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• ANNEX III : LIST OF CPO PUBLICATIONS FROM IP PARTNERS

Listed publications demonstrate partner expertise with various CPO software including simulation package SIMION. The names of participating teachers of each institution are shown in **bold**.

Coordinator – University of Crete (UoC)

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*, Nuclear Instruments & Meth. in Phys. Res. A., Letter to the editor **440**, 462-5 (2000).
2. **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)
3. V. Papadakis, **T.N. Kitsopoulos**, *Slice imaging and velocity mapping using a single field*, Rev. Sci. Instrum. **77** (2006) 083101
<http://dx.doi.org/10.1063/1.2222084>
4. **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). <http://dx.doi.org/10.1088/0957-0233/17/12/N02>
5. **T. J. M. Zouros**, Omer Sise, F.M. Spiegelhalter and David J. Manura, *Investigation of the accuracy of ion optics simulations using Kepler orbits in a spherical capacitor*, Int. J. of Mass Spectrometry **261**, 115-133 (2007).
6. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *Novel and traditional fringing field correction schemes for the hemispherical analyzer: Comparison of 1st order focusing and energy resolution*, Meas. Sci. Techno. **18**, 1853-1858 (2007). <http://dx.doi.org/10.1088/0957-0233/18/7/009>
7. 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).
8. **T.J.M. Zouros**, F.M. Spiegelhalter and David J. Manura, *Modelling the accuracy of ion optics simulations of Kepler orbits in a spherical capacitor*, Physics Procedia **1**, 461-466 (2008).
9. 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).
<http://dx.doi.org/10.1016/j.phpro.2008.07.128>



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10. Omer Sise, **T.J.M. Zouros**, M. Ulu and M. Dogan, *Comparison of Fringing Field Correction Schemes for the 180⁰ Hemispherical Deflector Analyzer*, Physics Procedia **1**, 473-477 (2008).
<http://dx.doi.org/10.1016/j.phpro.2008.07.129>
11. Omer Sise, Melike Ulu, Mevlut Dogan, Genoveva Martinez, **Theo J. M. Zouros**, *Fringing Field Optimization of Hemispherical Deflector Analyzers using BEM and FDM*, in print J. Electron Spectroscopy and Related Phenomena, (2010). In press <http://dx.doi.org/10.1016/j.elspec.2010.01.003>

Partner 1 – Afyon Kocatepe University (AKU)

1. **Omer Sise, Melike Ulu, Mevlut Dogan**, Genoveva Martinez, Theo J. M. Zouros, 2010, Fringing Field Optimization of Hemispherical Deflector Analyzers using BEM and FDM, J. Elect. Spect. Rel. Phen. **in press**.
<http://dx.doi.org/10.1016/j.elspec.2010.01.003>
2. Murat Yildirim, **Omer Sise**, Hamdi Sukru Kilic, **Mevlut Dogan**, 2010, Designing multi-field linear time-of-flight mass spectrometers with higher-order space focusing, Int. J. Mass Spectrom. **291 (1-2)**
<http://dx.doi.org/10.1016/j.ijms.2009.12.014>
3. **Omer Sise**, Nimet Okumus, **Melike Ulu, Mevlut Dogan**, 2009, Computer simulation of electrostatic aperture lens systems for electron spectroscopy, J. Elect. Spect. Rel. Phen. **175** 76–86.
<http://dx.doi.org/10.1016/j.elspec.2009.08.004>
4. **Omer Sise**, David J. Manura, **Mevlut Dogan**, 2008, Exploring focal and aberration properties of electrostatic lens systems through computer simulation, Euro. J. Phys. **29** 1165–1176. <http://dx.doi.org/10.1088/0143-0807/29/6/005>
5. **Omer Sise**, Theo J. M. Zouros, **Melike Ulu and Mevlut Dogan**, 2007, Novel and traditional fringing field correction schemes for the hemispherical analyser: Comparison of first-order focusing and energy resolution, Meas. Sci. Tech. **18** 1853–1858. <http://dx.doi.org/10.1088/0957-0233/18/7/009>
6. **Mevlut Dogan, Melike Ulu, and Omer Sise**, 2007, Design, simulation and construction of an (e,2e) coincidence spectrometer, J. Elect. Spect. Rel. Phen. **161** 58–62. <http://dx.doi.org/10.1016/j.elspec.2007.02.027>
7. **Omer Sise, Melike Ulu and Mevlut Dogan**, 2007, Aberration coefficients for multi-element electrostatic lens systems for charged particle beam applications, Nucl. Instr. Meth. A **573** 329–339.
<http://dx.doi.org/10.1016/j.nima.2007.01.051>



