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【344】 Production and Quality Assurance of Scintillating Fiber Detectors for the LHCb Upgrade

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As a part of the LHCb upgrade planned for installation during the LHC Long Shutdown\,2, the current LHCb Outer and Inner Tracker will be replaced by a single tracking detector based on scintillating fibres and read out by silicon photo-multipliers. This new Scintillating Fibre (SciFi) Tracker consists of 12 detection planes, covering a total area of 360m^2 . The active elements of the detector are 2.5\,m-long scintillating fibre mats. This contribution provides an overview of the SciFi detector concept and presents the production of fibre mats at EPFL and other production sites. Special emphasis is put on the fibre mat quality assurance, including measurements of its geometrical, optical, and particle detection properties.

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