

The JUNO (Jiangmen Underground Neutrino Observatory) request the photo detector PMT (Photomultiplier Tube) with effectively large area and high quantum efficiency. The researchers in IHEP designed a new type of MCP-PMT. The small MCP unit instead of the large Dynode, the transmission and reflection photocathode were assembled in the same glass shell to form nearly 4π photocathode effective area to enhance the efficiency of the photoelectron detecting.



- >MCP-PMT prototype technical issues mostly resolved;
- Successful 8" and 20"prototypes with normal performance;
- Three types of 8" prototypes;
- >QE ~ 25%@410nm; CE ~ 60%; P/V of SPE > 2.0;
- >Two types of 20" prototypes;
- >QE ~ 22%@410nm; CE ~ 60%; P/V of SPE > 2.0;
- > The better performance Prototype should be produced!;
- QE ~ 35%@410nm; CE ~ 80%;



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