

Electronic Calibration of the ATLAS LAr Calorimeter

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The Liquid Argon (LAr) calorimeter is a key detector component in the ATLAS experiment at the LHC, designed to provide precision measurements of electrons, photons, jets and missing transverse energy. A critical element in the precision measurement is the electronic calibration.

The LAr calorimeter has been installed in the ATLAS cavern and filled with liquid argon since 2006. The electronic calibration of the readout system has been continuously exercised in the commissioning phase, resulting a fully commissioned calorimeter with its readout and a small number of problematic channels. A total of only 0.02% of the read out channels are dead beyond repair and 0.4% need special treatment for calibration. Throughout the last two years, a large amount of calibration data have been collected. We present here the the LAr electronic calibration scheme, large scale acquisition and processing of the calibration data, the measured stability of the pedestal, the pulse shape and the gain, and the expected calibration procedure for LHC running. Various problems observed and addressed during the commissioning phase will also be discussed.

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