



Contribution ID: 187

Type: **Poster**

The research of aging test for the 20inch MCP-PMT

Friday, 29 May 2015 10:05 (0 minutes)

Microchannel plate (MCP) adsorbed plenty of gases when it is produced. We had degased in the manufacture of MCP-PMT, but it isn't enough, it still affect the parameters of the MCP-PMT. We raerch the aging test of the MCP-PMT to stabilize the parameters of the MCP-PMT.

Aging test condition and procedure :put the MCP-PMT in the Camera obscura and it continuous operated with the voltage of 2500V, we test the gain "dark noise". Single photoelectron spectrum peak-to-valley ratio(P/V) every day,after 6 days. We found that the gain decreased from 0.87E7 to 0.64E7,dark noise decreased from 35.8K/s to 14.2K/s, P/Vdecreased from 3.7 to 2.7, we continuous operate MCP-PMT more than 10 days, the parameters keep stabilization. We considered that the aging test is effective worked for the MCP-PMT parameters and when it was at aging test, the electrons can remove the gas adhere to the MCP. The aging test of 20inch MCP-PMT is the first attempt, it is good for us to rearch the MCP-PMT.

Primary author: Prof. SI, Shuguang (Institution: North Night Vision Technology Co.,Ltd Nanjing Branch)

Co-author: Prof. LI, Dong (Institution: North Night Vision Technology Co.,Ltd Nanjing Branch)

Presenters: Prof. LI, Dong (Institution: North Night Vision Technology Co.,Ltd Nanjing Branch); Prof. SI, Shuguang (Institution: North Night Vision Technology Co.,Ltd Nanjing Branch)

Session Classification: Detector Techniques for Cosmology, Astroparticle and General Physics - Poster Session

Track Classification: S8 - Detector Techniques for Cosmology, Astroparticle and General Physics