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The Installation and operation of the Upstream Tracker for the LHCb upgrade

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The Large Hadron Collider (LHC) began its third run, known as Run 3, in 2023. During this phase, the LHCb detector operates at a higher instantaneous luminosity (Linst = 2×10^{33} cm^{-2} s^{-1}), which is five times greater than in Run2, and has transitioned to a full 40 MHz software trigger system. This increases the demands on the detectors significantly. To address these challenges, LHCb has undergone a major upgrade, replacing nearly all of its subsystems. The all-software trigger relies on real-time readout, reconstruction, and selection of data. Fast and efficient track reconstruction is particularly crucial. The Upstream Tracker (UT), a new silicon microstrip detector located upstream of the dipole magnet, replaces the old tracker TT and is a critical component of the LHCb tracking system. The UT consists of four silicon microstrip planes and reads out with 128-channel SALT ASICs. Installed in LHCb in 2023, the UT has recently begun physics data-taking globally after a few months of commissioning. This poster will cover the installation and commissioning of the UT and will also include the operation during data-taking.

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