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Low Radioactive Material Screening and Background Estimation for the PandaX-4T Experiment

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The PandaX-4T experiment, which is aiming to detect dark matter using a liquid xenon detector, is located in the China Jinping Underground Laboratory (CJPL). Various ultralow background technologies are used to control the intrinsic/surface backgrounds, including HPGe gamma spectroscopy, ICP-MS, NAA, radon emanation measurement system, krypton assay station and alpha detection system. Combining measured results and Monte Carlo simulation, electron recoil and nuclear recoil background from material intrinsic radioactivity, radon emanation and krypton are calculated.

In this poster, an overview of the PandaX-4T material screening program, surface background control and background analysis will be presented.

In-person participation

No

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