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Background control for nEXO

nEXO is a next-generation experiment aimed to search for neutrinoless double beta decay ($0\nu\beta\beta$). The observation of $0\nu\beta\beta$, a lepton number violating process, would imply that neutrinos are Majorana particles. Using a liquid xenon time projection chamber containing 5 tonnes of xenon enriched to 90% in ^{136}Xe , nEXO is projected to reach a half-life sensitivity of 9×10^{27} years at 90% C.L. with 10 years of live time. To achieve this sensitivity, it is crucial to establish a background control program to measure, control, and mitigate sources of background due to radioactivity coming from primordial U/Th, radon, cosmogenic activation products, and surface contamination. This poster describes the current efforts and plans in controlling background for nEXO.

Mini-abstract

Controlling radioactive backgrounds for nEXO

Experiment/Collaboration

nEXO

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