

## PREFACE

The jubilar Volume 100 (2021) of the Publications of the Astronomical Observatory of Belgrade series provides a written record of the talks and posters presented at the XIXth Serbian astronomical conference which was held virtually during October 13-17, 2020, due to world-wide pandemic situation.

More than 100 scientific participants had many fruitful discussions and exchanges that contributed to the fulfillment of the conference. Participants from 23 countries made the conference truly international in scope. The 85 abstracts of oral talks and 16 abstracts of posters that were presented formed the heart of the conference and provided opportunity for discussion. Of the total number of presented abstracts, 52 of these are included in this proceedings volume. There were 6 Invited reviews lectures covering the different areas of the conference (listed in alphabetical order): Lucio Crivellari (Instituto de Astrofísica de Canarias) presented alternative strategies to solve stellar atmosphere problem, Zoran Knežević (Serbian academy of science and arts) presented survey of the positions of secular resonances in the asteroid belt, Stefanie Komossa (Max Planck Institute for Radioastronomy, Bonn) reviewed supermassive binary black holes, Debora Sijacki (University of Cambridge) presented supermassive black holes in all their guises, Jian-Min Wang (Institute of High Energy Physics Chinese Academy of Sciences) reviewed observational signatures of close binaries of supermassive black holes in active galactic nuclei, and Alexander F. Zakharov (Institute of Theoretical and Experimental Physics, Moscow) reviewed tests of gravity theories with black hole observations.

Our special thanks go to dr Mirjana Pović (Ethiopian Space Science and Technology Institute and Institute of Astrophysics of Andalusia) for her participation, and who has been awarded the Jocelyn Bell Burnell Inspiration Medal, an award which is awarded this year for the first time. Also, included among the speakers were several young scientists, namely, postdocs and students, who brought new perspectives to their fields. Particularly we thank young researchers from the Center for Theoretical Physics of Polish Academy of Sciences, dr Mary Loli Martínez-Aldama and PhD student Swayamtrupta Panda for their participation and contributions.

Praise is also deserved for the organizers and external reviewers who have invested significant time in analyzing and assessing papers, who hold and maintain a high standard of quality for this conference.

We are pleased to acknowledge the official sponsorship of the conference by the Ministry of Education, Science and Technological Development of Republic Serbia (MESTD), Serbian academy of science and arts (SASA), University of Belgrade (UB), Telekom Srbija, COST Action CA16104 - gravitational waves, black holes and fundamental physics (GWverse), and NoRCEL. Assistant Minister, dr Aleksandar Jović,

(MESTD), Academician Zoran Knežević, General Secretary of SASA, prof. dr Zoran Rakić, Dean of Faculty of Mathematics UB and Vitor Cardoso, Chair of CA16104 generously accepted an invitation to address the audience at the opening of the conference.

For the first time, the conference program included format of special sessions: The gravitational-wave Universe supported by CA16104 and Interdisciplinary studies (astrobiology, astrochemistry, geophysics, atmospheric physics, and space astronomy) and simulations, supported by NoRCEL.

The conference legacy is freely accessible on the internet <http://astro.math.rs/kas19/>. A special note of gratitude to the Local organizing committee and Ms Tanja Milovanov who contributed much behind the scenes for many months in preparation of the conference and in the final delivery of the book of abstracts and these proceedings.

Instead of conclusion, we look forward to seeing all of you at the jubilar XXth Serbian astronomical conference.

#### Coeditors

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