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- A&M DATA - ASTRONOMY
AND EARTH OBSERVATIONS

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A&M DATA - Astronomy & Earth Observations
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SPECIAL ISSUE
**Astrophysical Spectroscopy - A&M DATA -
Astronomy and Earth Observations**

Edited by

Vladimir A. Srećković, Milan S. Dimitrijević, Nikola Cvetanović

Based on lectures presented at

**V Meeting on Astrophysical Spectroscopy -
A&M DATA - Astronomy & Earth Observations**

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Institute of Physics Belgrade, University of Belgrade

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PREFACE

This Special Issue on Astrophysical Spectroscopy: A&M DATA - Astronomy and Earth Observations contains selected papers from the V Meeting on Astrophysical Spectroscopy: A&M DATA. The venue of the conference was at the lake Palić, in northern Serbia, and it was held from September 12 to 15, 2023. This meeting is unique in bringing together astronomers and physicists from Serbia and other countries to review and present their current research. The meeting aims at improving the knowledge within the field, as well as promoting the importance of spectroscopy for future Astrophysical and Earth-science research. It is well known that atomic and molecular spectroscopy is a key method for plasma studies in various subfields: astronomy, fusion research, atmospheric research, applied physics and industry. Reliable atomic data from verified sources are crucial for proper theoretical analysis, spectra synthesis and modelling of both laboratory and astrophysical radiation sources. For instance, for the modeling of stellar atmospheres and opacity calculations a large amount of atomic data is needed, since the chemical composition of stellar atmosphere is not known a priori. Consequently, astroinformatics and development of atomic databases are important for stellar spectroscopy. On the other hand, the emission spectroscopy of laboratory plasma requires the knowledge of atomic and molecular constants, line widths etc. To combine all these practices, the A&M Data meeting aims at making the connection between researchers that provide the data, those that create and maintain databases, and the data users, both in theory and experiment. The program was divided into several sessions (special mini-projects) dedicated to spectroscopy and data in laboratory and general plasma. The V Meeting on Astrophysical Spectroscopy was attended by 76 participants from 14 countries. They presented 19 invited talks, and 15 posters. This Special Issue contains 18 articles arranged in three sections covering the entire content of the conference. All of the papers in this issue have been subjected to rigorous peer review. Each paper that was submitted was reviewed by at least two reviewers. The organizers are grateful to the Ministry of Science, Technological Development and Innovations of the Republic of Serbia for the general support. We thank the members of the scientific and local organizing committees for their help in preparing and running this conference. Editors would like to express our gratitude to the reviewers for their effort in peer-reviewing of all contributions. Finally, we acknowledge the help and support of the Contrib. Astron. Obs. Skalnaté Pleso journal. We would like to note that materials (programme, talks, proceedings, photos, etc.) from this and previous meetings are available at <http://asspectro2023.ipb.ac.rs/>

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