτικής ικανότητας.
  - Συντονισμένες και μη-συντονισμένες διαδικασίες ελαστικής σκέδασης ηλεκτρονίων.
  - Διαδικασίες σχηματισμού διπλά και τριπλά διεγερμένων ιοντικών καταστάσεων.
  - Μετασταθείς ιοντικές καταστάσεις.
- Ανάπτυξη και λειτουργία υψηλής διακριτικής ικανότητας και απόδοσης φασματόμετρων ηλεκτρονίων.

## ΕΚΠΑΙΔΕΥΣΗ

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06/2001	Διδακτορικό (PhD) στην Ατομική Φυσική – Πανεπιστήμιο Κρήτης (σε συνεργασία με το Kansas State University, USA). <i>Τίτλος Διατριβής: Πρωτότυπο παρακεντρικό ημισφαιρικό φασματόμετρο υψηλής απόδοσης για φασματοσκοπία Auger ηλεκτρονίων μηδέν μοιρών.</i>
07/1996	Μεταπτυχιακό δίπλωμα ειδίκευσης (MSc) στην Γενική Φυσική – Πανεπιστήμιο Κρήτης.
10/1993	Δίπλωμα Φυσικής (BSc) – Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

## ΕΡΕΥΝΗΤΙΚΕΣ / ΑΚΑΔΗΜΑΙΚΕΣ ΘΕΣΕΙΣ

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10/2014 - Σήμερα	Μέλος Συνεργαζόμενου Εκπαιδευτικού Προσωπικού, Ελληνικό Ανοικτό Πανεπιστήμιο.
08/2013 - Σήμερα	Επίκουρος Καθηγητής (μόνιμος), Τμήμα Φυσικής, Πανεπιστήμιο Ιωαννίνων. Γνωστικό αντικείμενο: «Πειραματική Ατομική ή/και Μοριακή Φυσική».
10/2009 – 08/2013	Επίκουρος Καθηγητής (με θητεία), Τμήμα Φυσικής, Πανεπιστήμιο Ιωαννίνων. Γνωστικό αντικείμενο: «Πειραματική Ατομική ή/και Μοριακή Φυσική».

08/2007 - 10/2009	Ειδικός Λειτουργικός Επιστήμονας Γ' βαθμίδας, Ίδρυμα Τεχνολογίας και Έρευνας, Ινστιτούτο Ηλεκτρονικής Δομής και Laser. Γνωστικό αντικείμενο: «Εφαρμογές συστημάτων Λείζερ στενών παλμών και υψηλής ισχύος».
08/2003 - 08/2007	Μεταδιδακτορικός Επιστημονικός Συνεργάτης (Post-Doc), Ίδρυμα Τεχνολογίας και Έρευνας, Ινστιτούτο Ηλεκτρονικής Δομής και Laser.
08/2001 - 08/2003	Μεταδιδακτορικός Επιστημονικός Συνεργάτης (Post-Doc), Department of Physics, Kansas State University, USA.
09/1996 - 08/2001	Υπότροφος στα πλαίσια της εκπόνησης της διδακτορικής διατριβής (Research Assistant), Department of Physics, Kansas State University, USA.
10/1993 - 12/2000	Υπότροφος στα πλαίσια της εκπόνησης της διδακτορικής διατριβής (Teaching Assistant and Laboratory Instructor), Τμήμα Φυσικής, Πανεπιστήμιο Κρήτης.

## **ΕΠΙΣΤΗΜΟΝΙΚΗ ΕΜΠΕΙΡΙΑ**

### **Πειραματικές δεξιότητες**

- Φασματοσκοπία Auger ηλεκτρονίων μηδέν μοιρών
- Τεχνικές απεικόνισης θραυσμάτων κρούσεων
- Τεχνικές rump-probe
- Ηλεκτροστατικά φασματόμετρα (ημισφαιρικά, παράλληλων πλακών)
- Φασματόμετρα χρόνου πτήσης time-of-flight (mass spectrometer, magnetic bottle)
- Τεχνολογία αερίων στόχων (gas cells, pulsed jets, cold gas targets)
- Τεχνολογία υψηλού και υπερυψηλού κενού
- Ανιχνευτές θέσης (resistive, backgammon, delay line anode)
- Ηλεκτρικά και ηλεκτρονικά εξαρτήματα ανιχνευτών
- Οπτικά εξαρτήματα και τεχνολογία για συστήματα Laser femtosecond
- Μηχανολογικός σχεδιασμός πειραματικών διατάξεων και εξαρτημάτων τους

### **Υπολογιστικές δεξιότητες**

- Λειτουργικά συστήματα: DOS, VAX, UNIX, LINUX, WINDOWS
- Εφαρμογές: LATEX, CorelDraw, Origin, Mathematica, OFFICE
- Εξειδικευμένα επιστημονικά πακέτα: SIMION3D
- Γλώσσες προγραμματισμού: FORTRAN, PASCAL, LUA
- Ανάπτυξη λογισμικού για καταγραφή και επεξεργασία δεδομένων
- Ανάπτυξη λογισμικού για μοντελοποίηση φυσικών διαδικασιών

### **Ξένες Γλώσσες**

- Άριστη γνώση της Αγγλικής γλώσσας.

## **ΣΥΝΕΡΓΑΣΙΑ ΜΕ ΔΙΕΘΝΗ ΕΡΕΥΝΗΤΙΚΑ ΙΔΡΥΜΑΤΑ ΚΑΙ ΠΑΝΕΠΙΣΤΗΜΙΑ**

- National Center for Scientific Research - Demokritos, Greece
- Centre for Plasma Physics and Lasers, Greece
- Dublin City University, School of Physical Sciences, Ireland
- Universidade Nova de Lisboa, Faculdade de Ciências e Tecnologia, Portugal

## **ΑΞΙΟΛΟΓΗΤΗΣ ΣΕ ΕΠΙΣΤΗΜΟΝΙΚΑ ΠΕΡΙΟΔΙΚΑ**

- Physical Review Letters (από το 2004)
- Journal of Physics B: Atomic Molecular and Optical Physics (από το 2009)

- Journal of Electron Spectroscopy and Related Phenomena (από το 2010)
- Nuclear Instruments and Methods in Physics Research A (από το 2010)
- New Journal of Physics (από το 2011)
- Rapid Communications in Mass Spectrometry (από το 2011)

#### **ΚΥΡΙΟΣ ΕΡΕΥΝΗΤΗΣ ΣΕ ΕΡΕΥΝΗΤΙΚΑ ΠΡΟΓΡΑΜΜΑΤΑ**

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- Marie Curie International Reintegration Grants (IRG), FP6-2002-Mobility-12, 2003.  
Τίτλος: Characterization and Research Applications of Attosecond Pulses.  
Προϋπολογισμός: 80,000 €.

