FIAS Colloquium

Thursday, May 15, 2014, 14:30
FIAS, Ruth-Moufang-Str. 1, 60438 Frankfurt am Main
Lecture Hall 100

Speaker: Dr. Andreas Redelbach, Faculty for Physics and Astronomy, University of Würzburg

Title: Searching for Supersymmetry at the ATLAS Detector

In the last years there has been an enormous scientific programme at LHC detectors, utilizing unprecedented proton beam energies and intensities. These measurements have tested the Standard Model of particle physics at high precision and have also lead to the discovery of the Higgs boson. Various results from LHC studies impose strong constraints on models of new physics such as supersymmetry.

In this talk, I briefly review basic strategies for data taking and data analysis that have been established at the ATLAS detector in search for supersymmetry. Some exemplary studies setting new limits on mass scales of supersymmetric particles will be summarized. Also constraints for supersymmetric models with additional sets of parameters are reviewed and strategies for further reinterpretations with a view to improving search strategies for LHC Run 2 are outlined.