

Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

The next generation neutrinoless double-beta decay experiment
nEXO MICHAEL JEWELL, Stanford University, NEXO COLLABORATION —
The nEXO Collaboration is designing a very large detector for neutrinoless double
beta decay of Xe^{136} . The nEXO detector is rooted in the the current EXO-200
program, which has reached a sensitivity for the half-life of the decay of 1.9×10^{25} y
with an exposure of 99.8 kg-y. The baseline nEXO design assumes 5 tonnes of liquid
xenon, enriched in the mass 136 isotope, within a time projection chamber. The
detector is being designed to reach a half-life sensitivity of $> 5 \times 10^{27}$ y, covering
the inverted neutrino mass hierarchy, with 5 years of data. We present the nEXO
detector design, the current status of R&D efforts, and the physics case for the
experiment.

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Date submitted: 29 Sep 2015

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