#### **ΣΥΜΜΕΤΟΧΗ ΣΕ ΕΡΕΥΝΗΤΙΚΑ ΠΡΟΓΡΑΜΜΑΤΑ**

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- Πρόγραμμα ΠΕΝΕΔ, Πανεπιστήμιο Κρήτης, Υπουργείο Βιομηχανίας Ενέργειας και Τεχνολογίας, 1991.  
Τίτλος: *Electron excitation mechanisms in ion-atom collisions*.  
Προϋπολογισμός: 8.400.000 GDR. Σύμβαση έργου: 01/11/1994 - 21/12/1995
- Πρόγραμμα ΠΕΝΕΔ, Πανεπιστήμιο Κρήτης, Υπουργείο Βιομηχανίας Ενέργειας και Τεχνολογίας, 1996.  
Τίτλος: *Differential cross section measurements of Resonance Transfer Ex-citation (RTE) in collisions of light ions with H<sub>2</sub> and He targets using position sensitive detection (PSD) with zero-degree Auger electron spectroscopy*.  
Προϋπολογισμός: 10.000.000 GDR. Σύμβαση έργου: 01/09/1996 - 30/08/1998
- Human Capital & Mobility, Networks (EEC), 1992.  
Τίτλος: *Interaction of slow highly charged ions with solid surfaces*  
Προϋπολογισμός: 49.000 ECU.
- Διακρατική συνεργασία Ελλάδας-Ουγγαρίας, Ινστιτούτο Ηλεκτρονικής Δομής και Laser, 1999.  
Τίτλος: *Study of two-electron mechanisms in collisions of highly-charged ions with atoms*.  
Προϋπολογισμός: 4.200.000 GDR. Σύμβαση έργου: 01/10/2000 – 31/12/2000
- Marie Curie Transfer of Knowledge Grant Contr. Nr. MTKD-CT-2004-517145, 2003  
Τίτλος: *XUV-High Order Harmonic Metrology Tools for Novel Spectroscopic Applications (X-HOMES)*.  
Προϋπολογισμός: 400.000 €.
- Marie Curie “Joint Research Activities” Grant, 2004  
Τίτλος: *Frontiers of Optical Science: Controlling Intense Light (FOSCIL)*.  
Προϋπολογισμός: 170.000 €.
- Διακρατική επιστημονική και τεχνολογική συνεργασία Ελλάδας-Ουγγαρίας, 2004.  
Τίτλος: *Electron scattering processes in ion-atom collisions*.  
Προϋπολογισμός: 11.740 €.
- ELI, “Preparatory phase for ELI”, 2010.  
Προϋπολογισμός: 120.000 €.
- HIPPER, “Preparatory phase for HIPER”, 2010.  
Προϋπολογισμός: 120.000 €.
- Πανεπιστήμιο Ιωαννίνων, 2011  
Τίτλος: *Προμήθεια οπτικών εξαρτημάτων για την ολοκλήρωση της πειραματικής διάταξης pump-probe με fs παλμούς laser*.  
Προϋπολογισμός: 5.000 €.
- ΘΑΛΗΣ, Υπουργείο παιδείας, δια βίου μάθησης και θρησκευμάτων, 2012  
Τίτλος: *APAPES Ατομική Φυσική με Επιταχυντές: Φασματοσκοπία Ηλεκτρονίων Ιόντων Δέσμης στον Επιταχυντή TANDEM του ΕΚΕΦΕ Δημόκριτος (ΑΦΕΦΗΛΙ)*.  
Προϋπολογισμός: 600.000 €. Υπεύθυνος ερευνητικής ομάδας του Πανεπιστημίου Ιωαννίνων.

- ΘΑΛΗΣ, Υπουργείο παιδείας, δια βίου μάθησης και θρησκευμάτων, 2012  
Τίτλος: *Αλληλεπίδραση βραχύβιων και ισχυρών ηλεκτρομαγνητικών παλμών με την ύλη*  
Προϋπολογισμός: 600.000 €.

## ΟΡΓΑΝΩΣΗ ΣΥΝΕΔΡΙΩΝ

Μέλος της τοπικής επιτροπής οργάνωσης

- 9<sup>th</sup> European Conference on Atoms Molecules and Photons, ECAMP IX 2007
- 20<sup>th</sup> International Symposium on Ion-Atom Collisions, XX ISAC 2007

## ΔΙΔΑΚΤΙΚΗ ΕΜΠΕΙΡΙΑ

10/2015 – Σήμερα: ΤΕΙ Κρήτης, Μεταπτυχιακό Πρόγραμμα PLAPA

- Ατομικές Διαδικασίες σε Πλάσμα

10/2014 – Σήμερα: Ελληνικό Ανοικτό Πανεπιστήμιο

- Κβαντική Φυσική

10/2010 – Σήμερα: Τμήμα Φυσικής, Πανεπιστήμιο Ιωαννίνων

- Σύγχρονη Φυσική I (3ο εξάμηνο)
- Σύγχρονη Φυσική II (4ο εξάμηνο) - Σημειώσεις (Ανοικτά Ακαδημαϊκά Μαθήματα)
- Φυσική των Laser (7ο εξάμηνο) - Σημειώσεις (Ανοικτά Ακαδημαϊκά Μαθήματα)
- Ατομική Φυσική (7ο εξάμηνο) - Σημειώσεις (Ανοικτά Ακαδημαϊκά Μαθήματα)
- Εργαστήρια Νεότερης Φυσικής I (7ο εξάμηνο)
- Εργαστήρια Κυμάνσεων και Οπτικής (4<sup>ο</sup> εξάμηνο)
- Εργαστήρια Ηλεκτρισμού και Μαγνητισμού (3<sup>ο</sup> εξάμηνο)
- Εργαστήρια Πειραματικής Φυσικής (1<sup>ο</sup> εξάμηνο)

### Διπλωματικές Εργασίες - Masters

- ‘Πηγή σύμφωνης UV/VUV ακτινοβολίας ελεγχόμενου μήκους κύματος βασισμένη στην παραγωγή χαμηλής τάξης αρμονικών σε κελί αργού με τη χρήση οπτικού παραμετρικού ενισχυτή λέιζερ’, Λάζαρος Βαρβαρέζος (2015).

### Διπλωματικές Εργασίες - Πτυχίο

- ‘Μελέτη ιδιοτήτων απεικονιστικού φασματόμετρου VMI’, Ελισάβετ Μπιζάκη (2011).
- ‘Χρονικός χαρακτηρισμός στενών παλμών laser με τη μέθοδο της αυτοσυσχέτισης 2<sup>ης</sup> τάξης’, Ευαγγελία Δελλή (2012).
- ‘Κατασκευή και μελέτη φασματόμετρου μαγνητικής φιάλης’, Σωκράτης Αναστασόπουλος (2012).
- ‘Θεωρητική μελέτη και προσομοίωση του φασματόμετρου μαγνητικής φιάλης’, Αλκμήνη-Βασιλική Δαγκλή (2012).
- ‘Μοντελοποίηση παραγωγής αρμονικών από την αλληλεπίδραση ακτινοβολίας λέιζερ με άτομα’, Ιωάννης Μάκος (2013).
- ‘Διάσπαση του μοριακού ιόντος υδρογόνου σε ισχυρά πεδία Laser: Η εικόνα Floquet’, Σπύρος Διβάνης (2013).
- ‘Ο ρόλος των φαινομένων όγκου στην διάσπαση του H<sub>2</sub><sup>+</sup> κατά την αλληλεπίδρασή του με ισχυρά πεδία laser’, Στυλιανός Πασσαλίδης (2014).
- ‘Μελέτη των συνθηκών βελτιστοποίησης της παραγωγής της 3ης και 5ης αρμονικής κατά την αλληλεπίδραση ισχυρών παλμών laser με αέριο αργό σε στατικό κελί’, Λάζαρος Βαρβαρέζος (2014).
- ‘Μελέτη της εφαρμοσιμότητας της τεχνικής Intensity Selective Scanning (ISS) στην μοριακή διάσπαση του H<sub>2</sub><sup>+</sup> κατά την αλληλεπίδρασή του με ισχυρά πεδία laser’, Αναστάσιος Γρηγοριάδης (2015).
- ‘Μελέτη παραγωγής χαμηλής τάξης αρμονικών κατά την αλληλεπίδραση ισχυρών παλμών laser με αέριο Ar σε παλμικό jet’, Εμμανουήλ Κεχάογλου (2015).

