

PandaX-III: Searching for Neutrinoless Double Beta Decay with High Pressure Xe-136 Gas Time Projection Chambers

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The PandaX-III (Particle And Astrophysical Xenon Experiment III) experiment will search for Neutrinoless Double Beta Decay (NLDBD) of Xe-136 at the China Jin Ping underground Laboratory (CJPL). In the first phase of the experiment, a high pressure gas Time Projection Chamber (TPC) will contain 200 kg, 90% Xe-136 enriched gas operated at 10 bar. Fine pitch micro-pattern gas detector (Microbulk Micromegas) will be used at both ends of the TPC for the charge readout with a cathode in the middle. Charge signals can be used to reconstruct tracks of NLDBD events and provide good energy and spatial resolution. In this talk, I will give an overview of recent progress of PandaX-III, including data taking of a prototype TPC at Shanghai.

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