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Neutrinoless Double Beta Decay in LZ

Wednesday 10 April 2019 11:45 (15 minutes)

Neutrinoless double beta decay (NDBD) is a hypothesised nuclear decay process that, if observed, shows that neutrinos are Majorana particles, signals the existence of lepton number violation and places constraints on the neutrino mass hierarchy. However, with $T_{1/2} > 10^{25}$ years, searching for NDBD requires low backgrounds from intrinsic radiation and excellent energy resolution. In this talk, I will demonstrate that both of these requirements can be met by the LUX-ZEPLIN (LZ) experiment and present the estimated sensitivity of LZ to ^{136}Xe NDBD.

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