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Computation of Nuclear Matrix Elements for Double-Beta Decay[1]

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Calculations of the nuclear matrix elements that govern neutrinoless double-beta decay carry large uncertainties. The calculations have the potential to improve quickly, however, both because of developments in ab initio many-body theory and energy-density functional theory and because of new computational techniques and resources. I describe the most promising methods for future calculations and discuss the computational issues surrounding them. Preliminary work within several many-body schemes has already been reported or is under way.

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