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Electromagnetic Calorimetry for ePIC detector at EIC

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The Electron-Ion Collider (EIC) is a Nuclear Physics facility being built at Brookhaven National Laboratory, USA. It will address the fundamental questions in science regarding the visible world, such as the origin of the nucleon mass, the nucleon spin, and the emergent properties of a dense system of gluons.

Realizing the ambitious EIC physics program requires an extremely capable detector to measure the variety of probes in wide momentum range with full geometrical coverage. Asymmetric nature of collisions at the EIC with wide range of beam energies and variety of hadron beam species, leads to unique detector requirements in different kinematical regions.

In this talk we will discuss the requirements for electromagnetic calorimetry (EMCal) in different regions of the ePIC detector, the selected technologies to satisfy the requirements, and expected performance, based on comprehensive simulation and beam tests with module prototypes. We will overview the progress in EMCal design and present the timeline for its construction.

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