

Effective field theories for neutrinoless double-beta decay

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Neutrinoless double-beta decay (0nbb) is a beyond standard model atomic decay which involves atomic, nuclear and particle physics. Since these different fronts naturally involve separated energy scales, effective field theory (EFT) provides a natural framework to study this process.

In this talk I will present some EFT ideas to study 0nbb. In particular, I will focus on EFTs for the calculation of the nuclear matrix elements that govern 0nbb decay, which include chiral EFT (as EFT of QCD at nuclear energies) and EFTs for the structure of heavy nuclei and for their short-range nuclear correlations.

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