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Neutrinoless Double Beta Decay: Where We Are and Where We're Going

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The search for neutrinoless double beta decay is a rich source for new physics. The observation of this decay will lead to understanding of the absolute mass scale of neutrinos, the Majorana nature of the neutrino (whether the neutrino is its own anti-particle), and lepton number violation. Double beta decay is being investigated around the world by several experiments using different candidate isotopes. There has been much recent progress made in experimental techniques such that achieving sensitivity to neutrino masses at 50 meV and below will be possible in the near future. A summary of recent results in neutrinoless double beta decay will be presented along with future plans for these searches.