## ΣΥΜΜΕΤΟΧΗ ΣΕ ΕΚΠΑΙΔΕΥΤΙΚΑ ΠΡΟΓΡΑΜΜΑΤΑ / ΘΕΡΙΝΑ ΣΧΟΛΕΙΑ

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- LLP/Erasmus IP 2010-2011.  
Τίτλος: CPOTS – Introduction to Charged Particle Optics: Theory and Simulation.  
20 ώρες διδασκαλίας: Απεικονιστικά Φασματόμετρα, Φασματόμετρο μαγνητικής φιάλης, Εργαστήρια εφαρμογών του πακέτου προσομοίωσης SIMION.
- LLP/Erasmus IP 2011-2012.  
Τίτλος: CPOTS – Introduction to Charged Particle Optics: Theory and Simulation.  
20 ώρες διδασκαλίας: Απεικονιστικά Φασματόμετρα, Εργαστήρια εφαρμογών του πακέτου προσομοίωσης SIMION
- LLP/Erasmus IP 2012-2013.  
Τίτλος: CPOTS – Introduction to Charged Particle Optics: Theory and Simulation.  
20 ώρες διδασκαλίας: Απεικονιστικά Φασματόμετρα, Εργαστήρια εφαρμογών του πακέτου προσομοίωσης SIMION
- LLP/Erasmus IP 2012-2013.  
Τίτλος: HIPOLIN – An introduction to high power light-matter interactions.  
2 ώρες διδασκαλίας: Ατομική και μοριακή δυναμική με χρήση ισχυρών παλμών λέιζερ.

## ΚΡΙΤΙΚΟΣ ΑΝΑΓΝΩΣΤΗΣ

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- ‘Κυματική Φυσική’, Ελληνικά Ακαδημαϊκά Συγγράμματα και Βοηθήματα (Κάλλιπος, κωδ. 9794) (2015).

**ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ ΕΠΙΣΤΗΜΟΝΙΚΑ ΠΕΡΙΟΔΙΚΑ ΚΑΙ ΒΙΒΛΙΑ (ΜΕ ΚΡΙΤΕΣ)**

1. “Search for inelastic electrons scattered off ions in energetic ion-atom collisions”,  
T.J.M. Zouros, C. Liao, S. Hagmann, E.C. Montenegro, G. Toth, P. Richard and E.P. Benis,  
Nucl. Instrum. Methods Phys. Res. B **98**, 371 (1995).
2. “A new hemispherical analyser with 2-D PSD and focusing lens for use in 0° electron  
spectroscopy”,  
E.P. Benis, K. Zaharakis, M. M. Voultzidou and T.J.M. Zouros,  
Nucl. Instrum. Methods Phys. Res. B **146**, 120 (1998).
3. “High resolution RTE measurements at zero degrees using a hemispherical analyser with lens and  
2-D PSD”,  
E.P. Benis, T.J.M. Zouros and P. Richard,  
Nucl. Instrum. Methods Phys. Res. B **154**, 276 (1999).
4. “Hemispherical analyser with 2-D PSD for zero-degree Auger projectile spectroscopy”,  
E.P. Benis, T.J.M. Zouros, H. Aliabadi and P. Richard,  
Phys. Scr. **T80B**, 529 (1999).
5. “Improving the energy resolution of a hemispherical spectrograph using a paracentric entry at a  
non-zero potential”,  
E.P. Benis and T.J.M. Zouros,  
Nucl. Instrum. Methods Phys. Res. A **440**, 462 (2000).
6. “Energy dependence of the metastable fraction in  $B^{3+}(1s^2 1S, 1s2s^3S)$  beams produced in  
collisions with solid and gas targets”,  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara, T.J.M. Zouros,  
Phys. Rev. A **64**, 052702 (2001).
7. “Absolute cross sections and decay rates for the triply excited  $B^{2+}(2s2p^2D)$  resonance in  
electron-metastable-ion collisions”,  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros,  
Phys. Rev. A **65**, 032705 (2002).
8. “Technique for the determination of the  $1s2s^3S$  metastable fraction in two-electron ion beams”,  
E.P. Benis, T.J.M. Zouros, M. Zamkov, and P. Richard,  
Phys. Rev. A **65**, 064701 (2002).
9. “Fraction of metastable  $1s2s^3S$  ions in fast He-like beams ( $Z=5-9$ ) produced in collisions with  
carbon foils”,  
M. Zamkov, E.P. Benis, P. Richard, and T.J.M. Zouros,  
Phys. Rev. A **65**, 062706 (2002).
10. “The hemispherical deflector analyzer revisited: I. Motion in the ideal  $1/r$  potential, generalized  
entry conditions, Kepler orbits and spectrometer basic equation”,  
T. J. M. Zouros and E.P. Benis,  
J. Electr. Spectr. Rel. Phenom. **125**, 221 (2002); Erratum: **142**, 175 (2005).
11. “Triple electron capture in fast 0.5-1.1 MeV/u  $C^{6+}$  on Ar collisions”,  
M. Zamkov, E.P. Benis, P. Richard, T.G. Lee, and T.J.M. Zouros,  
Phys. Rev. A **66**, 042714 (2002).
12. “Absolute measurements and calculation of triple electron capture in fast 0.5-1.1 MeV/u  $C^{6+}$  on  
Ar collisions”,  
M. Zamkov, E.P. Benis, T.G. Lee, P. Richard, and T.J.M. Zouros,  
Nucl. Instrum. Methods Phys. Res. B **205**, 522 (2003).

