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Neutrinoless Double Beta Decay Experiments: Current Status and Outlook.

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A hypothetical second order nuclear transition — neutrinoless double beta decay (NDBD) — has broad implications for nuclear and particle physics. If exists, such a process would violate the lepton and B-L number conservation. Its discovery would prove that neutrinos are their own antiparticles, which would make them the only known Majorana fermions. In turn, it would be a step towards explanation of the matter-antimatter asymmetry of the Universe. This talk gives a brief overview of the existing (and recently concluded) leading experimental searches for NDBD and discusses plans for the next generation experiments, highlighting challenges, as well as potential synergies with direct dark matter searches.