



Contribution ID: 31

Type: **Talk**

## Tracking performance with the HL-LHC ATLAS detector

*Thursday, April 4, 2019 3:00 PM (25 minutes)*

The High Luminosity LHC (HL-LHC) aims to increase the LHC data-set by an order of magnitude in order to increase its potential for discoveries. Starting from the middle of 2026, the HL-LHC is expected to reach the peak instantaneous luminosity of  $7.5 \times 10^{34} \text{cm}^{-2} \text{s}^{-1}$  which corresponds to up to about 200 inelastic proton-proton collisions per bunch crossing. To cope with the large radiation doses and high pileup, the current ATLAS Inner Detector will be replaced with a new all-silicon Inner Tracker. In this talk the expected tracking performance of the HL-LHC tracker is presented. Impact of tracking on physics object reconstruction is discussed.

**Primary author:** GOBLIRSCH-KOLB, Maximilian Emanuel (Brandeis University (US))

**Co-authors:** DANNINGER, Matthias (University of British Columbia (CA)); PETERSSON, Nora Emilia (University of Massachusetts (US))

**Presenter:** GOBLIRSCH-KOLB, Maximilian Emanuel (Brandeis University (US))

**Track Classification:** 2: Real-time pattern recognition, fast tracking and performance evaluation