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ATLAS Upgrade for the sLHC: meeting the challenges of a five-fold increase in collision rate

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With the LHC collecting first data at 7 TeV, plans are already advancing for a series of upgrades leading eventually to about five times the LHC design-luminosity some 10 years from now in the super-LHC (sLHC) project. The goal is to extend the data set from about 500 fb⁻¹ proposed for the LHC to 3000 fb⁻¹ by around 2030. Coping with the high instantaneous and integrated luminosity will require many changes to the ATLAS detector. The designs are developing rapidly for an all-new inner-tracker, big changes in the calorimeter and muon systems, as well as improved triggers. This talk summarises the environment expected at the sLHC and the status of the improvements to the ATLAS detector.

Primary author: ATLAS COLLABORATION**Presenter:** Dr LOGINOV, Andrey (Yale University, Physics Department)**Session Classification:** 13 - Advances in Instrumentation and Computing for HEP**Track Classification:** 13 - Advances in Instrumentation and Computing for HEP