13. "Comparison of two experimental techniques for the determination of the  $1s2s\ ^3S$  metastable beam fraction in energetic  $B^{3+}$  ions",  
E.P. Benis, M. Zamkov, P. Richard, and T.J.M. Zouros,  
*Nucl. Instrum. Methods Phys. Res. B* **205**, 517 (2003).
14. "Differential electron scattering from positive ions measured by zero-degree ion-atom spectroscopy",  
T.J.M. Zouros, E.P. Benis, T.W. Gorczyca, A.D. Gonzalez, M. Zamkov, and P. Richard,  
*Nucl. Instrum. Methods Phys. Res. B* **205**, 508 (2003).
15. "Experimental observation and theoretical calculations of triply excited  $2s2p^2\ ^2S^e$ ,  $2s^2\ ^2P^e$ ,  $2D^e$ , and  $2p^3\ ^2P^o$ ,  $2D^o$  states of fluorine",  
M. Zamkov, E.P. Benis, C.D. Lin, T.G. Lee, T. Morishita, P. Richard and T.J.M. Zouros,  
*Phys. Rev. A* **67**, R050703 (2003).
16. "Large-angle elastic resonant and non-resonant scattering of electrons from  $B^{3+}(1s^2)$  and  $B^{4+}(1s)$  ions: Comparison of experiment and theory",  
T.J.M. Zouros, E.P. Benis, and T.W. Gorczyca,  
*Phys. Rev. A* **68**, R010701 (2003).
17. "Rescattering double ionization of  $D_2$  and  $H_2$  by intense laser pulses",  
A.S. Alnaser, T. Osipov, E.P. Benis, A. Wech, C. L. Cocke, X. M. Tong, and C. D. Lin,  
*Phys. Rev. Lett.* **91**, 163002, (2003); Publisher's Note: *Phys. Rev. Lett.* **91**, 219902, (2003).
18. "Isoelectronic study of triply excited state Li-like states",  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, M. Zamkov, and P. Richard,  
*J. Phys. B* **36**, L341 (2003).
19. "Elastic resonant and non-resonant differential scattering of quasi-free electrons from  $B^{4+}(1s)$  and  $B^{3+}(1s^2)$  ions",  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, A.D. Gonzalez and P. Richard,  
*Phys. Rev. A* **69**, 052718 (2004); Erratum: **73**, 029901 (2006).
20. "Vibrationally resolved K-shell photoionization of CO with circularly polarized light",  
T. Jahnke, L.Foucar, J.Titze, R Wallauer, T. Osipov, E.P. Benis, A Alnaser, O. Jacutski, W. Arnold, S.K. Semenov, N.A. Cherepkov, L. Schmidt, A. Czasch, A. Staudte, M. Schoffler, C.L. Cocke, M.H. Prior, H. Schmidt-Bocking, and R. Doerner,  
*Phys. Rev. Lett.* **93**, 083002 (2004).
21. "Ionization suppression of  $Cl_2$  molecules in intense laser fields",  
E.P. Benis, J.F. Xia, X.M. Tong, M. Faheem, M. Zamkov, B. Shan, P. Richard, C.D. Lin and Z. Chang,  
*Phys. Rev. A* **70**, 025401 (2004).  
[Selected for the September 2004 issue of Virtual Journal of Ultrafast Science.]
22. "Electron correlation in the formation of Li-like ions",  
A.S. Alnaser, A. Landers, D.J. Pole, S. Hossain, E.P. Benis, S.M. Ferguson, and J.A. Tanis,  
*Phys. Scr.* **T110**, 137 (2004).
23. "Second order autocorrelation of an XUV attosecond pulse train",  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, K. Witte, and G.D. Tsakiris,  
*Phys. Rev. Lett.* **94**, 113905, (2005).  
[Selected for the April 2005 issue of Virtual Journal of Ultrafast Science.]
24. "Optimal energy resolution of a hemispherical analyzer with virtual entry",  
T.J.M. Zouros and E.P. Benis,  
*Appl. Phys. Lett.* **86**, 094105 (2005).
25. "The attosecond science frontiers: generation, metrology and paths to applications",  
P. Tzallas, G.D. Tsakiris, L.A.A. Nikolopoulos, N.A. Papadogiannis, K. Witte, E.P. Benis, and D.

- Charalambidis,  
J. Electr. Spectr. Rel. Phenom. **144-147**, 1129 (2005).
26. "Investigation of triply-excited states of Li-like ions in fast ion-atom collisions by zero-degree Auger projectile electron spectroscopy",  
T.J.M. Zouros, E.P. Benis, M. Zamkov, C.D. Lin, T.G. Lee, P. Richard, T.W. Gorczyca, T. Morishita,  
Nucl. Instrum. Methods Phys. Res. B **233**, 161 (2005).
  27. "Attosecond pulse trains: generation metrology and application perspectives",  
P. Tzallas, E.P. Benis, D. Charalambidis, G.D. Tsakiris, K. Witte, and L.A.A. Nikolopoulos,  
Laser Phys. **15**, 821, (2005).
  28. "Optimization of the energy resolution of an ideal ESCA-type hemispherical analyzer",  
T.J.M. Zouros, E.P. Benis, and I. Chatzakis,  
Nucl. Instrum. Methods Phys. Res. B **235**, 535 (2005).
  29. "Spectral phase distribution retrieval through coherent control of harmonic generation",  
E. Papalazarou, M. Kovacev, P. Tzallas, E.P. Benis, C. Kalpouzou, G.D. Tsakiris, and D. Charalambidis,  
Phys. Rev. Lett. **96**, 163901 (2006).  
[Selected for the May 2006 issue of Virtual Journal of Ultrafast Science.]
  30. "Frequency resolved photoelectron spectra of two-photon ionization of He by an attosecond pulse train",  
E.P. Benis, P. Tzallas, L.A.A. Nikolopoulos, M. Kovacev, C. Kalpouzou, D. Charalambidis and G.D. Tsakiris,  
New J. Phys. **8**, 92 (2006).
  31. "Comment on "Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part I. Experimental study of multiphoton and single-photon processes",  
D. Charalambidis, P. Tzallas, N.A. Papadogiannis, L.A.A. Nikolopoulos, E.P. Benis, and G.D. Tsakiris,  
Phys. Rev. A **74**, 037402 (2006).  
[Selected for the October 2006 issue of Virtual Journal of Ultrafast Science.]
  32. "Two-photon double ionization of rare gases by a superposition of harmonics",  
E.P. Benis, D. Charalambidis, T.N. Kitsopoulos, G.D. Tsakiris, and P. Tzallas,  
Phys. Rev. A **74**, 051402R (2006).
  33. "Single photon induced symmetry breaking of H<sub>2</sub> dissociation",  
F. Martin, J. Fernandez, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schoffer, L. Schmidt, T. Jahnke, A.L. Landers, O. Jakutzki, A. Czasch, E.P. Benis, T. Osipov, A. Belkacem, M.H. Prior, H. Schmidt-Böcking, C.L. Cocke, and R. Dörner,  
Science **315**, 629 (2007).
  34. "Laser-induced field free alignment of OCS molecule",  
V. Loriot, P. Tzallas, E.P. Benis, E. Herz, B. Lavorel, D. Charalambidis and O. Faucher,  
J. Phys. B **40**, 2503 (2007).
  35. "Full temporal reconstruction of a lower order harmonic superposition",  
P. Tzallas, E. Skantzakis, E.P. Benis, A. Bonarou, G.D. Tsakiris, and D. Charalambidis,  
New J. Phys. **9**, 232 (2007).
  36. "Generation of intense continuum XUV radiation by many-cycle laser fields",  
P. Tzallas, E. Skantzakis, C. Kalpouzou, E.P. Benis, G.D. Tsakiris and D. Charalambidis,  
Nat. Phys. **3**, 846 (2007).
  37. "Exploring intense attosecond pulses",  
D. Charalambidis, P. Tzallas, E.P. Benis, E. Skantzakis, G. Maravelias, L.A.A. Nikolopoulos, A.



