

# Double-beta decay: a window to physics beyond the SM

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Double beta decay (DBD) is a currently hot research topic as it can offer a wide range of physics investigations beyond the Standard Model (BSM). These refer to fundamental neutrino properties, yet unknown (neutrino nature –is it a Dirac or a Majorana particle, the neutrino absolute mass and mass hierarchy, number of neutrino flavors, etc.), conservation of the lepton number and validity of Lorentz and CP symmetries, as well as to different BSM mechanisms that can contribute to the neutrinoless double-beta decay.

In my talk, I will first summarize the current theoretical challenges facing the DBD study and then briefly present the latest results in the field obtained by our group in Bucharest.

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