

Status and Prospect for the PandaX-III Experiment

Abstract: Searching for the Neutrinoless Double Beta Decay (NLDBD) is one of the hottest research directions in nuclear physics and particle physics. PandaX-III experiment uses high pressure xenon gaseous time projection chamber to search for NLDBD of Xe-136. Fine-pitch thermal bonding Micromegas is used for charge amplification and readout in order to reconstruct both the energy and track of the NLDBD event. In the first phase of the experiment, the detector, which contains ~140 kg of 90% Xe-136 enriched gas operated at 10 bar. Currently, the construction of detector and its sub-systems has been completed, the commissioning and performance test are going on. In this report, we will present the status of the PandaX-III experiment, including the detector, gas handling system, electronics system and so on. The performance test of the thermal bonding Micromegas based TPC will be also discussed.

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