

PREFACE

This volume of *Acta Physica Polonica B Proceedings Supplement* presents a selection of articles based on topics discussed at the 57th Zakopane Conference of Nuclear Physics. Established in 1963, this long-standing conference series is dedicated to advancements in nuclear physics.

The 2024 edition, held from August 25 to September 1 at the “Hyrny” Hotel in Zakopane, focused on the theme “Extremes of the Nuclear Landscape”. It brought together researchers from around the world to exchange ideas, present new findings, and explore the latest developments in the field. The conference was organized by the Institute of Nuclear Physics of the Polish Academy of Sciences (IFJ PAN) in Kraków, Poland, in collaboration with Coti Conference Time, and was supported by the Polish Academy of Sciences (PAN), NuPECC, and CAEN.

Covering a broad spectrum of nuclear physics topics, the conference addressed areas such as low-lying shell model states, collective excitations at extreme spins and temperatures, light and superheavy nuclei, exotic proton drip-line nuclei, neutron-rich nuclear systems, and neutron stars. The scope of the conference presents the latest achievements in nuclear theory and experimental results.

The scientific program was structured into seven main sessions, with conveners inviting keynote speakers and selecting shorter presentations from submitted abstracts:

- High spin states, led by Piotr Bednarczyk (IFJ PAN, Kraków);
- Recent advances, applications, and *ab initio* derivations of nuclear DFT, led by Jacek Dobaczewski (University of York and University of Warsaw);
- Structure of exotic nuclei, led by Alexandra Gade (MSU, East Lansing);
- Various facets of shape coexistence, led by Silvia Leoni (INFN and University of Milan);
- Collective properties of atomic nuclei, led by Adam Maj (IFJ PAN, Kraków);
- Nuclear astrophysics, led by Aurora Tumino (University of Enna and INFN LNS, Catania);
- Nuclear fission, led by Jonathan Wilson (IJCLab, Orsay).

Two special lectures of general interest were also given by Marek Lewitowicz (GANIL, Caen) and Thomas Elias Cocolios (KU Leuven). In addition, four sessions were dedicated to oral presentations selected by the International Advisory Committee based on submitted abstracts. Traditionally, young scientists had the opportunity to present their achievements in a poster session, with the three best posters receiving awards sponsored by NuPECC.

The Zakopane Conference on Nuclear Physics continues to be a vital forum for the nuclear physics community. The 2024 edition welcomed approximately 150 participants, over 70% of whom were international attendees from 22 countries. Altogether, the conference program comprised 47 lectures, 58 shorter talks, and 20 poster presentations. The papers collected in this volume reflect the range of topics discussed during the conference. We extend our heartfelt thanks to all the speakers, poster presenters, and article authors for their valuable contributions, which ensure that this edition of the conference continues the long-standing tradition of excellence and knowledge exchange.

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