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Particle identification methods for the CALICE highly granular SiPM-on tile calorimeter. — •Vladimir Bocharnikov for the CALICE-D-Collaboration — Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany — NRNU "MEPhI", Moscow, Russia

The Analog Hadronic Calorimeter AHCAL is a highly granular sampling calorimeter developed by the CALICE collaboration for the future International Linear Collider (ILC). It is designed in accordance with the requirements of the Particle Flow Algorithm to achieve a good jet energy resolution. The AHCAL engineering prototype consists of $\sim$ 22000 channels equipped with 3×3 cm^2 scintillator tiles with individual readout by silicon photomultipliers. The prototype was tested with muon, electron and pion beams at the CERN SPS facilities. To classify events according to the initial particle type, we apply cut-based and multivariable analysis methods using topological parameters of events. Monte-Carlo simulations are used for tuning and testing the classification methods. In this contribution we will demonstrate the performance of AHCAL technological prototype for particle identification using different methods.

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