Contribution ID: **394** Type: **Parallel session talk**

Towards an ATLAS luminosity measurement at HL-LHC

Friday 19 July 2024 18:12 (18 minutes)

The physics program at the HL-LHC calls for a precision in the luminosity measurement of 1%. To fulfill this requirement in an environment characterized by up to 140 simultaneous interactions per bunch crossing (200 in the ultimate scenario), ATLAS will rely on multiple, complementary luminosity detectors, covering the full range of HL-LHC beam conditions from the low-luminosity, low-pileup regime of the van-der-Meer (vdM) calibrations to the high-luminosity environment typical of physics running. Two detector systems that are meant to be in operation at HL-LHC: LUCID-3 and the BMA detector have prototypes in operation since the start of Run-3. These prototypes have demonstrated their performance as well as limitations, and have added to the main set of luminometers for Run-3.The presentation will discuss ATLAS luminosity determination at HL-LHC, the available HL-LHC prototypes in Run-3, and their performance and inclusion in operations in 2022, 2023, and 2024.

Alternate track

I read the instructions above

Yes

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Session Classification: Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors

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