

The Background Control for the PandaX-4T Experiment

The PandaX-4T dark matter experiment will utilize a two-phase liquid/gas xenon time projection chamber containing 4 tonnes of liquid xenon. The PandaX-4T detector will be located at the Jinping Underground laboratory with 2400m overburden in Sichuan, China. Multiple low background techniques are used to assay and screen materials and parts to control the intrinsic/surface backgrounds. Also krypton and radon removal systems will be applied to remove internal backgrounds. The expected background rates with cuts for 2-year exposure are 2.5 ± 0.3 mDRU for electron recoil and 2.3 ± 0.4 mDRU for nuclear recoil. In this talk, an overview of the PandaX-4T detector design, material screening program, background control and projected sensitivity will be presented.

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