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## EXO-200 and the Search for Neutrinoless Double-Beta Decay

The detection of neutrinoless double-beta decay ( $0\nu\beta\beta$ ) would confirm the Majorana nature of neutrinos and shed light on the neutrino mass scale. The EXO-200 experiment employs 110 kg of active xenon enriched to 80.6% in isotope 136 in a liquid-phase time-projection chamber (TPC) in a  $0\nu\beta\beta$  search. Located underground at the Waste Isolation Pilot Plant (WIPP) outside Carlsbad, NM, the experiment collected data in two phases between May 2011 and December 2018. Analysis of the resulting 234.1 kg-yr dataset results in an upper limit on the  $0\nu\beta\beta$  half-life of  $3.5 \times 10^{25}$  yr at the 90% confidence level. The sensitivity of this low-background experiment is enhanced by the TPC technique, which exploits the anticorrelation of the ionization and scintillation signals and uses topological information to discriminate between beta-like signal events and gamma-ray backgrounds.

### Mini-abstract

Full-dataset neutrinoless double-beta decay limit from EXO-200.

### Experiment/Collaboration

EXO-200

**Primary author:** DANIELS, Tim (UNCW)

**Presenter:** DANIELS, Tim (UNCW)

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