

**XX International Workshop on  
Low-Energy Positron and Positronium Physics**

**XXI International Symposium on  
Electron-Molecule Collisions and Swarms**

**V Workshop on Non-Equilibrium Processes**

# **POSMOL 2019**

## **PROGRAM**

Serbian Academy of  
Sciences and Arts

Institute of Physics Belgrade  
University of Belgrade

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## **ACKNOWLEDGEMENT**

XX International Workshop on Low-Energy Positron and  
Positronium Physics  
XXI International Symposium on Electron-Molecule Collisions and  
Swarms  
V Workshop on Non-Equilibrium Processes

*are organized by the*

**Serbian Academy of  
Sciences and Arts**

*and*

**Institute of Physics Belgrade  
University of Belgrade  
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## POSTER SESSION 2

Gallery of Gallery of Science and Technology

Posters: LEPPP 22 – LEPPP 42; EMS 34 – EMS 65

**LEPPP 22** *HOT TOPIC* Hyperfine Resonance of Positronium Atoms Using a Static Periodic Magnetic Field

*Y. Nagata, K. Michishio, T. Iizuka, H. Kikutani, F. Tanaka, L. Chiari, Y. Nagashima*

**LEPPP 23** *HOT TOPIC* Coordinate-Space Method for Calculation of Ps-formation Matrix Elements and its Application to Positron Scattering on Hydrogen Negative Ion

*Dmitry Fursa, Ravshanbek Utamuratov, Alisher Kadyrov and Igor Bray*

**LEPPP 24** Coincidence Electron Ionisation Mass Spectrometry: Precursor-specific Relative Ionisation Cross Sections

*L. Ellis-Gibbons, W. Fortune, S. D. Price*

**LEPPP 25** Methods for Reducing the Dimensions of Many-Body Integrals in Calculations of Low-Energy Antihydrogen Rearrangement Collisions

*M Plummer and EAG Armour*

**LEPPP 26** Inelastic Resonant Scattering of Positronium by (Anti)hydrogen Atom

*Takuma Yamashita, Yasushi Kino, Emiko Hiyama, Svante Jonsell, Piotr Froelich*

**LEPPP 27** Progress Towards a Pulsed Positronium Beam

*J. R. Machacek, S. J. Buckman and J. P. Sullivan*

**LEPPP 28** Ab Initio Study of the Effect of Molecular Vibrations on the Positron-Binding to Polyatomic Molecules

*K. Dohi, Y. Kita, and M. Tachikawa*

**LEPPP 29** Vertical Detachment Energies of Solvated Positronium

*M. Bergami, A. L. D. Santana, J. Charry, A. Reyes, K. Coutinho, M. T. do N. Varella*

**LEPPP 30** Positronium Total Cross Sections

*S. J. Brawley, D. Newson, M. Shipman, S. E. Fayer, A. Loreti, R. Kadokura, L. Sarkadi and G. Laricchia*

**LEPPP 31** Absolute Differential Positronium-Formation Cross Sections from the Inert Atoms

*D. M. Newson, S. E. Fayer, M. Shipman, A. Loreti, R. Kadokura, S. Armitage, T. J. Babij, S. J. Brawley, D. E. Leslie, P. Van Reeth, and G. Laricchia*

**LEPPP 32** The Role of Different Inelastic Processes in Thermalization of Positrons in Penning-Malmberg-Surko Trap at a Reduced Background Temperature

*Zoran Lj. Petrović, Vladan Simić, Gordana Malović, Joan P. Marler*

**LEPPP 33** Positron Accelerator for Positronium - Cold Ion Scattering Experiments

*R. Clayton, C. J. Baker, W. A. Bertsche, M. Charlton, S. Eriksson, H. T. Evans, C. A. Isaac, D. P. van der Werf*

**LEPPP 34** New Measurements of Positron Annihilation on Molecules

*J. R. Danielson, S. Ghosh, C. M. Surko*

**LEPPP 35** Effects of Magnetic Non-adiabaticity and Measurement of the Energy Distribution of a Solid Neon Moderated Positron Beam

*S. Ghosh, J. R. Danielson, C. M. Surko*

**LEPPP 36** Precision Frequency Measurements with Trapped Antihydrogen

*Patrick Mullan & April Cridland, for the ALPHA Collaboration*

**LEPPP 37** Calculations of Positron Scattering, Binding and Annihilation for Atoms and Molecules Using a Gaussian Basis

*A.R. Swann and G. F. Gribakin*

**LEPPP 38** Positron Cloud Characterisation

*H. T. Evans, C. J. Baker, M. Charlton, C. A. Isaac*

**LEPPP 39** Positron Transport in H<sub>2</sub> in Electric and Magnetic Fields Crossed at Arbitrary Angles

*S. Djoko, I. Simonović, R.D. White and Z.Lj. Petrović*

**LEPPP 40** First Measurement of Antimatter Wave Interferometry

*Rafael Ferragut, on behalf of QUPLAS*

**LEPPP 41** Calculations of Stark Shift and Ionization Rate for Positronium in Strong Electric Fields

*D. B. Popović, A. Bunjac and N. S. Simonović*

**LEPPP 42** Positron Production and Cooling for Antihydrogen Production

*V. Mäckel and D. J. Murtagh, on behalf of the ASACUSA collaboration*

**EMS 34** QEC - Quantemol Electron Collisions Software

*Bridgette Cooper, Maria Tudorovskaya, Sebastian Mohr, Aran O'Hare, Martin Hanicinec, Anna Dzarasova, Jimena Gorfinkel, Jakub Benda, Zdenek Masin, Ahmed Al-Refaie, Jonathan Tennyson*

