Contribution ID: **139** Type: **not specified**

Overview of nEXO neutrinoless double beta decay experiment

Wednesday 8 June 2022 14:30 (15 minutes)

nEXO is a next-generation 5 tonne homogeneous liquid xenon time projection chamber(TPC) which seeks to detect neutrinoless double beta decay($0\nu\beta\beta$) decay in ^{136}Xe. The experiment will use the combination of scintillation and ionization signals to reconstruct events with an energy resolution of $<1\%$ σ/E at the $0\nu\beta\beta$ Q-value of 2.5MeV. It is projected to reach $0\nu\beta\beta$ half life sensitivity of 1.35×10^{28}yr in 10 years of data taking which will provide a search for lepton number violating processes with 2 orders of magnitude higher sensitivity than existing experiments.Active R&D is ongoing to optimize the design of nEXO, minimize its residual radioactivity budget and optimize novel ionization charge and scintillation light readout techniques. In this talk I will give an overview of the experiment and cover about recent R&D work by nEXO-Collaboration for nEXO design.

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Session Classification: Parallel