



Contribution ID: 149

Type: **Oral Presentation**

European Strategy Update: ATLAS physics prospects at the HL-LHC

Monday, 26 August 2019 10:50 (30 minutes)

The Large Hadron Collider (LHC) has been successfully delivering proton-proton collision data at the unprecedented center of mass energy of 13 TeV.

An upgrade is planned to increase the instantaneous luminosity delivered by LHC in what is called HL-LHC, aiming to deliver a total of about 3000/fb of data to the ATLAS detector. To cope with the expected data-taking conditions ATLAS is planning major upgrades of the detector.

In this contribution we present an overview of the physics reach expected for a wide range of measurements and searches at the HL-LHC for the ATLAS experiment, including Higgs coupling, di-Higgs boson production sensitivity, Vector Boson Scattering prospects as well as discovery potential for electroweak SUSY and other exotic benchmark scenarios.

Such studies formed the basis of the ATLAS Collaboration input to the recent HL/HE-LHC Yellow-Report. An executive summary of this report was then submitted as input to the European Strategy process.

Primary author: PASTORE, Francesca (Royal Holloway, University of London)

Presenter: PASTORE, Francesca (Royal Holloway, University of London)

Session Classification: Semi-plenary Session