PREFACE

The "Workshop at 1 GeV scale: from mesons to axions" was held on September 19–20, 2024, at the Faculty of Physics, Astronomy and Applied Computer Science of the Jagiellonian University in Kraków, Poland. The event brought together researchers from around the world, representing a wide range of experimental and theoretical approaches to low-energy hadronic physics and beyond the Standard Model (BSM) searches.

While the Standard Model remains one of the most robust and successful frameworks in modern physics, it leaves several fundamental questions unanswered such as the nature of dark matter, the origin of neutrino masses, and the observed matter–antimatter asymmetry. For this reason, considerable attention during the workshop was devoted to exploring extensions of the Standard Model, including light dark matter (LDM), axion-like particles (ALPs), and other hypothetical low-mass mediators.

The workshop featured vibrant and engaging discussions that often extended well beyond the scheduled sessions. These interactions stimulated new ideas and initiated promising collaborative efforts particularly at the interface between theoretical models and experimental searches. The nature of the meeting fostered a dynamic exchange of perspectives, encouraging synergies between different experimental programs and theoretical developments in the sub-GeV domain.

This volume contains selected contributions presented during the meeting. We hope it will serve not only as a record of the event but also as a resource for the broader community engaged in understanding strong interactions and exploring new physics at low energies.

We thank all participants for their scientific input and collegial spirit, as well as the organizing team and supporting institutions for making the workshop a success. We are especially grateful for the open, constructive, and friendly atmosphere that made this meeting both intellectually rewarding and personally enjoyable.

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