

Preface

This volume of Journal of Physics: Conference Series contains a selection of papers presented at the 27th Summer School and International Symposium on the Physics of Ionized Gases – SPIG 2014, as General Invited Lectures, Topical Invited Lectures, Progress Reports and associated Workshop Lectures. The conference was held in Belgrade, Serbia, from 26-29 August 2014 at the Serbian Academy of Sciences and Arts. It was organized by the Institute of Physics Belgrade, University of Belgrade and Serbian Academy of Sciences and Arts, under the auspices of the Ministry of Education, Science and Technological Development, Republic of Serbia.

A rare virtue of a SPIG conference is that it covers a wide range of topics, bringing together leading scientists worldwide to present and discuss state-of-the art research and the most recent applications, thus stimulating a modern approach of interdisciplinary science. The Invited lectures and Contributed papers are related to the following research fields:

1. **Atomic Collision Processes** (Electron and Photon Interactions with Atomic Particles, Heavy Particle Collisions, Swarms and Transport Phenomena),
2. **Particle and Laser Beam Interactions with Solids** (Atomic Collisions in Solids, Sputtering and Deposition, Laser and Plasma Interaction with Surfaces),
3. **Low Temperature Plasmas** (Plasma Spectroscopy and other Diagnostic Methods, Gas Discharges, Plasma Applications and Devices) and
4. **General Plasmas** (Fusion Plasmas, Astrophysical Plasmas and Collective Phenomena).

Additionally, the 27th SPIG encompassed three workshops that are closely related to the scope of the conference:

- **The Workshop on Dissociative Electron Attachment (DEA)** – Chaired by Prof. Nigel J Mason, OBE, The Open University, United Kingdom
- **The Workshop on X-ray Interaction with Biomolecules in Gas Phase (XiBiGP)**, Chaired by Dr. Christophe Nicolas, Synchrotron SOLEIL, France
- **The 3rd International Workshop on Non-Equilibrium Processes (NonEqProc)** – Chaired by Prof. Zoran Lj. Petrović, Institute of Physics Belgrade, University of Belgrade, Serbia

The Editors would like to thank the members of the Scientific and Advisory Committees of SPIG conference for their efforts in proposing the program of the conference and to the referees that have reviewed submitted papers, as well as the chairmen of the associated workshops for their efforts and help in organizing them and a selection of excellent invited talks. We particularly acknowledge the efforts of all the members of the Local Organizing Committee in the organization of the Conference. We are grateful to all sponsors of the conference: SOLEIL synchrotron, RoentDek Handels GmbH, Klett Publishing House Ltd, Springer (EPJD and EPJ TI), IoP Publishing (IoP Conference Series), DEA club, Austrian Cultural Forum Belgrade, Institut français de Serbie and Collegium Hungaricum Belgrade.

Holding on to a long tradition is never easy and the only way to achieve that is to have a large number of people who appreciate the conference, so we would like to thank all the invited speakers and participants for taking part in the 27th SPIG conference.

Editors of the issue:

Dr Dragana Marić (Institute of Physics Belgrade, University of Belgrade)

Dr Aleksandar R. Milosavljević (Institute of Physics Belgrade, University of Belgrade)

Prof Zoran Mijatović (Faculty of Sciences, University of Novi Sad)

