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Performance of the LHCb Scintillating Fibre Tracker in Run 3

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The LHCb experiment has installed a high-performance Scintillating Fibre (SciFi) Tracker to enhance its tracking capabilities under the increased luminosity during Runs 3 and 4 of the LHC, a fivefold increase over Run 2. The SciFi Tracker's 11,000 km of scintillating fibres, read out by Silicon Photomultipliers (SiPMs), deliver a spatial resolution of better than 100 µm covering an acceptance of 5 x 6 m2 in 12 layers downstream of the LHCb magnet. Readout of this and all other detectors into an all-software trigger is central to the new LHCb design, facilitating real-time event reconstruction and selection at the maximum LHC interaction rate. As Run 3 progresses, the SciFi Tracker will be instrumental in achieving LHCb's physics objectives, particularly in the study of heavy flavor physics and CP violation.

This presentation details the SciFi Tracker's commissioning and performance

Primary experiment

LHCb

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