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Recent results from R&D for the nEXO experiment

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nEXO is a next-generation experiment to search for neutrinoless double beta decay ($0\nu\beta\beta$). The nEXO detector will consist of a homogeneous time projection chamber (TPC) filled with 5 tonnes of liquid xenon enriched to 90% ^{136}Xe. nEXO is projected to reach a $0\nu\beta\beta$ half life sensitivity of $\sim 10^{28}$ years, which will provide a search for lepton number violating processes with more than 2 orders of magnitude higher sensitivity than existing experiments. To reach these goals, the nEXO collaboration is engaged in R&D to develop novel charge and light sensors, cold in-LXe electronics and high-bandwidth readouts with ultra-low radioactivity, and optimized high-voltage designs for a large TPC. Recent results from this R&D demonstrating key requirements for the nEXO design will be discussed.

Primary author: Prof. MOORE, David (Yale University)

Presenter: Prof. MOORE, David (Yale University)

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