

Synchrotron radiation backgrounds for the FCC-hh Experiments

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We present in this paper a detailed analysis of the synchrotron radiation emitted by the 50 TeV protons of the FCC-hh in the last bending and quadrupole magnets upstream the interaction region. We discuss the characteristics of this radiation in terms of power, flux, photon spectrum and fans in different running conditions such as, for example, with and without crossing angle.

We mainly focus our study on the fraction of photons that may hit the detector, with a full tracking into GEANT4 that simulates their interaction within the central beam pipe.

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