

Machine detector interface for FASER

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The ForwArd Search ExpeRiment (FASER) is a planned small-scale experiment designed to search for light and weakly-interacting particles at the Large Hadron Collider (LHC). The FASER detector will be located along the beam collision axis, 480 m downstream from the ATLAS interaction point (IP), in an unused service tunnel. A full Geant4 model of the LHC accelerator as well as the surrounding tunnel complex has been established to propagate the products of the proton-proton collisions with the centre of mass of 14 TeV from the ATLAS IP to the detector as well as radiation from LHC beam induced background sources.

The expected distributions of observed standard model particles, which constitute the main signal and background of the experiment, as well as the systematic effects are presented.

Secondary track (number)

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