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Neutrinoless Double Beta Decay in LZ

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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 $T1/2 > 10^25$ 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 136Xe NDBD.

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