- Peralta Conde and G.D. Tsakiris,  
New J. Phys. **10**, 025018 (2008).
38. “The hemispherical deflector analyzer revisited II. Electron optical properties”,  
E.P. Benis and T.J.M. Zouros,  
J. Electr. Spectr. Rel. Phenom. **163**, 28 (2008).
  39. “Realization of time resolved two-VUV-photon ionization”,  
A. Peralta Conde, J. Kruse, O. Faucher, P. Tzallas, E. P. Benis, and D. Charalambidis  
Phys. Rev. A **79**, 061405 (2009).
  40. “Four-dimensional investigation of the 2<sup>nd</sup>-order volume autocorrelation technique”,  
O. Faucher, P. Tzallas, E. P. Benis, J. Kruse, A. Peralta Conde, C. Kalpouzou and  
D.Charalambidis,  
Appl. Phys. B. **97**, 505 (2009).
  41. “Carbon K-shell photoionization of CO: Molecular frame angular distribution of normal and  
conjugate shake up satellites”,  
T. Jahnke, J. Titze, L. Foucar, R. Wallauer, T. Osipov, E. P. Benis, O. Jagutzki, W. Arnold, A.  
Czasch, A. Staudte, M. Schoffler, A. Alnaser, T. Weber, M. H. Prior, H. Schmidt-Bocking, and R.  
Dorner,  
J. Electr. Spectr. Rel. Phenom. **183**, 48 (2011).
  42. “Role of broadband-laser-pulse temporal extent in H<sub>2</sub><sup>+</sup> photodissociation”,  
E. P. Benis, M. Bakarezos, N. A. Papadogiannis, M. Tatarakis, S. Divanis, C. O Broin, and  
L.A.A. Nikolopoulos,  
Phys. Rev. A **86**, 043428 (2012).
  43. “Determination of the solid angle and response function of a hemispherical spectrograph with  
injection lens for Auger electrons emitted from long lived projectile states”,  
S. Doukas, I. Madesis, A. Dimitriou, A. Laoutaris, T. J. M. Zouros and E. P. Benis  
Rev. Sci. Instrum. **86**, 043111 (2015).
  44. “Evaluation of the effective solid angle of a hemispherical deflector analyser with injection lens  
for metastable Auger projectile states”,  
E.P. Benis, S. Doukas, T.J.M. Zouros, P. Indelicato, F. Parente, C. Martins, J.P. Santos, J.P.  
Marques  
Nucl. Instr. Meth. B (2015), In Press.
  45. “Evidence for the non-statistical population of the 1s2s2p <sup>4</sup>P metastable state by selective electron  
capture in 4 MeV collisions of B<sup>3+</sup> (1s2s <sup>3</sup>S) with H<sub>2</sub> targets”  
E.P. Benis, S. Doukas, T.J.M. Zouros,  
Nucl. Instr. Meth. B (2015), In Press.

#### ΑΡΘΡΑ ΣΕ ΤΟΜΟΥΣ ΠΡΑΚΤΙΚΩΝ ΔΙΕΘΝΩΝ ΣΥΝΕΔΡΙΩΝ (ΜΕ ΚΡΙΤΕΣ)

1. “Charged particle trajectories in an ideal paracentric hemispherical deflection analyzer,  
T.J.M. Zouros, E.P. Benis and J.E. Schauer”,  
AIP Conf. Proc. **576**, 76 (2001).
2. “Stripping energy dependence of a B<sup>3+</sup>(1s<sup>2</sup> <sup>1</sup>S, 1s2s <sup>3</sup>S) beam metastable fraction”,  
M. Zamkov, H. Aliabadi, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros,  
AIP Conf. Proc. **576**, 149 (2001).
3. “Doubly excited KLL states formed in triple electron capture”,  
M. Zamkov, E.P. Benis, T.G. Lee, P. Richard, and T.J.M. Zouros,  
AIP Conf. Proc. **680**, 24 (2003).
4. “Resonant (RTE) and non resonant (NTE) transfer excitation in 4 MeV B<sup>4+</sup> collisions with H<sub>2</sub>, He  
and Ar studied by zero-degree Auger projectile electron spectroscopy”,

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

## ΚΕΦΑΛΑΙΑ ΣΕ ΒΙΒΛΙΑ

1. “Attosecond scale multi-XUV-photon processes”, D. Charalambidis, P. Tzallas, E.P. Benis, and G.D. Tsakiris, Progress in ultrafast intense laser science IV, edited by K. Yamanouchi, A Becker, R. Li and S.L. Chin, Springer, pp. 133-158, (2009).

## Συνοπτικός κατάλογος δημοσιεύσεων

Science .....	1
Nature Physics .....	1
Physical Review Letters .....	4
New Journal of Physics .....	3
Physical Review A .....	13
Journal of Physics B .....	2
Applied Physics Letters.....	1
Journal of Electron Spectroscopy and Related Phenomena ...	4
Review of Scientific Instruments .....	1
Applied Physics B .....	1
Nuclear Instruments and Methods in Physics Research A ....	1
Nuclear Instruments and Methods in Physics Research B.....	10
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Conference Proceedings .....	10
Chapters in Books .....	1

**Αριθμός αναφορών: 724**

**Αριθμός ετεροαναφορών: 604**

**h-index: 14**

Πηγή: Web of Knowledge

#### **ΠΡΟΣΚΕΚΛΗΜΕΝΕΣ ΟΜΙΛΙΕΣ ΣΕ ΔΙΕΘΝΗ ΕΠΙΣΤΗΜΟΝΙΚΑ ΣΥΝΕΔΡΙΑ**

---

1. “Absolute doubly differential cross section measurements for  $180^\circ$  resonant elastic scattering of quasi-free electrons on  $B^{3+}$  ions”,  
DAMOP02 meeting of The American Physical Society, Williamsburg, Virginia, USA, 29 May -1 June 2002.
2. “Production of the  $2s2p^2D^e$  triply excited state in collisions of quasi-free electrons with He-like  $B^{3+}$ ,  $C^{4+}$ ,  $N^{5+}$ ,  $O^{6+}$ , and  $F^{7+}$  ions”,  
17<sup>th</sup> International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 12-16 November 2002.
3. “Excited states of three-electron systems,”  
XVIII International Seminar on Ion-Atom Collisions, Stockholm, Sweden, 30 July -1 August 2003.

#### **ΟΜΙΛΙΕΣ ΣΕ ΔΙΕΘΝΗ ΕΠΙΣΤΗΜΟΝΙΚΑ ΣΥΝΕΔΡΙΑ**

---

1. “ $B^{3+}(2p^2\ ^1D)$  doubly-excited state formed in energetic collisions of  $B^{4+} + H_2$  by resonant transfer and excitation”,  
DAMOP01 meeting of The American Physical Society, London, Ontario, Canada, 15-19 May 2001 (given for T.J.M. Zouros).
2. “Charge state dependence of  $0^\circ$  binary encounter electron production in  $B^{q+}$  ( $q=2-5$ ) in collisions with  $H_2$ ”,  
DAMOP01 meeting of The American Physical Society, London, Ontario, Canada, 15-19 May 2001.
3. “Towards frequency resolved XUV gating”,  
Symposium on attosecond generation and metrology, Ringberg castle, D-83700 Rottach-Egern, Germany, 4-7 April 2004.
4. “Developments towards frequency resolved XUV gating”,  
XTRA meeting Santorini, Greece, 14-17 October 2004.
5. “Suppression of laser field ionization of  $Cl_2$  molecule”,  
Conference on Super Intense Laser Atom Physics, Southfork Ranch, Dallas Texas, USA, 16-19 November 2003 (given by J.F. Xia).
6. “On the second order autocorrelation of an XUV attosecond pulse train”,  
XXIV International Conference on Photonic, Electronic, and Atomic Collisions, Rosario, Argentina, 20-26 July 2005 (special talk).
7. “Formation mechanisms of the  $1s2s2p\ ^4P_J$  metastable state in 12 MeV  $C^{4+}$  ( $1s^2\ ^1S, 1s2s\ ^3S$ ) collisions with  $H_2, He, Ne$  and  $Ar$ ”,  
Photon and fast Ion induced Processes in Atoms, Molecules and Nanostructures, Debrecen, Hungary, March 24-26, 2015.

