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**Neutrino physics and double-beta decay: what can we learn and how<sup>1</sup>**

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Neutrinoless double-beta decay, if observed, would signal physics beyond the Standard Model that would be discovered at energies significantly lower than those at which the relevant degrees of freedom can be excited. Therefore, it could be difficult to use the neutrinoless double-beta decay observations to distinguish between several beyond Standard Model competing mechanisms that were proposed to explain this process (see e.g. Phys. Rev. C 87, 014320 (2013)). Accurate nuclear structure calculation of the nuclear matrix elements (NME) necessary to analyze the decay rates could be helpful to narrow down the list of competing mechanisms, and to better identify the more exotic properties of the neutrinos. In my talk I will analyze the status of the NME shell model calculations, and their relevance for discriminating the possible competing mechanisms to the neutrinoless double-beta decay process.

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