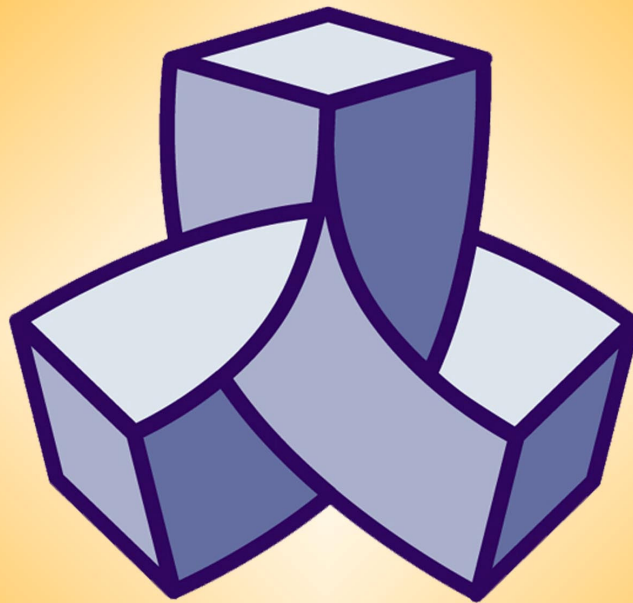


5th EU-Japan Joint Symposium on Plasma Processing

ABSTRACTS OF INVITED LECTURES,
PROGRESS REPORTS
AND CONTRIBUTED PAPERS



Editors:

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Cross section data for electron collisions in plasma physics

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Essential input for modelling the processes in plasma physics consists of complete cross section data sets for all interactions. Subset of these data are collisional electron cross data that include elastic and all inelastic processes (electronic and vibrational excitation, partial and total ionization, dissociative electron attachment, etc.) Data are needed for ground state species as well as metastables and other excited atomic particles and/or radicals.

In The Laboratory for Atomic Collision Processes at The Institute of Physics, Belgrade, the concentrated effort has been put in of cross section measurements under the five year project [1] (2006-2010) in order to establish data sets needed for collisional community and modelling purposes. these measurements cover rare gas atoms [2], metal atoms [3,4], small molecules and molecules of biological interest [5]. Differential and integrated (integral and momentum transfer) cross sections for elastic scattering and excitation processes have been obtained for numerous species. Energy loss spectra have been recorded together with threshold electron spectra. Several different techniques have been exploited in the experimental apparatus for production monochromatic beams and detecting the scattered electrons.

The work has been performed within the MSEP project 141011 of Republic Serbia and EU COST action P9 (RADAM).

[1] Project 141011: “*Electron and laser spectrometry and collisional cross sections for atoms, ions, molecules, metastables and biomolecules*”

<http://mail.phy.bg.ac.yu/~centar3/acpproj141011.html>

[2] H Cho, R P McEachran, S J Buckman, D M Filipović, V Pejčev, B P Marinković, H Tanaka, A D Stauffer and E C Jung, “Absorption effects in intermediate energy elastic electron scattering from xenon”, *J. Phys. B: At. Mol. Opt. Phys.* **39** (18) 3781-3790 (2006).

<http://www.iop.org/EJ/abstract/0953-4075/39/18/008>

[doi:10.1088/0953-4075/39/18/008](https://doi.org/10.1088/0953-4075/39/18/008)

The article has been chosen by IoP Editors for its novelty, significance and potential impact on future research

[3] . B. P. Marinković, V. Pejčev, D. M. Filipović, D. Sević, S. Milisavljević, B. Predojević, “Electron collisions by metal atom vapours”, *Rad. Phys. Chem.* **76** (3) 455-460 (2007).

Proceedings of the 3rd International Conference on Elementary Processes in Atomic Systems

[doi:10.1016/j.radphyschem.2006.01.018](https://doi.org/10.1016/j.radphyschem.2006.01.018)

[4] R. Panajotović, V. Pejčev and B. P. Marinković,

“Differential cross sections for electron elastic scattering by zinc atom”,

Proc. XXI ICPEAC, Sendai, Japan, 1999, Abstracts of Contributed Papers, p. 183.

