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Physics prospects for ATLAS at the HL-LHC

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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 the LHC, in what is called the 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 couplings, di-Higgs boson production sensitivity, Vector Boson Scattering prospects as well as discovery potential for electroweak SUSY and other benchmark scenarios for exotic beyond-SM physics.

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