8. “Solid angle correction factors for hemispherical and two-stage parallel plate analysers in the detection of long lived projectile Auger states”,  
9th International Physics Conference of the Balkan Physical Union, Istanbul University , Istanbul , Turkey, 24-27 August, 2015.
9. “Auger electron yields of metastable Li-like projectile states repopulated by radiative cascades and Auger depletion”,  
12th Topical Workshop of the Stored Particles Atomic Physics Research Collaboration, Fodele, Crete, September 22-27, 2015.

#### ΣΕΜΙΝΑΡΙΑ

---

1. “A novel high-efficiency paracentric hemispherical spectrograph for use in zero-degree Auger projectile spectroscopy”,  
Kansas State University, Department of Physics, 24-02-1999.
2. “A new hemispherical spectrograph for use in zero-degree Auger projectile spectroscopy”,  
Kansas State University, Department of Physics, 18-04-2001.
3. “Absolute cross section measurements in metastable-ion atom collisions”,  
Kansas State University, Department of Physics, 06-02-2002.
4. “Absolute doubly-differential cross section measurements for  $180^\circ$  elastic scattering of quasi-free electrons on  $B^{3+}$  ions”,  
Western Michigan University, Department of Physics, 18-02-2002.
5. “Non-linear XUV optics with and for attosecond pulses”,  
Max-Planck-Institut fur Quantenoptik, Garching, 29-03-2006.
6. “Ultra-short VUV pulses: realization, metrology and exploitation”,  
University of Ioannina, Department of Physics, 26-09-2008.
7. “Case studies in metrology and exploitation of ultra-short VUV/EUV pulses”  
Dublin City University, Department of Physics, 08-07-2009.
8. “Formation mechanisms of the  $1s2s2p\ ^4P_1$  metastable state in collisions of highly charged ions with gaseous targets”,  
Institut für Kernphysik, Frankfurt, 21-05-2015.

#### ΕΝΤΥΠΕΣ ΠΑΡΟΥΣΙΑΣΕΙΣ ΣΕ ΔΙΕΘΝΗ ΕΠΙΣΤΗΜΟΝΙΚΑ ΣΥΝΕΔΡΙΑ

---

1. “Search for inelastic electrons scattered off ions in energetic ion-atom collisions”,  
T.J.M. Zouros, C. Liao, S. Hagmann, E.C. Montenegro, G. Toth, P. Richard and E.P. Benis,  
VII International Conference on the Physics of Highly Charged Ions, Vienna, Austria, 19-23  
September 1994.
2. “SIMION3D electron optics studies of zero-degree Auger projectile electron spectrometers”,  
M.M. Voultzidou, E.P. Benis, T.J.M. Zouros, P. Richard,  
American Physical Society Meeting, Washington, DC, USA, April 1997.
3. “A zero-degree Hemispherical electron spectrometer with 2-Dimensional position-sensitive  
detector”,  
E.P. Benis, M.M. Voultzidou, T.J.M. Zouros, P. Richard and S. Hagmann,  
American Physical Society Meeting, Washington, DC, USA, April 1997.
4. “A hemispherical analyzer with 2-D PSD for use in zero-degree Auger projectile spectroscopy”,  
E.P. Benis, T.J.M. Zouros, M.M. Voultzidou, P. Richard and M. Stockli,  
XX International Conference on Photonic, Electronic and Atomic Collisions, Vienna, Austria, 23-  
29 July 1997.
5. “A Hemispherical electron spectrometer with 2-Dimensional position sensitive detector for use in  
zero-degree Auger projectile spectroscopy”,

- E.P. Benis, K. Zaharakis, M.M. Voultzidou and T.J.M. Zouros,  
XV International Seminar on Ion-Atom Collisions, Budapest, Hungary, 1-2 August 1997.
6. "Measurement of  $0^\circ$  binary encounter electron production using a hemispherical analyzer with 2-D PSD and focusing lens",  
E.P. Benis, T.J.M. Zouros, K. Zaharakis, and P. Richard,  
Fourth International Symposium on Swift Heavy Ions in Matter, Berlin, Germany, 11-15 May 1998.
  7. "Focusing properties of a hemispherical analyzer with 2-D PSD for electrons entering along a non-central path",  
E.P. Benis, T.J.M. Zouros, K. Zaharakis and P. Richard,  
DAMOP98 meeting of The American Physical Society, Santa Fe, New Mexico, USA, 27-30 May 1998.
  8. "High Resolution RTE Measurements at zero degrees using a Hemispherical Analyser with Lens and 2-D PSD",  
E.P. Benis, T.J.M. Zouros and P. Richard,  
7<sup>th</sup> Workshop on Fast Ion-Atom Collisions, Debrecen, Hungary, 9-11 September 1998.
  9. "Hemispherical analyser with 2-D PSD for  $0^\circ$  Auger projectile spectroscopy",  
E.P. Benis, T.J.M. Zouros, H. Aliabadi and P. Richard,  
IX International Conference on the Physics of Highly Charged Ions, GSI, Bensheim, Germany, 14-18 September 1998.
  10. "Production of triply excited states in Boron and Fluorine, XXI International Conference on Photonic",  
E.P. Benis, T.J.M. Zouros, P.A. Zavodszky, H. Aliabadi and P. Richard,  
Electronic and Atomic Collisions, Sendai, Japan, 22-27 July 1999.
  11. "Binary Encounter of ground state and laser excited states of Lithium",  
C. Verzani, E.P. Benis, T.J.M. Zouros and B.D. DePaola,  
XXI International Conference on Photonic, Electronic and Atomic Collisions, Sendai, Japan, 22-27 July 1999.
  12. "Stripping energy dependence of  $B^{3+}(1s2s^3S)$  metastable beam fraction produced in a tandem accelerator",  
M. Zamkov, H. Aliabadi, T. Gray, H. Tawara, P. Richard, E.P. Benis and T.J.M. Zouros,  
16th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 1-4 November 2000.
  13. "Formation of the  $1s2s2p^4P$  state by transfer-loss in collisions of Li-like  $O^{5+}$  ions with He gas target",  
Orban, B. Sulik, T.J.M. Zouros, E.P. Benis, and L. Gulyas,  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001.
  14. "Observation of two-electron transfer-excitation in 4.5 MeV collisions of  $B^{3+}(1s^2)$  ions with Ar",  
T.J.M. Zouros, E.P. Benis, M. Zamkov, H. Aliabadi, H. Tawara and P. Richard,  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001.
  15. "PC-based fast position delay-line detection technology for high count-rate high-resolution measurements using a hemispherical electron spectrometer",  
T.J.M. Zouros, E.P. Benis, O. Jagutzki, K. Ullmann-Pfleger and H. Schmidt-Bocking,  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001.
  16. "Study of processes contributing to the production of the metastable  $1s2s^3S$  state in He-like beams",  
M. Zamkov, E.P. Benis, P. Richard, H. Tawara and T.J.M. Zouros,  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001.

