Contribution ID: **144** Type: **Poster**

The NEXT-100 neutrinoless double beta decay experiment

The NEXT experiment is searching for neutrinoless double beta decay ($0\nu\beta\beta$) in an electroluminescent high pressure gaseous ^{136}Xe time projection chamber (HPGXeTPC). Positive detection would indicate that the neutrino, unlike all other fundamental leptons, has a Majorana mass term, and that lepton number is not conserved. The NEXT experiment leverages several advantages of the HPGXeTPC technology, including excellent energy resolution (<1% FWHM at the decay energy) and background rejection through track reconstruction. The detector is under construction with installation and commissioning planned for late 2020 or early 2021. NEXT-100 is expected to reach a sensitivity of 1×10^{26} years (90% CL) for an exposure of 400 kg·year.

Mini-abstract

Design, plans, and expected performance of the upcoming 100 kg gaseous xenon NEXT detector.

Experiment/Collaboration

NEXT Collaboration

Primary author: HAEFNER, Jonathan

Presenter: HAEFNER, Jonathan

Session Classification: Poster Session 1