

# Tracking performance with the HL-LHC ATLAS detector

*Thursday 30 July 2020 08:45 (15 minutes)*

During the High-Luminosity Phase 2 of LHC, scheduled to start in 2026, the ATLAS detector is expected to collect more than  $3 \text{ ab}^{-1}$  of data at an instantaneous luminosity reaching up to  $7.5 \times 10^{34} \text{ cm}^{-2} \cdot \text{s}^{-1}$ , corresponding to about 200 inelastic proton-proton collisions per bunch crossing. In order to cope with the large radiation doses and to maintain the physics performance reached during Phase 1, the current ATLAS Inner Detector will be replaced with a new all-silicon Inner Tracker (ITk) and completed with a new High-Granularity Timing Detector (HGTD) in the forward region. In this talk, the latest results on the expected ITk tracking performance and HGTD timing reconstruction will be presented, including their impact on physics object reconstruction.

## I read the instructions

## Secondary track (number)

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