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## LUCID upgrade - Atlas luminosity monitor for the LHC RUNs 2&3

The ATLAS luminosity monitor, LUCID, has been completely redesigned.

Both the detector and the associated read-out electronics have been improved in order to cope with the LHC luminosity increase foreseen for RUN 2 and RUN 3.

The new operating conditions will require a careful tuning of the read-out electronics in order to optimize the signal-to-noise ratio. The new read-out electronics will allow the use of digital filtering of the photo Multiplier tube signals.

In this talk, we will present the first results that we obtained in the optimization of the signal-to-noise ratio. In addition, we will introduce

the next steps to adapt this system to high performance read-out chains

for low energy gamma rays. Such systems are based on Silicon Drift Detector devices and can be applied outside ATLAS in e.g. applications at Free-Electron-Laser facilities such as the XFEL under construction at DESY.

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