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3D Silicon Tracker for AFP - From Qualification to Operation

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The ATLAS Forward Proton (AFP) experiment is a detector located ˜210 m away from the ATLAS interaction point on both sides. It's aim is to tag and measure forward protons produced in diffractive events. The detector consists of a 3D silicon pixel tracker, to measure the proton trajectory, as well as a time-of-flight system to suppress pileup-related backgrounds. Each tracker and the ToF system are placed inside a Roman Pot, allowing operation in the vicinity of the LHC beam, up to 2-3 mm. AFP was installed in 2 stages during the LHC technical shutdowns of 2015-2016 and 2016-2017. This presentation will give an overview of the silicon sensor qualification as well as the production, assembly and quality assurance of the tracker modules. The installation, commissioning and operation of the full detector will also be discussed.

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