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PandaX-III neutrinoless double beta decay experiment

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The PandaX-III is a high pressure TPC concept to search for neutrinoless double-beta decay of Xe136 with high energy resolution and sensibility at the China Jin Ping underground Laboratory II (CJPL-II). Microbulk Micromegas will be used as a charge amplification and readout system in order to reconstruct both the energy and track of the neutrinoless double-beta decay event. In the first phase of the experiment, the detector, which contains 200 kg of 90% Xe-136 enriched gas operated at 10 bar, will be immersed in a large water tank to ensure 5 m of water shielding, so that we could get an excellent control over backgrounds. And for the next phase, a ton-scale experiment with multiple TPCs will be constructed to improve the detection probability and sensibility.

Summary

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