

Check on the features of potted 20-inch PMTs with 1F3 electronics prototype at Pan-Asia

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The Jiangmen underground neutrino observatory (JUNO) is a neutrino project with a 20-kton liquid scintillator detector located at 700-m underground. The large 20-inch PMTs are one of the crucial components of the JUNO experiment aiming to precision neutrino measurements with better than 3% energy resolution at 1MeV. The excellent energy resolution and a large fiducial volume provide many exciting opportunities for addressing important topics in neutrino and astro-particle physics. With the container #D at JUNO Pan-Asia PMT testing and potting station, the features of waterproof potted 20-inch PMTs were measured with JUNO 1F3 electronics prototype in waveform and charge, which are valuable for better understanding on the performance of the waterproof potted PMTs and the JUNO 1F3 electronics. In this paper, basic features of JUNO 1F3 electronics prototype run at Pan-Asia will be introduced, followed by an analysis of the waterproof potted 20-inch PMTs and a comparison with the results from commercial electronics used by the container #A and #B.

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