



AWARDS

LORENZO BIANCHINI WINS AN ERC CONSOLIDATOR GRANT FOR THE ASYMOW PROJECT

The ERC (European Research Council) has awarded Lorenzo Bianchini, researcher at the INFN Pisa Division, a Consolidator Grant for the ASYMOW project, Power to the LHC data: an ASYmptotically MObel-independent measurement of the W boson mass, for developing a new methodology for data analysis and calibration techniques for the CMS detector of CERN's LHC accelerator. In particular, the ASYMOW project, lasting five years, aims to measure the mass of the W boson with unprecedented precision for an individual experiment, i.e. less than 10 Megaelectronvolts (MeV). This accuracy will be enough to resolve the current tension between the experimental mW measurement at the accelerators and the Standard Model's predictions. In addition, it will make it possible not only to explore more thoroughly the electroweak theory, but also to establish a milestone in measuring proton-proton interaction processes at the LHC, with implications that range beyond determining mW. All this will be made possible by a new approach to measures, which will have to be developed in detail in the course of the project and which will make it possible to maximally exploit the statistical power offered by the LHC through the CMS detector. To implement it, all the data already collected during the second cycle of activity of LHC, the so-called Run2, will be used, as well as the data produced during the next Run3, which is expected to start in 2022. ■