17. "Production of doubly excited states in He-like Boron",  
E.P. Benis, T.J.M. Zouros and P. Richard,  
XXII International Conference on Photonic, Electronic and Atomic Collisions, Santa Fe, New Mexico, USA, 18-24 July 2001.
18. "Production of Li-like  $B^{2+}(2s2p^2D^e)$  hollow ionic states by resonance transfer and excitation (RTE) in collisions of 2-7 MeV metastable  $B^{3+}(1s2s^3S)$  with  $H_2$ ",  
T.J.M. Zouros, M. Zamkov, E.P. Benis, P. Richard, H. Tawara, P.A. Zavodszky,  
XVII International Seminar on Ion-Atom Collisions, Ensenada, Mexico, 26-27 July 2001.
19. "Doubly excited KLL states formed by triple electron capture",  
M. Zamkov, E.P. Benis, P. Richard, T.G. Lee and T.J.M Zouros,  
11th International Conference on the Physics of Highly Charged Ions, Caen, France, 1-6 September 2002.
20. "Techniques for the determination of the  $1s2s^3S$  metastable fraction in two-electron ion beams",  
E.P. Benis, M. Zamkov, P. Richard, and T.J.M Zouros,  
11th International Conference on the Physics of Highly Charged Ions, Caen, France, 1-6 September 2002.
21. "Differential resonant inelastic scattering cross sections for electron collisions on  $B^{4+}(1s)$ ",  
H. Aliabadi, P. Richard, E.P. Benis, and T.W. Gorczyca,  
17th International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, USA, 12-16 November 2002.
22. "Fragment Distributions From the Photo-ionization and Dissociation of Aligned  $H_2$  and  $D_2$  Molecules",  
L.M. Foucar, M.H.Prior, M. Schöffler, L. Schmidt, H. Schmidt-Böcking, R. Dörner, A. Landers, T. Osipov, E.P. Benis, and C.L. Cocke,  
DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003.
23. "Study of triply excited  $2s2p^2^2S, ^2^4P, ^2D$ , and  $2p^3^2P, ^2D$  states of fluorine produced by triple electron capture",  
M. Zamkov, E.P. Benis, C.D. Lin, P. Richard, T.J.M Zouros, and T. Moroshita,  
DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003.
24. "Zero-degree Auger projectile spectroscopy of 1.5 MeV  $Li^+$  ions on  $H_2$  collisions",  
T.J.M. Zouros, E.P. Benis, M. Zamkov and P. Richard,  
DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003.
25. "Isoelectronic ( $Z=5-9$ ) study for the  $2s2p^2D^e$  triply excited state formed in collisions of quasi-free electrons with He-like ions",  
E.P. Benis, T.J.M. Zouros, T.W. Gorczyca, M. Zamkov and P. Richard,  
DAMOP03 meeting of The American Physical Society, Boulder, Colorado, USA, 21-24 May 2003.
26. "Electron correlation in the formation of Li-like ions",  
A.S. Alnaser, A. Landers, D.J. Pole, S. Hossain, E.P. Benis, S. M. Ferguson, and J.A. Tanis,  
XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003.
27. "Rescattering Ionization of  $D_2$  in intense laser field",  
A.S. Alnaser, E.P. Benis, T. Osipov, A. Wech, C. Wyant, J. Stuhlman, E. Edgu-Fry, Z. Chang, B. Shan, and C. L. Cocke,  
XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003.
28. "Collisional energy dependence study for elastic scattering of quasi-free electrons from  $B^{3+}(1s^2)$  ions",  
E.P. Benis, T.J.M Zouros, T.W. Gorczyca, A.D. Gonzalez, and P. Richard,

- XXIII International Conference on Photonic, Electronic, and Atomic Collisions, Stockholm, Sweden, 23-29 July 2003.
29. "Optimization of the energy resolution of an ideal ESCA-type hemispherical analyzer",  
T.J.M. Zouros, E.P. Benis, and I. Chatzakis,  
12<sup>th</sup> International Conference on Highly Charged Ions, Vilnius, Lithuania, 6-3 September 2004.
  30. "High Intensity Coherence XUV Light Source",  
P. Tzallas, E.P. Benis, and D. Charalambidis,  
Workshop on Ultra-high Intensity Interaction Plasma Emission Diagnostic, CCLRC Rutherford Appleton Laboratory, 4-5 April 2005.
  31. "On the generation metrology and applications of of XUV attosecond pulses",  
P. Tzallas, E.P. Benis, M. Kovacev, E. Papalazarou, L.A.A Nikolopoulos, G.D. Tsakiris, and D. Charalambidis,  
XXI International Symposium on Molecular Beams, Hersonissos, Crete, 15-20 May 2005.
  32. "Zero-degree projectile electron spectroscopy of B<sup>2+</sup> in 3-8 MeV collisions with H<sub>2</sub>",  
T.J.M. Zouros, E.P. Benis, and P. Richard,  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina, 20-26 July 2005.
  33. "Ultimate energy resolution of a hemispherical analyzer using a cylindrically symmetric injection lens and virtual entry aperture",  
T.J.M. Zouros and E.P. Benis,  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina, 20-26 July 2005.
  34. "XUV attosecond pulses: generation, metrology, and potential applications",  
E.P. Benis, L.A.A. Nikolopoulos, P. Tzallas, G.D. Tsakiris, and D. Charalambidis,  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina, 20-26 July 2005.
  35. "On the second order autocorrelation of an XUV attosecond pulse train",  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, K. Witte, and G.D. Tsakiris,  
XXIV International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina, 20-26 July 2005.
  36. "Numerical ab-initio study of non-linear response of helium under an XUV radiation",  
L.A.A. Nikolopoulos, E.P. Benis, P. Tzallas, D. Charalambidis, and G.D. Tsakiris,  
International Conference on Computational Methods in Sciences and Engineering, Loutraki, Korinthos, Greece, 21-26 October 2005.
  37. "Single photon-induced symmetry breaking of H<sub>2</sub> dissociative ionization",  
F. Martín, J. Fernández, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schöffler, L. Schmidt, T. Jahnke, O. Jagutzki, A. Czasch, E. P. Benis, T. Osipov, A. L. Landers, A. Belkacem, M. H. Prior, H. Schmidt-Böcking, C. L. Cocke, R. Dörner, 9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007.
  38. "Single photon-induced symmetry breaking of H<sub>2</sub> dissociation",  
F. Martín, J. Fernández, T. Havermeier, L. Foucar, Th. Weber, K. Kreidi, M. Schöffler, L. Schmidt, T. Jahnke, O. Jagutzki, A. Czasch, E. P. Benis, T. Osipov, A. L. Landers, A. Belkacem, M. H. Prior, H. Schmidt-Böcking, C. L. Cocke, R. Dörner,  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007.
  39. "Towards intense isolated pulses",  
P. Tzallas, E. Skantzakis, C. Kalpouzos, E.P. Benis, A. Bonarou, G.D. Tsakiris, and D. Charalambidis,  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May 2007.

