

The Application of 20 inch PMT in LHASSO-WCDA

Friday 16 July 2021 19:18 (12 minutes)

In the Large High Altitude Air Shower Observatory (LHAASO), the main physics objective of the Water Cherenkov detector array (WCDA) is able to survey the gamma-ray sky continuously in the energy range from 100 GeV to PeV. The water Cherenkov detector array, covering an area of about 78,000 m² area, is constituted by 3120 detector units divided into 3 separate ponds. Each unit of the first 150x150 m² pond are placed 8 inch PMT while the second and third pond are placed 20 inch PMTs. The newly developed 20 inch PMT uses microchannel-plate (MCP) instead of the traditional dynodes enables better energy resolution, good detector response etc. Here plans to give you a full view about the test result of 20 inch MCP-PMT before and after water proof potting with electronics, including TTS, peak-to-valley ratio, and the geomagnetic effect on PMT.

Keywords

20 inch MCP_PMT; water proof potting;geomagnetic field effect

Collaboration

Lhaaso

other Collaboration

Subcategory

Experimental Methods & Instrumentation

Primary authors: YOU, Xiaohao (Institute of High Energy Physics, CAS, CHINA); GAO, Bo (IHEP); CHEN, Mingjun (IHEP, CAS)

Presenter: YOU, Xiaohao (Institute of High Energy Physics, CAS, CHINA)

Session Classification: Discussion

Track Classification: Scientific Field: GAI | Gamma Ray Indirect