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Proton endcap ElectroMagnetic Calorimeter Design and Simulations

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The proton endcap ElectroMagnetic Calorimeter (pECal) at EIC is essential for measuring jets in the hadron-going direction, identifying the π^0 decay photons, and e/π separations. The pECal requires to have a good energy resolution and fine granularity. It is planned to be a sampling calorimeter. The current design of pECal is a W-powder/ScFiber (W/ScFi) detector initially developed at UCLA. The W/ScFi detector design has unique features that match the requirements of the ePIC scientific program very well. I will discuss considerations for the W/ScFi pECal design and compare it with other possible alternatives. I will discuss the current pECal design and preliminary performance results for GEANT4 simulations.

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