40. "Full temporal reconstruction of lower order harmonic superposition",  
E. Skantzakis, P. Tzallas, E. Papalazarou, C. Kalpouzos, A. Bonarou, E.P. Benis, G.D. Tsakiris,  
and D. Charalambidis,  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May  
2007.
41. "Two photon direct double ionization: a non-linear medium for xuv metrology",  
E.P. Benis, P. Tzallas, G.D. Tsakiris, and D. Charalambidis,  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May  
2007.
42. "Spatiotemporal effects in attosecond pulse train metrology",  
E.P. Benis, J. Kruse, P. Tzallas, E. Skantzakis, G.D. Tsakiris, and D. Charalambidis,  
9<sup>th</sup> European Conference on Atoms Molecules and Photons, Heraklion, Crete, Greece, 6-11 May  
2007.
43. "Non-linear XUV processes @ femto / atto-second temporal scales",  
P. Tzallas, E.P. Benis, L.A.A. Nikolopoulos, O. Faucher, E. Skantzakis, G.D. Tsakiris, and D.  
Charalambidis,  
XXV International Conference on Photonic Electronic and Atomic Collisions, Freiburg,  
Germany, 25-31 July 2007.
44. "Two photon double ionization of rare gases by a superposition of high order harmonics",  
E.P. Benis, P. Tzallas, T.N. Kitsopoulos, G.D. Tsakiris, and D. Charalambidis,  
20<sup>th</sup> International Symposium on Ion-Atom Collisions, Agios Nikolaos, Crete, Greece, 1-4 August  
2007.
45. " $\text{H}_2^+$  photodissociation under 7 fs chirped laser pulses",  
E.P. Benis, M. Bakarezos, N.A. Papadogiannis, M. Tatarakis, L.A.A. Nikolopoulos,  
Science @ FELs (Satellite Meeting to the 11th International Conference on Synchrotron  
Radiation Instrumentation in Lyon), DESY in Hamburg, Germany, 15-18 July 2012.
46. "Ionization/dissociation of toluene under strong asymmetric two- color laser fields of fs duration",  
S. Kaziannis, N. Kotsina, E.P. Benis, S. Danakas and C. Kosmidis,  
11th European Conference on Atoms, Molecules and Photons, Aarhus, Denmark, 24-28 June  
2013.
47. "Molecular Dynamics Utilizing Pump-Probe Technique at the VUV Region",  
C. Papadopoulou, S. Kaziannis, S. Danakas, E.P. Benis and C. Kosmidis,  
COST Action MP1203 meeting at Dublin, Ireland, 21-23 October 2013.
48. "Atomic Physics with Accelerators: Projectile Electron Spectroscopy (APAPES)"  
I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, T. Mertzimekis, M. Andrianis, E.P. Benis,  
S. Harissopulos, B. Sulik, I. Valastyán, T.J.M. Zouros,  
23rd Conference on Application of Accelerators in Research & Industry, San Antonio, TX, 25 -  
30 May 2014.
49. "Treatment of the metastable Auger decay in fast ion-atom collisions in an effective Monte Carlo  
type simulation",  
S. Doukas, N. Angelinos, A. Kanellakopoulos, E.P. Benis, I. Madesis, A. Dimitriou and T.J.M.  
Zouros,  
6<sup>th</sup> International Conference from Scientific Computing to Computational Engineering, Athens,  
Greece, 9 - 12 July 2014.
50. "Atomic Physics with Accelerators: Projectile Electron Spectroscopy (APAPES)"  
I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, T. Mertzimekis, M. Andrianis, E.P. Benis,  
S. Harissopulos, B. Sulik, I. Valastyán, T.J.M. Zouros,  
International Conferences on the Physics of Highly Charged Ions, San Carlos de Bariloche,  
Argentina, Aug. 31 - Sept 5 2014.
51. "The Auger-KLL spectrum of Carbon in 12 MeV  $\text{C}^{4+}$  + Ne collisions: Comparison of  
Experimental Measurements and SIMION simulations",  
E.P. Benis, I. Madesis, A. Dimitriou, S. Doukas, A. Laoutaris, B. Sulik, I. Valastyán, T.J.M.



- Zouros,  
11th Topical Workshop of the Stored Particles Atomic Physics Research Collaboration, Worms, Germany, Oct. 16-17, 2014.
52. “High resolution Auger projectile electron spectroscopy of Li-like ions produced by electron capture of He-like ions in collisions with gaseous targets”  
I. Madesis, A. Dimitriou, A. Laoutaris, A. Lagoyannis, M. Axiotis, T. J. Mertzimekis, M. Andrianis, E. P. Benis, S. Harissopoulos, B. Sulik, I. Valastyan, T. J. M. Zouros,  
CDAMOP 2015, New Delhi, India, Mar 11-14, 2015.
  53. “Formation mechanisms of the  $1s2s2p\ ^4P_J$  metastable state in 12 MeV  $C^{4+}$  ( $1s^2\ ^1S, 1s2s\ ^3S$ ) collisions with  $H_2$ , He, Ne and Ar”,  
E.P. Benis, I. Madesis, A. Dimitriou, A. Laoutaris, B. Sulik, O. Sise and T.J.M. Zouros,  
Photon and fast Ion induced Processes in Atoms, Molecules and Nanostructures, Debrecen, Hungary, Mar 24-26, 2015.
  54. “The role of the effective solid angle in the determination of the electron yield of metastable projectile Auger states”,  
E.P. Benis, S. Doukas, I. Madesis, A. Dimitriou, A. Laoutaris, T.J.M. Zouros, F. Parente, C. Martins, J. P. Marques, P. Indelicato and J. P. Santos,  
9th International Symposium on Swift Heavy Ions in Matter, Darmstadt, Germany, May 18-21, 2015.
  55. “Energy levels, transition rates and lifetimes for Li-like ions with  $Z \leq 10$  in the  $1s2s(^3S)3l$  states”,  
J. P. Santos, J. P. Marques, M. C. Martins, P. Indelicato, E. P. Benis, T. J. M. Zouros, F. Parente  
XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015.
  56. “Investigation of the dependence of the energy resolution of a hemispherical deflection analyzer on the distance of the position sensitive detector from the focal plane”,  
C. Nounis, A. Laoutaris, I. Madesis, A. Dimitriou, O. Sise, E.P. Benis, T.J.M. Zouros,  
XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015.
  57. “Use of Gas and Foil strippers for the production of He-like ionic beams in both pure ground state ( $1s^2$ ) and mixed states ( $1s^2, 1s2s$ ) for zero-degree Auger Projectile Electron Spectroscopy”,  
A. Laoutaris, I. Madesis, A. Dimitriou, A. Lagoyannis, M. Axiotis, E.P. Benis, T.J.M. Zouros,  
XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015.
  58. “Separation and solid angle correction of the metastable  $1s2s2p\ 4P$  Auger yield produced in ion-atom collisions using the biased gas cell technique: A tool for the determination of the population mechanisms”,  
I. Madesis, A. Laoutaris, S. Doukas, A. Dimitriou, E.P. Benis, T.J.M. Zouros,  
XXIX International Conference on Photonic, Electronic and Atomic Collisions, Toledo, Spain, July 24-30, 2015.