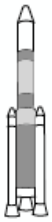

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Performance Study for Jet Energy Resolution of the Dual-Readout Calorimeter

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In calorimetry, the poor hadronic energy resolution of non-compensating calorimeters is caused mainly by the non-Gaussian fluctuation of the electromagnetic component and that in binding energy loss. To remedy this situation, the dual-readout method was proposed and proved with beam tests for the last 20 years. The dual-readout calorimeter, a significant advancement in the field of calorimetry and particle physics, has become the calorimeter component of a 4π detector concept, IDEA, for future Lepton collider experiments such as FCC-ee and CEPC. A primary goal of the dual-readout calorimeter is to achieve high-quality jet energy measurement by exploiting two types of calorimeter signals produced by scintillation and Cerenkov photons. GEANT4 simulation studies suggest a potential precise jet energy measurement. In this talk, we will present the high-precision jet energy measurement of the dual-readout calorimeter predicted by GEANT4 simulations.

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