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**Sensitivity of the nEXO neutrinoless double beta decay experiment** BRIAN LENARDO, Stanford Univ, NEXO COLLABORATION — The nEXO experiment is a proposed next-generation search for the neutrinoless double beta decay (NDBD) of $^{136}$Xe. The primary detector will be a 5-ton, monolithic liquid xenon TPC with a target enriched to 90% in the isotope of interest. A detailed study of the expected sensitivity, completed in 2017, calculated the 90% CL exclusion sensitivity on the NDBD half life to be $9.2 \times 10^{27}$ yrs, approximately two orders of magnitude beyond existing limits. In this talk, we will discuss a new evaluation of the sensitivity, given updates to the detector design and improved modeling of the signal readout. Specific improvements that have been made since the last publication include improved, data-driven modeling of signal development in the charge readout tiles (and subsequently improved modeling of the energy and position reconstruction), the development of new machine-learning analyses to improve signal/background separation, and an updated detector geometry which reflects changes made to the engineering design over the past three years.

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