

Recent Progress on Double Beta Decay and Latest GERDA Results

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The definitive observation of neutrinoless double beta decay, $(A, Z) \rightarrow (A, Z+2) + 2e^-$, would have two profound implications: it would establish that neutrinos are Majorana fermions and reveal that lepton number is not conserved. This relevance has caused a worldwide search for this process, using various isotopes and detector technologies. I will present in my talk a review of the overall experimental progress in the field, and describe in more detail the latest results from the Germanium Detector Array (GERDA) experiment that searches in the Gran Sasso underground laboratory LNGS for the neutrinoless double beta decay of ^{76}Ge . I will conclude with a discussion of the prospects for the future.

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