

# A&M DATA

## III Meeting on Astrophysical Spectroscopy: A&M DATA, 6–9 December, 2021

Dear Colleagues,

The Organizing Committee is pleased to inform you that the III Meeting on Astrophysical Spectroscopy: A&M DATA will be held in the period 6–9 December, 2021 in Palić, Serbia. The Conference covers a wide range of topics from fundamental studies to applications. We intend to organize a blended conference, with on-line and in-person presentations in order to support the attendance of those with limited possibilities to travel. The Organizing committee will monitor the situation with the COVID-19 pandemic and in the case of a severe situation, the format of the conference will be switched to entirely on-line.

### Scientific Organizing Committee

Nebil Ben Nessib, College of Sciences, King Saud University, Riyadh, Saudi Arabia

Magdalena Christova, Technical University, Sofia, Bulgaria

Rafik Hamdi, Faculte des Sciences de Bizerte, Universit e de Carthage, Tunisia

Dragana Ilić, Faculty of Mathematics, Belgrade

Andjelka Kovačević, Faculty of Mathematics, Belgrade

Jelena Kovačević, Astronomical Observatory, Belgrade

Nikola Cvetanović, Faculty of Transport and Traffic Engineering, Belgrade, Serbia

Darko Jevremović, Astronomical Observatory, Belgrade

Evaggelia Lyratzi, National and Kapodistrian University of Athens, Greece

Luka Č. Popović, Astronomical Observatory, Belgrade

Branko Predojević, Faculty of Sciences, Banja Luka, Republic of Srpska

Zoran Mijić, Institute of Physics Belgrade

Sylvie Sahal Bréchet, Observatoire de Paris, France

Vesna Borka Jovanović, Vinča Institute of Nuclear Sciences, Belgrade, Serbia

Predrag Jovanović, Astronomical Observatory, Belgrade

Nikolai N. Bezuglov, Saint Petersburg State University, St. Petersburg. Russia

Saša Simić, Faculty of Sciences, Kragujevac

Bratislav Marinković, Institute of Physics Belgrade

Milan S. Dimitrijević, Astronomical Observatory, Belgrade, **Co-Chairman**

Vladimir A. Srećković, Institute of Physics Belgrade, **Co-Chairman**

### Local Organizing Committee

Vladimir A. Srećković, Institute of Physics Belgrade, **Chairman**

Nikola Veselinović, Institute of Physics Belgrade

Aleksandra Nina, Institute of Physics Belgrade  
Veljko Vujčić, Astronomical Observatory, Belgrade  
Jovan Aleksić, Astronomical Observatory, Belgrade  
Milan S. Dimitrijević, Astronomical Observatory, Belgrade  
Nikola Cvetanović, Faculty of Transport and Traffic Engineering, Belgrade, Serbia  
Aleksandra Kolarski, Institute of Physics, Belgrade

## Organizers

Institute of Physics Belgrade  
Astronomical Observatory

Web: [AsSpectro2021.ipb.ac.rs/](http://AsSpectro2021.ipb.ac.rs/)

## Registration fee is 50 EUR

Within each section, mini-projects with a paper in international journal as the objective, can be submitted, with an abstract and a list of proposed participants.

## Proceedings

We are going to publish proceedings for selected papers in ASR (Advances in Space Research).

Papers must be submitted electronically to **the journal**. To ensure that all manuscripts are correctly identified for inclusion into the special issue, authors must select "Special Issue: Spectroscopy & data" when they reach the "Article Type" step in the submission process.

Special Issue is already open for submission.

The general format for submission of papers can be found on the [ASR Elsevier web site](#).

## Deadline for registration: 22<sup>nd</sup> November 2021

Please send thr registration form via email to:

[asSpectro2021@gmail.com](mailto:asSpectro2021@gmail.com)

.....

## REGISTRATION FORM

Name:

Affiliation:

E-mail:

I will participate in Sections: S1\_\_\_ S2\_\_\_ S3\_\_\_ S4\_\_\_ S5\_\_\_ S6\_\_\_

I propose Mini-project Yes No

If Yes, please attach Title, list of participants and abstract.

## Sections

- S1 Spectroscopy of Active galactic nuclei (Coordinator Luka Č. Popović),
  - S2 Collisional processes in Geo-cosmical plasmas (Coordinator Vladimir A. Srećković),
  - S3 Radiative Processes and Spectra (Coordinators Vladimir A. Srećković and Milan S. Dimitrijević),
  - S4 Spectral line profiles in stellar and laboratory plasmas (Coordinator Milan S. Dimitrijević),
  - S5 A&M DATA and HPC (Coordinator Darko Jevremović),
  - S6 A&M DATA and standards (Coordinator Bratislav Marinković).
- .....

## Scientific Rationale

Spectroscopy is a powerful tool for the analysis of radiation from different plasmas in astronomy, laboratory, fusion research, atmospheric research and industry. Efficacy theoretical analysis, synthesis and modelling of stellar spectra as well as the spectra from other plasma sources, depends on atomic data and their sources. In particular, for the modeling of stellar atmospheres and opacity calculations a large number of atomic data is needed, since we do not know a priori the chemical composition of a stellar atmosphere. Consequently, the development of databases with atomic data and astroinformatics is important for stellar spectroscopy.

Investigation of spectral line profiles is of significance for various research fields not only in astrophysics, where, for example, by analysis of stellar line profiles we can obtain effective temperature, chemical composition, surface gravity and other data on the investigated star, but also for a number of topics in physics and technology.

The investigation of nature of the emitting ionized gas in galactic nuclei is one of important subjects in astrophysics today. Investigating the processes in the central parts of these objects, we can learn about the innermost parts of other 'normal' galaxies. Moreover, AGN are the most powerful sources, located at different cosmological time-scales, and their investigation is cosmologically important. Additionally, a part of emission from these objects (e.g. in the X-rays) has its origin very close to a massive black hole, and investigation of this emission can help us understand the physical processes in a strong gravitational field. On the other side, a number of AGN are affected by gravitational lensing effect. Studies aimed at determining the influence of microlensing on spectra of lensed quasars (hereafter QSOs) ought to account for the complex structure of the QSO central emitting region. Since the sizes of the emitting regions are wavelength-dependent, microlensing by stars in a lens galaxy will lead to a wavelength-dependent magnification.

The Conference is planned as an opportunity to consider the above-mentioned aspects of spectroscopic research on plenary sessions and then to work on the special mini-projects, which will result in common papers to be published in international astronomical journals) during the Conference.