

PREFACE

This special issue of the Publication of Astronomical Observatory in Belgrade (PubAOB) contains the contributed papers and abstracts of Plenary Lectures, Topical Invited Lectures and Progress Reports that will be presented at the **31st International Symposium on the Physics of Ionized Gases (SPIG 2022)** which will be held from 5th to 9th September 2022, in Belgrade, Serbia. The SPIG 2022 is organized by the University of Belgrade – Faculty of Physics, University of Belgrade – School of Electrical Engineering and Serbian Academy of Sciences and Arts, with the support of the Ministry of Education, Science and Technological Development of the Republic of Serbia. The 4th workshop on X-ray and VUV Interaction with Biomolecules in Gas Phase (4th XiBiGP), organized in collaboration with the SOLEIL synchrotron (France) will be attached to the SPIG 2022 conference.

Due to the ongoing COVID 19 pandemic, which is still affecting all our activities, and especially causing additional challenges for travels and meetings, the Organizing Committees of the SPIG 2022 conference have decided that the conference will be organized in a blended format, which allows participants to choose between virtual and regular (on-site) attendance. We expect to have virtual and regular participants, who will present 8 plenary invited talks, 18 topical invited, 21 progress reports, and 53 contributed papers (posters) within the main SPIG 2022 conference, and 17 invited talks within the XiBiGP workshop, from mainly four disciplines connected with physics of ionized gasses which have strong interactions in numerous applications: Atomic Collision Processes, Particle and Laser Beam Interactions with Solids, Low Temperature Plasmas and General Plasmas.

The SPIG reflects the progress in plasma physics and related fields. The conference has a long tradition, with the first meeting that was organized in Belgrade in 1962 under the title: "1st Yugoslav Symposium on the Physics of Ionized Gases" (SPIG). This issue of

PubAOB presents new results in the fundamental and frontier theories and technology in the area of general plasma physics (including astrophysical and fusion plasmas), atomic collision processes and particle and laser beam interactions with solids.

Editors would like to thank the members of the Scientific and Advisory Committees of SPIG 2022 for their efforts in proposing the invited lectures and reviewing the contributed papers, as well as to thank the authors for their contribution and support to this Publication, and to wish all participants a pleasant and productive stay in Belgrade. We are grateful to the Serbian Academy of Sciences and Arts for their long term commitment to support this event as well as the Serbian Ministry of Education, Science and Technological Development for their continuing support.

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Belgrade, August 2022