

# ATLAS ITk Strip Detector for High-Luminosity LHC

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The ATLAS experiment is currently preparing for an upgrade of the inner tracking for High-Luminosity LHC operation, scheduled to start in 2026. The radiation damage at the maximum integrated luminosity of 4000/fb implies integrated hadron fluencies over  $2 \times 10^{16}$  neq/cm<sup>2</sup> requiring replacement of the existing Inner Detector. An all-silicon Inner Tracker (ITk) is proposed with a pixel detector surrounded by a strip detector. The current prototyping phase, targeting an ITk Strip Detector consisting of a four-layer central barrel and forward regions composed of six disks at each end, is described in the ATLAS Inner Tracker Strip Detector Technical Design Report (TDR). With the approval of the TDR by the CERN Research Board, the pre-production readiness phase has started at the institutes involved. In this contribution we present the design of the ITk Strip Detector, current status of R&D on various detector components and preparations for production.

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