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8. **Melike Ulu, Omer Sise and Mevlut Dogan**, 2007, Optimizing the performance of an electron gun design followed by lenses and apertures, Rad. Phys. Chem. **76** 636–641.
<http://dx.doi.org/10.1016/j.radphyschem.2006.02.018>
9. **Omer Sise, Melike Ulu and Mevlut Dogan**, 2007, Characterization and modeling of multi-element electrostatic lens systems, Rad. Phys. Chem. **76** 593–598. <http://dx.doi.org/10.1016/j.radphyschem.2005.11.037>
10. **Mevlut Dogan, Omer Sise, and Melike Ulu**, 2007, Design of electron energy analysers for electron impact studies, Rad. Phys. Chem. **76** 445–449.
<http://dx.doi.org/10.1016/j.radphyschem.2006.01.017>
11. Theo J. M. Zouros, **Omer Sise, Melike Ulu and Mevlut Dogan**, 2006, Using the fringing fields of a hemispherical spectrograph to improve its energy resolution, Meas. Sci. Tech. **17** N81–N86. <http://dx.doi.org/10.1088/0957-0233/17/12/N02>
12. **Omer Sise, M. Ulu and M. Dogan**, 2005, Multi-element cylindrical electrostatic lens systems for focusing and controlling charged particles, Nucl. Instr. Meth. A **554** 114–131.
<http://dx.doi.org/10.1016/j.nima.2005.08.068>
13. **Omer Sise**, T.J.M. Zouros, **Melike Ulu and Mevlut Dogan**, 2008, First-Order Focusing and Energy Resolution Optimization of a Biased Paracentric Hemispherical Spectrograph, Physics Procedia **1** 467-472.
<http://dx.doi.org/10.1016/j.phpro.2008.07.128>
14. **Omer Sise**, T.J.M. Zouros, **Melike Ulu and Mevlut Dogan**, 2008, Comparison of Fringing Field Correction Schemes for the 180° Hemispherical Deflector Analyzer, Physics Procedia **1** 473-477.
<http://dx.doi.org/10.1016/j.phpro.2008.07.129>
15. **Omer Sise**, B. Paripas, and **Mevlut Dogan**, Design considerations of distorted field cylindrical mirror electron energy analyzers, 2007, AIP-Conference Proceedings Vol. 899, p569. <http://dx.doi.org/10.1063/1.2733310>
16. M. Yildirim, **Omer Sise**, R. Aydin, U. Akin, **Melike Ulu, Mevlut Dogan**, and H. S. Kiliç, An improvement on space focusing resolution in two-field time-of-flight mass spectrometers, 2007, AIP-Conference Proceedings Vol. 899, p721. <http://dx.doi.org/10.1063/1.2733462>
17. Nuray Tas, **Omer Sise, Melike Ulu and Mevlut Dogan**, Energy resolution estimation of hemispherical deflector analyzers using electron ray-tracing simulation, 2007, AIP-Conference Proceedings Vol. 899, p177.
<http://dx.doi.org/10.1063/1.2733094>



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Partner 2 – Universidad Complutense de Madrid (UCM)