**EMS 35** *HOT TOPIC* "Recommended" Cross Sections for Electron Collisions with Molecules

*Mi-Young Song, Jung-Sik Yoon, Hyuck Cho, Grzegorz P. Karwasz, Viatcheslav Kokoouline, Yoshiharu Nakamura and Jonathan Tennyson*

**EMS 36** Water Acting as a Catalyst for Electron-Driven Break-Up in Biochemically Relevant Hydrogen-Bonded Systems

*X. Ren, E. Wang and A. Dorn*

**EMS 37** Setting New Boundaries for Electron Scattering with Highly Excited States of H<sub>2</sub>

*T. Meltzer, Z. Mašín and J. Tennyson*

**EMS 38** Tackling Mixed Rydberg and Valence States in Nitric Oxide with the RMPS Method

*T. Meltzer, Z. Mašín and J. Tennyson*

**EMS 39** Experimental Determination of H<sub>2</sub> Mass Stopping Powers for Low-Energy Electrons

*M. Zawadzki and M. A. Khakoo*

**EMS 40** Low-Energy Electron Scattering from Molecular Hydrogen

*M. Zawadzki, R. Wright, G. Dolmat, M. F. Martin, B. Diaz, L. Hargreaves, D. Coleman, D. V. Fursa, M. C. Zammit, L. H. Scarlett, J. K. Tapley, J. S. Savage, I. Bray, and M. A. Khakoo*

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M. Zawadzki, B. Hlousek, F. Pilla and M. A. Khakoo

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Rebelo A., Bocková J., Pandey R., Ryszka M., Limão-Vieira P., Pouilly J.-C., Eden S

**EMS 43** Absolute Differential Cross Sections for Electron Scattering from Anaesthetic Molecules

J. Vuković, J. B. Maljković, B. Predojević and B. P. Marinković

**EMS 44** Cross Sections for Collisional and Radiative Processes: BEAMDB and MOLD Databases

Bratislav P. Marinković, Vladimir A. Srećković, Veljko Vujčić, Stefan Ivanović, Nebojša Uskoković, Milutin Nešić, Ljubinko M. Ignjatović, Darko Jevremović, Milan S. Dimitrijević, and Nigel J. Mason

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Snježana Dupljanin, Olivera Šašić and Zoran Lj Petrović

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M. Ranković, J. Chalabala, M. Zawadzki, J. Kočišek, P. Slavišek and J. Fedor

**EMS 47** Cross Section Set for  $\text{O}_2\text{H}^+$  Ions in Water Vapor

V.D. Stojanović<sup>†</sup>, J.V. Jovanović, D. Marić and Z.Lj. Petrović

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A. Kamali, W. Carden, L. McElwee-White, O. Ingólfsson

**EMS 49** *HOT TOPIC* Promoting Reaction Channels in Dissociative Electron Attachment to Improve the Cross-Linking Efficiency of SAMs for the Production of Carbon Nano-Membranes

M. Cipriani, A. Terfort, S. Koch, A. Gölzhäuser and Oddur Ingólfsson

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Aran O'Hare, Jonathan Tennyson, Viatcheslav Kokououline

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Marija Puač, Dragana Marić, Gordana Malović, Jelena Sivoš and Zoran Lj Petrović

**EMS 52** Gas Phase Study of Low Energy Electrons in Dissociation of TFMAA as a Monomer in EUVL Technique

R. Tafrishi, O. Ingólfsson

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R. Tafrishi, J. Malletroit, C. Dablemont, O. Ingólfsson, L. Amiaud, A. Lafosse

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Vladimir A. Srećković, Ljubinko M. Ignjatović, Darko Jevremović and Milan S. Dimitrijević

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F Ferreira da Silva, J Pereira-da-Silva, B Pamplona, M Mendes, G García and P Limão-Vieira

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J C Ruivo, F Kossoski, M T do N Varella

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S. Kumar, M. Mendes, A. I. Lozano, F. Ferreira da Silva, J. Fedor, G. García and P. Limão-Vieira

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Joan Marler

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*D. Bošnjaković, O. Šašić, Z.Lj. Petrović and S. Dujko*

**EMS 61** Electron Transport and Streamers in the Atmosphere of Titan

*S. Dujko, D. Bošnjaković, I. Simonović and C. Köhn*

**EMS 62** Effects of Anisotropic Scattering on Electron Transport in Argon

*S. Dujko, D. Bošnjaković, Z.Lj. Petrović and T. Makabe*

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*Zoran Lj. Petrović, Jasmina Atić, Dragana Marić, Saša Dujko, Gordana Malović, Jaime de Urquijo, Martin Ise, Thomas Hammer*

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*Paresh Modak, Abhisek Singh, Bobby Antony*

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*Zhou Li, Michał Ryszka, M. Michele Dawley, Ian Carmichael, Ksenia B. Bravaya, and Sylwia Ptasińska*

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