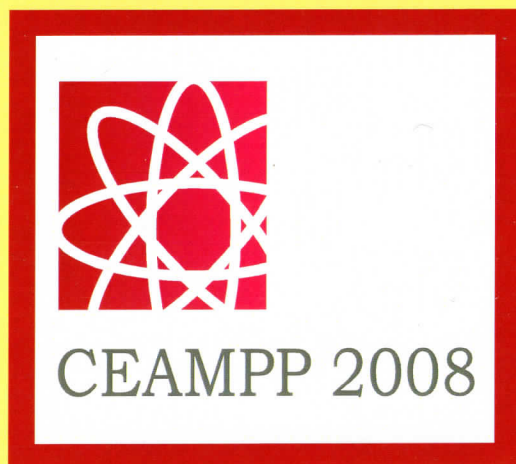


# 1<sup>st</sup> National Conference on Electronic, Atomic, Molecular and Photonic Physics

15<sup>th</sup> - 18<sup>th</sup> May, Zaječar, Serbia



## CONTRIBUTED PAPERS & ABSTRACTS OF INVITED LECTURES AND PROGRESS REPORTS

Editors:  
Aleksandar R. Milosavljević  
Dragutin Šević  
Bratislav P. Marinković



Institute of Physics  
Belgrade - Serbia

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**CEAMP 2008**

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## PREFACE

This book contains the Contributed papers and abstracts of the Invited lectures and Progress reports to be presented at the 1<sup>st</sup> National Conference on Electronic, Atomic, Molecular and Photonic Physics – CEAMPP 2008. We wish to establish CEAMPP as a traditional national conference covering a wide range of scientific topics in atomic and molecular physics. The CEAMPP aims to bring together and support collaboration between different groups working basically in the various fields of atomic and molecular physics, so making the way to induce new ideas and interdisciplinary research. Finally, the focus of the CEAMPP is put on participation of young distinguished researchers, who are invited to give the most of the lectures. The conference will be held in Zaječar, Serbia, from May 15 to 18, 2008. The meeting is organized under the auspices and with the support of the Ministry of Science, Republic of Serbia. Also, the conference is organized under the auspices of the Serbian Physics Society.

The Invited lectures and Contributed papers are related to the following research fields: Atomic and Molecular Structure and Properties, Collision Processes and Photon Interaction with Atoms and Molecules. The length of Contributed papers is limited and each is supposed to present an original work with sufficient amount of scientific information. The Scientific and Organizing Committees believe that this conference manages to obtain the high scientific level of contributed papers and invited speakers, so to establish a model for future CEAMPP meetings.

The Editors would like to thank the members of the Scientific Committee of CEAMPP 2008 for their efforts in proposing the program and scope of the conference, as well as invited lectures and progress reports and for a review of the contributed papers and abstracts of oral presentations. We are grateful for the support of our sponsor Serbian mobile network “Mobilna Telefonija Srbije – MTS”. Also we acknowledge the support of the National Museum of Zaječar in organizing the social program of the conference. Finally, we acknowledge the support of all members of the Organizing Committee who contributed to the preparing and running of the conference.

The participants have been asked to send their papers in a format already prepared for publication. After peer review of contributions, the basic corrections have been made to meet general form of the book and to avoid, as much as possible, typing, spelling and grammatical errors. The Editors apologize for all mistakes that emerged from the preparation process and software problems in the process of printing.

Finally we would like to thank all the invited speakers and the participants for taking part in this first CEAMPP, to wish them to have a pleasant stay in Zaječar, and to gain additional momentum and ideas for the future work.

Belgrade, May, 2008

Editors

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### 1<sup>st</sup> NATIONAL CONFERENCE ON ELECTRONIC, ATOMIC, MOLECULAR AND PHOTONIC PHYSICS

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*imate prijatelj!*

The conference is held in the year when we celebrate  
200 years of the University of Belgrade



# **CEAMPP 2008**

## CONFERENCE TOPICS

**1. ATOMIC AND MOLECULAR STRUCTURE AND PROPERTIES**

**2. COLLISION PROCESSES**

**3. PHOTON INTERACTION WITH ATOMS AND MOLECULES**

# **CEAMPP 2008**

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# Electron Energy-Loss Spectroscopy of Ag Atom

S. D. Tošić<sup>1</sup>, D. Šević<sup>1</sup>, V. Pejčev<sup>2</sup>, D. M. Filipović<sup>3</sup>  
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Electron energy-loss spectroscopy (EELS) is based on measuring the energy which electron loses in inelastic electron-atom scattering. Since this energy is unique to both the energy state and the element in question, EELS technique is important in many applications ranging from various surface science researches to medical diagnosis. It is widely employed for the study of electronic structures, electronic correlation and elemental composition of different materials [1-3], as well as for analyzing biological structures and detection of a single atom contained in the macromolecule assembly [4].

Here we present the results of electron spectroscopy measurements of electron collisions with Ag atom at medium electron impact energies. Experimental measurements of electron impact excitation of the  $4d^{10}5p^2P_{1/2, 3/2}$  states of Ag have been made at incident electron energies  $E_0 = 10, 20, 40, 60, 80,$  and  $100$  eV. Data obtained include the energy-loss spectra of Ag recorded at different scattering angles using a crossed electron-atom beam technique in the electron spectrometer "ESMA" that operates in energy-loss mode. The experimental apparatus and procedure were described in detail elsewhere [5].

## ACKNOWLEDGMENTS

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