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Neutrinoless double beta decay

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Neutrinoless double beta decay (0 ν DBD) is a very powerful tool to probe the character of neutrinos. In case neutrinos are Majorana particles it can provide fundamental informations on their absolute mass scale. The present status of experiments searching for 0 ν DBD is reviewed and the most relevant results discussed. Given the observation of neutrino oscillations and the present knowledge of neutrino masses and mixing parameters, a possibility to observe 0 ν DBD at a neutrino mass scale in the range 10-50 meV could actually exist. The achievement of the required experimental sensitivity is a real challenge faced by a number of new proposed projects. A review of the various proposed experiments in the context of their figure-of-merit parameters is given. The most important parameters contributing to the experimental sensitivity are finally outlined.

Presenter: Prof. CREMONESI, O.**Session Classification:** Plenary Session 6