

# Luminosity determination in pp collisions at $\sqrt{s} = 13.6\text{TeV}$ with the ATLAS detector

*Friday 19 July 2024 16:45 (18 minutes)*

A precise measurement of the luminosity is a crucial input for many ATLAS physics analyses, and represents the leading uncertainty for W, Z and top cross-section measurements. ATLAS luminosity determination in Run-3 of the LHC follows the procedure developed in Run-2 of the LHC. It is based on van-der-Meer scans during dedicated running periods each year to set the absolute scale, and an extrapolation to physics running conditions using complementary measurements from the ATLAS tracker and calorimeter subsystems. The presentation discusses the procedure of the ATLAS luminosity measurement, as well as the results obtained for the 2022 and 2023 pp datasets.

## Alternate track

### I read the instructions above

Yes

**Primary authors:** ZHU, Junjie (University of Michigan (US)); LUNDBERG, Olof (KTH Royal Institute of Technology (SE))

**Presenter:** LUNDBERG, Olof (KTH Royal Institute of Technology (SE))

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

**Track Classification:** 12. Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors