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Testing of the 20-inch PMTs for the JUNO experiment

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The JUNO detector, a 20 kt liquid-scintillator detector currently under construction, is aimed at measuring the neutrino mass ordering as its primary physics goal. An excellent energy resolution of at least 3 % at 1 MeV is required. To achieve this energy resolution, stringent requirements are applied to all the PMTs. Up to now, more than 20,000 20-inch PMTs have been accepted after a detailed test started from 2017 to 2021. During the test, detailed parameters of all PMTs were measured. Currently, the installation of JUNO is going on including PMTs, and a functionality test is scheduled during the installation. This poster presents the test results from the acceptance test and the current in-situ test, covering the PDE, DCR, TTS, charge resolution, etc.

Primary author: PENG, Zhaoyuan (IHEP)

Presenter: PENG, Zhaoyuan (IHEP)

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