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Expected tracking performance with the HL-LHC ATLAS detector

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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 and precision measurements. Starting approximately in 2026, the HL-LHC is expected to reach the peak luminosity of $7.5 \text{ Å} \text{---} 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ which corresponds to conditions where up to 200 inelastic proton-proton collisions can occur per bunch crossing which is approximately five times the current number of 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 which will cover up to $|\eta| < 4$. This poster presents recent results regarding the expected tracking performance of the Inner Tracker. The impact of tracking on reconstruction of selected physics objects is shown.

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