[5] A. R. Milosavljević, F. Blanco, D. Šević, G. García and B. P. Marinković,

“Elastic scattering of electrons from tetrahydrofurfuryl alcohol”, *Eur. Phys. J. D.* **40** (1) 107-114 (2006).

[doi: 10.1140/epjd/e2006-00138-7](https://doi.org/10.1140/epjd/e2006-00138-7)

LABORATORY
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5th EU-Japan Joint Symposium on Plasma Processing
Radicals and Non-Equilibrium Processes in Low-Temperature Plasmas

Serbian Academy of Sciences and Arts

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COE Nonequilibrium processes in plasma physics and
environmental science

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Programme

06/03/2007, Tuesday, Academy

17:00-19:00 Registration - Hotel "Palace"

19:00-21:00 Reception - Serbian Academy of Sciences and Arts (SASA)

07/03/2007, Wednesday, Academy

9:15-11:20 chairman (Z. Petrović)

9:15- 9:30 Registration and welcome

9:30-10:00 N. Mason (UK)

10:00-10:30 S. Hamaguchi (Japan)

10:30-11:00 U. Czarnetzki (Germany)

11:00-11:20 Coffee break

11:20-12:35 chairman (N. Mason)

11:20 -11:50 M. J. Kushner (USA)

11:50-12:20 B. Radjenović (Serbia)

12:20-12:35 J. deUrquijo (Mexico)

12:35-14:30 Lunch (Hotel "Palace")

14:30-16:00 chairman (S. Hamaguchi)

14:30-15:00 M. Blauw and M.C.M van de Sanden (The Netherlands)

15:00-15:30 O. Sakai (Japan)

15:30-16:00 T. Maddern (Australia)

16:00-16:30 Coffee break (poster boards will be available)

16:30-18:00 chairman (M.J. Kushner)

16:30-17:00 K. Becker (USA)

17:00-17:30 M. Kimura (Japan)

17:30-18:00 E. Neyts (Belgium)

18:00-18:15 Z. Donko (Hungary)

18:15-19:00 Coffee break and Poster session

20:00 Bus will leave to Restaurant “Reka” for dinner
20:30-24:00 Dinner and music at “Reka”
22:30, 24:00 Transfer to the hotel

08/03/2007, Thursday, Academy

9:30-11:00 chairman (S. Samukawa)

9:30-10:00 B. Marinković (Serbia)
10:00-10:30 W. Graham (UK)
10:30-11:00 M. Shiratani (Japan)

11:00-11:20 Coffee break

11:20-12:50 chairman (U. Czarnetzki)

11:20-11:50 T. Maerk (Austria)
11:50-12:20 S. Samukawa (Japan)
12:20-12:50 D. Field (Denmark)

12:50-15:00 Lunch

15:00-16:30 chairman (T. Maerk)

15:00-15:30 J. Tennyson (UK)
15:30-16:00 P. Tegeder (Germany)
16:00-16:30 S. Yamasaki (Japan)

16:30-16:50 Coffee break

16:50-19:20 chairman (W. Graham)

16:50-17:20 E. Stoffels (The Netherlands)
17:20-17:50 S. Popović (USA)
17:50-18:20 J. Roepcke (Germany)
18:20-18:50 P. Morgen (Denmark)
18:50-19:05 F. Hamaoka (Japan)
19:05-19:20 T. Sato (Japan)

20:00 Group will leave from hotel “Palace” for dinner
20:30-24:00 Dinner and music at “Dva Jelena”

09/03/2007, Friday, Institute of Physics, Zemun

9:00 Bus will leave for the Institute of Physics

9:30-11:00 chairman (B. Marinković)

9:30-10:00 Z.Lj. Petrović and D. Marić (Serbia)

10:00-10:30 S. Komatsu (Japan)

10:30-11:00 T. Field (UK)

11:00-11:20 Coffee break

11:20-12:20 chairman (D. Field)

11:20-11:50 M. Bowden (UK)

11:50-12:20 T. Makabe (Japan)

12:20-13:00 lunch (at the Institute of Physics)

13:00-14:30 Round Table discussion (T. Makabe)

Collaborative research ground between EU and Japan in the globalized era

14:30-16:00 Visit to the Institute of Physics

16:00-19:00 Sightseeing in Belgrade

-Transfers from and to the airport will be organized for all participants