



Contribution ID: 581

Type: Poster

## Sensitivity of the LUX-ZEPLIN experiment to the $0\nu\beta\beta$ decay of Xe-136

The LUX-ZEPLIN (LZ) experiment is a 7-tonne liquid xenon time projection chamber primarily designed to search for dark matter particles in the form of weakly interacting massive particles. Nonetheless, we can take advantage of the significant  $^{136}\text{Xe}$  mass ( $>600$  kg) present in the active volume of the detector to look for neutrinoless double beta decay of that isotope. We report the projected LZ sensitivity to this decay after 1000 live-days without isotopic enrichment (half-life  $>1.06 \times 10^{26}$  years, 90% CL) and with a 90% isotopic enrichment with  $^{136}\text{Xe}$  (half-life  $>1.06 \times 10^{27}$  years, 90% CL). This result makes use of a profile likelihood ratio (PLR) method and includes updated background models, namely from the cavern walls, from the solar neutrinos, and neutron capture on  $^{136}\text{Xe}$ .

### Mini-abstract

A new result for the sensitivity of the LUX-ZEPLIN detector to the  $0\nu\beta\beta$  decay of Xe-136.

### Experiment/Collaboration

LUX-ZEPLIN

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**Session Classification:** Poster Session 1