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The ALICE Electromagnetic Calorimeter: Assembly and Test Beam Analysis[1] JESSAMYN ALLEN, University of California, Berkeley and Istituto Nazionale di Fisica Nucleare (INFN), Laboratori Nazionali di Frascati , FEDERICO RONCHETTI, DELIA HASCH, Istituto Nazionale di Fisica Nucleare (INFN), Laboratori Nazionali di Frascati — The electromagnetic calorimeter (EMCal) is under installation in ALICE at the LHC. The detector will enhance ALICE's jet-quenching measurement capabilities. Electrons and photons deposit their energy by interacting with the detector's lead and scintillator layers, via bremsstrahlung radiation, pair production and ionization, initiating an electromagnetic shower. Scintillator emissions are collected by wavelength-shifting fibers that transmit the light to a photodiode and subsequent electronics. Module assembly continues at the Laboratori Nazionali di Frascati and other sites. In addition to assembly, calibration tests and analysis are ongoing to investigate the detector's position resolution, the linearity of the detector's response and particle identification capabilities. Hadron and electron beams were used at CERN's PS and SPS facilities. From these test runs, one can calculate the detector's hadron rejection factor, which is a measure of the EMCal's ability to discriminate between particles of different types. Data from the test beam runs can also be used to improve simulations modeling the detector.

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