M E S O N 2 0 1 4

PROCEEDINGS OF THE

13th INTERNATIONAL WORKSHOP ON
PRODUCTION, PROPERTIES
AND INTERACTION OF MESONS

29 May – 3 June 2014, Cracow, Poland

organized by

Jagiellonian University, Cracow
Forschungszentrum Jülich GmbH, Jülich
INFN-LNF, Frascati
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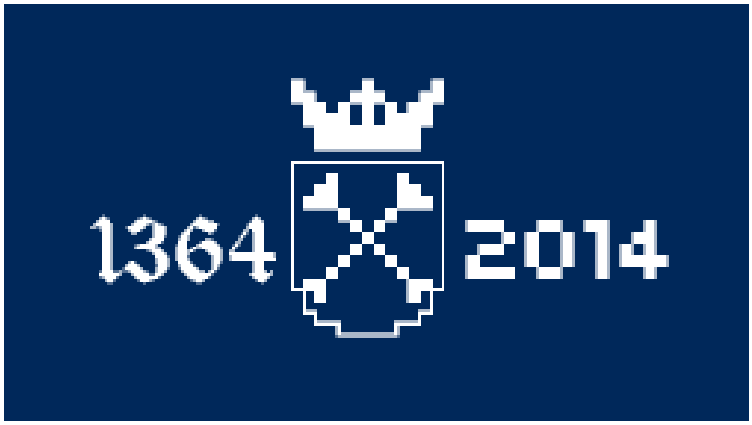

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Preface

The 13th International Workshop on Meson Production, Properties and Interaction – MESON 2014 – took place in Cracow, Poland, from 29 May to 3 June 2014. The conference with a tradition dating back to 1991 was held in the year in which the Jagiellonian University, one of the co-organizers, celebrated the 650 anniversary of its foundation. The conference was attended by over 180 participants from 21 countries from around the world. In total, there were 41 plenary talks, 64 parallel session talks and 30 posters.

Objective of the MESON Conferences is to provide an overview of the present status of the physics areas in which mesons play an important role, as well as of new developments, and a preview of the forthcoming investigations. The topics covered hadronic and electromagnetic meson production in a broad energy range, meson interaction with mesons and nuclei, structure of hadrons, fundamental symmetry studies with mesons, exotic systems including the recent discovery of a dibaryon. Theoretical lectures focused mainly on the problems of low-energy QCD with use of effective field theory and lattice QCD. Widely presented were diverse approaches to the problems of dynamical chiral symmetry breaking, kaon bound states, mesic atoms and nuclei, and mesons in nuclear matter.

Research related to the physics of mesons are closely linked to fundamental problems of physics. Therefore, the conference program this time was expanded to cover these items. In particular, the conference program covered recent results and future plans on investigations of muon g-2, electric dipole moment of hadrons, weak charge of proton, quantum correlations of entangled K-mesons, dark photon searches, hadronic interactions of ultra-high energy cosmic rays, and the proton radius puzzle.

The success of the conference was made possible by the extensive work of the Advisory Committee, the Organizing Committee and the Local Organizing Committee. Special thanks are to our home institutions, organizers of the conference, Jagiellonian University, Forschungszentrum Jülich, INFN Frascati, and Institute of Nuclear Physics, Polish Academy of Science, Cracow for their generous support. We gratefully acknowledge further financial assistance from our sponsors: EU project Hadron-Physics 3, Thomas Jefferson National Accelerator Facility, National Instruments, Marian Smoluchowski Cracow Scientific Consortium, the Municipality of Cracow (KRK2B), and European Physical Journal. Last but not least we thank all the participants for interesting presentations and lively discussions on recent results and future projects. We appreciated very much the attendance of many young physicist who really vivified the atmosphere of the conference.

The large number of participants engaged in interesting discussions, expected further discoveries in the fields presented at the conference and great ambience of Cracow direct our thoughts and motivation towards the next edition of the MESON conference, which we will organize in June 2016, at the same location.

Carlo Guaraldo, Andrzej Magiera, Hans Ströher

October 2014

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