

12th Beam Telescopes and Test Beams Workshop



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The EPFL Scintillating Fibre Telescope

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The EPFL Scintillating Fibre Telescope is composed of 4 X-Y modules with an active surface of 13x13 cm². It is made of 250 um diameter scintillating fibres readout with SiPM arrays and its front-end electronics is based on the TOPPET2 ASIC. The telescope suits very well the requirements for detector tests. It has per plane an excellent hit detection efficiency (>98%) and spatial resolution (<100 um) and a time resolution of <250 ps. The large active area allows the telescope to be moved in the beam with the detector under test (example LHCb ECAL) and the compact design allows to set it up in a custom arrangement given by the detector under test. Since there is no gas or cooling required, installation is relatively simple. The telescope DAQ runs in asynchronous or triggered mode and can handle particle rates of a few 10⁴ Hz.

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