1. Omer Sise, Melike Ulu, Mevlut Dogan, **Genoveva Martínez**, Theo J. M. Zouros, 2010, Fringing Field Optimization of Hemispherical Deflector Analyzers using BEM and FDM, J. Elect. Spect. Rel. Phen. **in press**.
<http://dx.doi.org/10.1016/j.elspec.2010.01.003>
2. **Genoveva Martínez** and Katsushige Tsuno, 2008, The use of multipole fields for aberration correction in $\pi/2$ Wien filters, Physics Procedia **1**, p193.
<http://dx.doi:10.1016/j.phpro.2008.07.096>
3. Katsushige Tsuno, D. Ioanoviciu and **Genoveva Martínez**, 2005, Third-order aberration theory of Wien filters for monochromators and aberration correction, J. Microscopy **217**, p205.
4. D. Ioanoviciu, Katsushige Tsuno and **Genoveva Martínez**, 2004, Third order aberration theory of double Wien filters, Rev. Sci. Instrum. **75**, p4434.
5. **Genoveva Martínez** and Katsushige Tsuno, 2004, Design of Wien filters with high resolution, Ultramicroscopy **100** , p105.
6. **Genoveva Martínez** and Katsushige Tsuno, 2002, BEM simulations of Wien filters, Ultramicroscopy **93**, p253.
7. Abdel Halim Azbaid, **Genoveva Martínez**, Alexander Dymnikov and Juan Manuel Bernal, 2000, Electrostatic Russian quadruplet with high demagnification and minimum influence of geometric aberrations, J. Electron Microscopy **49** , p143.
8. Abdel Halim Azbaid, Alexander Dymnikov and **Genoveva Martínez**, 1999, The optimal construction of an electrostatic quadruplet as focusing microprobe system, Nucl. Instrum. Meth. **B 158**, p61.
9. Alexander Dymnikov, **Genoveva Martínez** and Abdel Halim Azbaid, The matrix method for optimal synthesis of electrostatic multiple cylinder lenses, 1998, Nucl. Instrum. Meth. **A 403**, p195.
10. Alexander Dymnikov and **Genoveva Martínez**, 1997, Optimal magnetic and electrostatic Russian quadruplet microprobe lens system with high demagnification, 1997, Nucl. Instrum. Meth. **B 130**, p64.
11. **Genoveva Martínez** and Miguel Sancho, 1995, Accurate calculations of geometric aberrations in electrostatic lenses, Nucl. Instrum. Meth. **A 363**, p198.



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12. **Genoveva Martínez** and Miguel Sancho, 1991, Application of the Integral Equation Method to the Analysis of Electrostatic Potentials and Electron Trajectories, 1991, Adv. Electronics Electron Phys. **81**, p1.

Partner 3 – Selçuk University (SU)

1. **Murat Yildirim**, Omer Sise, **Hamdi Sukru Kilic**, Mevlut Dogan, 2010, Designing multi-field linear time-of-flight mass spectrometers with higher-order space focusing, Int. J. Mass Spectrom. **291 (1-2)**
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Partner 4 – Technische Universität Wien (TUW)

1. W. Meissl, D. Winklehner, **F. Aumayr**, M. Simon, R. Ginzl, J.R. Crespo Lopez-Urrutia, J. Ullrich, B. Solleder, C. Lemell, J. Burgdörfer, *Electron Emission from Insulators Irradiated by Slow Highly Charged Ions*, e-Journal of Surface Science and Nanotechnology **6** (2008) 54 - 59
2. **F. Aumayr**, J. Stöckl, M. Fürsatz, W. Meissl and HP. Winter, *Interaction of slow multiply charged Ar ions with a LiF insulator surface*, e-Journal of Surface Science and Nanotechnology **4** (2006) 388 – 393
3. C. Lemell, J. Stöckl, HP. Winter, and **F. Aumayr**, *A versatile electron detector for studies on ion-surface scattering*, Rev. Sci. Instrum. **70** (1999) 1653 – 1657
4. W. Meissl, M. C. Simon, J. R. Crespo Lopez-Urrutia, H. Tawara, J. Ullrich, HP. Winter, and **F. Aumayr**, *Novel method for unambiguous ion identification in mixed ion beams extracted from an electron beam ion trap*, Rev. Sci. Instrum. **77** (2006) 093303
5. W. Meissl, M. C. Simon, J. R. Crespo López-Urrutia, H. Tawara, J. Ullrich, HP. Winter, and **F. Aumayr**, *Highly charged ion induced potential electron emission from clean Au(111): Dependence on the projectile angle of incidence*, Nuclear Instruments and Methods in Physics Research B **256** (2007) 520 - 523

Partner 5 – University of Ioannina (Uoi)

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*



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