XVIII International Conference on Topics in Astroparticle and Underground Physics (TAUP 2023)



Contribution ID: 198 Type: Poster

Performance analysis of 20-inch potted PMTs for JUNO experiment

Wednesday 30 August 2023 15:47 (1 minute)

The Jiangmen underground neutrino observatory (JUNO) is a neutrino project under construction with a 20-kton liquid scintillator detector, which includes 20000 20-inch PMTs(15000 MCP-PMTs and 5000 dynode-PMTs). As a key component of JUNO detector, the performance of 20-inch PMTs(LPMTs) has a significant impact on the energy and timing measurement and the vertex reconstruction of anti-electron neutrino. So far, all LPMTs passing the acceptance test have been potted and some potted LPMTs have been randomly selected to test with container system in zhongshan. At the JUNO site, the installation of LPMTs has started. It is necessary for LPMTs to pass a functionality test before installation and carry out regular light-off tests to check the status of the installed LPMTs during the installation process. This poster presents the test results from the container system including relative detection efficiency, gain, dark count rate, charge, etc., and the light-off tests at JUNO site.

Submitted on behalf of a Collaboration?

Yes

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Session Classification: Poster session

Track Classification: Neutrino physics and astrophysics