

PREFACE

The XXVI Cracow Epiphany Conference was dedicated to the Large Hadron Collider (LHC) Physics and was focused on both the Standard Model (SM) and Beyond SM phenomenology. Both experimental and theoretical results were discussed.

The conference was divided into the following thematic sessions:

- Quantum Chromodynamics;
- Higgs Physics;
- Flavour Physics;
- Heavy Ion Collisions;
- Monte Carlo methods;
- Electroweak interactions;
- Loop calculations.

The LHC is currently the biggest particle accelerator in the world. It just completed its second run of data taking campaigns. The discussion of the results of the above-mentioned data was the primary topic of this year Epiphany conference.

The LHC accelerator is truly a multipurpose machine, where physicists conduct research from various topics belonging to particle physics. Both of the general purpose experiments, ATLAS and CMS, presented their newest results during the conference. Experimental talks were accompanied by excellent reviews from theoretical physicists. Newest achievements, like the usage of artificial intelligence for proton PDF determinations were presented by Prof. Stefano Forte.

Given the recent and persistent anomalies in Flavour Physics, we had a great representation in this topic during the conference. The experimental talks were given by the LHCb and Belle II collaborations. Very interesting talks were given, in particular, by Dr. Mitesh Patel and Prof. Youngjoon Kwon. It is worth to emphasize also that the LHCb Collaboration decided to present its newest lepton universality-violation measurement for the first time during our conference!

Recent theoretical developments and measurements of the Higgs Boson and the top quark were also broadly discussed. Last but not least, as every year, we had a very fruitful session with presentations from young scientists.

In addition, during the Epiphany conference we had a session dedicated to work and life of Prof. Kacper Zalewski to celebrate his 85th birthday. The session included talks by Prof. Andrzej Białas and Prof. Marek Jeżabek.

The success of the XXVI Cracow Epiphany Conference would have not been possible without efforts of many people. In particular, we would like to thank the Director of the Institute of Nuclear Physics Polish Academy of Sciences Prof. Marek Jeżabek for his support in organizing this conference. Last but not least, we would like to thank *Acta Physica Polonica B* for their help in making these proceedings issue.

Jihyun Bhom
Marcin Chrzęszcz
Sebastian Sapeta
Andrzej Siódmostok