

Preface

Dear reader,

The BPU11 Proceedings, which you are holding in your hands, intend to provide an overview and, to some degree, showcase the forefront of research within the Balkan physics community as we navigate the post-COVID-19 pandemic landscape.

The BPU11 Congress is part of the series of general conferences of the Balkan Physical Union, which were first organized in Thessaloniki, Greece in 1991. This latest edition took place in a hybrid format, attracting a total of 476 participants.

Approximately one-third of all presentations held during the Congress, precisely 87 of them, have been collected in this issue as papers accepted after a two-level referee process. We warmly thank all authors for their valuable contributions and express regret that some submitted manuscripts could not be accommodated in these Proceedings.

Given that the scientific program of the BPU11 Congress encompassed 15 distinct scientific sections, the referee process was effectively overseen by the Section coordinators and numerous referees, to whom we are profoundly grateful. Our responsibilities, as guest editors, encompassed the coordination of the entire manuscript review process, particularly for those with an interdisciplinary focus, and we facilitated additional reviews and enlisted reviewers as needed or deemed beneficial.

I'd like to express immense gratitude to Dr. Milan Milošević, the technical editor, whose contributions played a crucial role throughout numerous stages of preparing the Proceedings, and it's difficult to overstate their significance. We wish to express our sincerest gratitude to the Advisory Committee and the International Scientific Committee of the BPU11 Congress. Their support and guidance have been graciously acknowledged from the inception of the Congress's initial preparation and continue to be very valuable.

The BPU11 Congress would not have been possible without the great support of our institutional co-organizers from Serbia and our long-term partners in developing and promoting research and capacity building in the Balkan region. These partners include the International Center for Theoretical Physics (ICTP) in Trieste, the Central European Initiative (CEI) in Trieste, the Conseil Européen pour la Recherche Nucléaire (CERN) in Geneva, the European Physical Society, and many others.

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Furthermore, apart from the PoS BPU11 proceedings, which play a pivotal and all-encompassing role in documenting the Congress, several additional papers focusing on specific topics will be published in collaboration with our publishing partners: the European Physical Journal - Plus (Springer) and the International Journal of Modern Physics A (World Scientific).

Lastly, we would like to express our heartfelt appreciation to the countless volunteers and supporters who contributed to the success of this endeavor. And, not to be overlooked, we would like to offer our sincere thanks to our main Publishing Partner - Proceedings of Science (Trieste) for their exceptional professionalism, as well as their amiable and constructive communication, and for their assistance throughout all stages of the preparation of this "book."

Niš - Belgrade, Serbia, August 31, 2023

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