

The ATLAS Upgrade Program

Ingrid-Maria Gregor, DESY

To extend the physics potential of the Large Hadron Collider (LHC) at CERN, upgrades of the accelerator complex and the detectors towards the high luminosity LHC (HL-LHC) are foreseen. The upgrades, separated in Phase-0, Phase-1 and Phase-2, aim at increasing the luminosity while leaving the energy of the colliding particles (7 TeV per proton beam) unchanged. After the Phase-2 upgrade the average luminosity will be a factor of 5-10 higher than the design luminosity of the LHC.

Planning for ATLAS detector upgrades therefore includes enhancements to the current detector and detector consolidation work needed to handle the luminosity evolution of the machine. Major changes are required for the HL-LHC operation after the Phase-2 upgrade. Due to the increased track rate and extreme radiation levels for the tracking detectors, it is planned to replace the whole tracker during this upgrade phase.

In this talk an overview of the ATLAS activities is given with emphasis on the activities on-going at DESY.