

FASER-2 simulation and detector design performance document

Tuesday 21 January 2025 16:50 (15 minutes)

This talk will aim to present and discuss the in-progress FASER-2 simulation and detector design performance document, which outlines the physics goals, detector requirements, simulation studies, and conceptual design scenarios for the proposed detector. The simulation framework developed uses Geant4 to describe detector geometry for sensitivity studies, along with the ACTS toolkit for track reconstruction and track alignment. These tools enable detector optimisation studies to compare various magnet and tracker configurations, which can be performed using key metrics including momentum resolution, sensitivity to BSM scenarios, and geometrical acceptance to other FPF experiments. This document aims to serve as a reference for the FPF collaboration and a possible resource for the European Strategy Process and further.

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Session Classification: Parallel 1