



Contribution ID: 337

Type: **Invited Talk**

Overview of the nEXO experiment

Friday, 1 December 2023 12:00 (25 minutes)

nEXO is a next-generation experiment that aims to observe the neutrinoless double beta decay of ^{136}Xe to ^{136}Ba . The experiment will use 5 tonnes of liquid xenon (LXe) enriched to 90% in ^{136}Xe in a single-phase, monolithic time projection chamber (TPC). Ionization electrons and scintillation light will be detected with a segmented anode and an array of VUV-sensitive silicon photomultiplier (SiPM) detectors within the TPC, respectively, allowing the measurement of the energy, position and multiplicity of each event. This talk will highlight some recent developments in the conceptual design of the detector and related R&D. These improvements enable a neutrinoless double beta decay half-life sensitivity of 1.35×10^{28} years after 10 years of data taking, which covers the entire parameter space associated with the inverted neutrino masses ordering.

Attendance Type

In-person

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