

Abstract Submitted
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Radioactive Background Modeling for the nEXO Experiment

KYLE LEACH, Colorado School of Mines, NEXO COLLABORATION — The sensitivity and discovery potential for $0\nu\beta\beta$ -decay are the primary measures to assess the expected performance of the nEXO experiment. These quantities are directly correlated with the single-site background event rate around the $0\nu\beta\beta$ -decay Q-value, and therefore requires extensive modeling and characterization. As with nearly all deep-underground BSM physics searches, these backgrounds are dominated by trace levels of naturally occurring radioactivity, cosmic-ray material activation, and exposure to alpha-emitting contamination. The nEXO collaboration has performed hundreds of assay measurements and extensive modeling of such backgrounds within the nEXO experiment to address this issue. The progress of which will be discussed in this talk.

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