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A Pointing Electromagnetic Calorimeter for FIP Experiments leveraging $X \rightarrow \gamma\gamma$ Decays

Monday 20 May 2024 15:30 (20 minutes)

This talk outlines the design and validation of a pointing ECAL facilitating the precise reconstruction of $X \rightarrow \gamma\gamma$ decays in beam dump FIP experiments. The design study primarily employs GEANT4 simulations to evaluate the performance of the proposed ECAL design, emphasizing its pointing capability crucial for $X \rightarrow \gamma\gamma$ vertex reconstruction. Key aspects of the design include the choice of scintillator granularity, optimized for spatial measurements. The Monte Carlo simulation results are presented alongside test beam data to validate the performance of the design.

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