

Characterization of CMS end-cap RPCs assembled in India

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The work presented here describes the characterization of double gap, bakelite RPCs for the end-cap region of the “Compact Muon Solenoid” experiment at LHC, which were built, assembled and tested in India, before their dispatch to CERN in 2008. These detectors consisted of eight of RE/2 and two of RE/3 type geometry for the CMS. The RE/2 detectors had gas-gaps made at KODEL, Korea and the two RE/3 detectors had gas-gaps, procured much earlier, from GT, Italy. We discuss the efficiency, leakage currents, strip profile and cluster size of these detectors as has been evaluated with the cosmic hodoscope at ISR Lab., at CERN, where all the eight RE*/2 RPCs qualified for the comic tests, thereby ascertaining the QA/QCs procedures followed during assembly at RPC Lab., at Nuclear Physics Division, BARC, Mumbai which is also geared up for the RPC upslope for CMS. Present developments such as an open loop gas recovery-recirculation system would also be discussed during the talk.

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