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Test Results from Quality Control Measurements of Phototubes for the CMS-CASTOR Calorimeter

The CASTOR calorimeter of the Compact Muon Solenoid (CMS) experiment is designed to study the very forward, baryon-rich region in heavy ion collisions at CERN LHC. Together with the Zero Degree Calorimeter (ZDC) it will make it possible to cover almost all the angular region for the CMS detector.

CASTOR consists of quartz plates in a heavy metal matrix. Cherenkov light produced in the quartz plates will be detected by the Hamamatsu R5380Q PMTs. All the PMTs which will be used in the calorimeter have to be verified for gain and timing characterization to have the good performance required by the CMS-CASTOR group before their installation into the calorimeter. We established a testing station at Cukurova University for this purpose. In the present paper after a brief description of the CASTOR calorimeter and its physics goals we give our quality control test results of the PMTs, i.e. rise time, pulse width, transit time, gain, etc.

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