

# The search for neutrinoless double beta decay

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Since the discovery of neutrino oscillations, the search for neutrinoless double beta decay stands among the highest priorities for understanding the nature of neutrinos and the origin of their mass. The experimental observation of this lepton-number-violating process, only hypothesised so far, would demonstrate that neutrinos are Majorana fermions, equal to their own antiparticles. This in turn would represent a manifest signature of physics beyond the Standard Model. The experimental strategy adopted for the search of the elusive neutrinoless double beta decay has seen a significant evolution over the past 30 years. In this talk, I will discuss the main aspects of the double beta decay process and give an overview of the experimental techniques that are exploited to search for this rare decay. I will review the status and prospects of the new generation of experiments being promoted by experimental groups around the world.

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