Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

The nEXO Neutrinoless Double Beta Decay Experiment BRIAN LENARDO, Stanford University, NEXO COLLABORATION — The nEXO experiment is a proposed next-generation search for the neutrinoless double beta decay of ^{136}Xe. The discovery of this process would simultaneously demonstrate lepton number violation and the existence of fundamental Majorana fermions, establishing new physics beyond the Standard Model. The primary detector will be a 5-ton, monolithic liquid xenon TPC with a target enriched to 90% in the isotope of interest. In this talk, we will introduce the science goals of nEXO and discuss how the detector has been designed to meet them. The experiment is projected to reach an exclusion sensitivity of approximately 10^{28}yrs, superseding existing limits by two orders of magnitude and entirely covering the inverted hierarchy region.

Brian Lenardo
Stanford University

Date submitted: 02 Jul 2019 Electronic form version 1.4