

Abstract Submitted
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Double beta decay nuclear matrix elements in extended shell model spaces¹ MIHAI HOROI, Department of Physics, Central Michigan University, Mount Pleasant, MI 48859, USA — In a recent publication (Phys. Rev. C 92, 041301(R) (2015)) we concluded that the shell model double beta decay nuclear matrix elements may be affected to certain degrees by the lack of pairing correlations with orbitals outside the typical shell model spaces. Here we report results of calculations for ^{48}Ca that includes 21 spherical orbitals for both protons and neutrons. We are using a realistic Hamiltonian inside the fp model space, thus maintaining a good description of the nuclear structure properties of the nuclei of interest. We are only allowing pairing interactions between the fp orbitals and the remaining 17 orbitals, and up to two particle excitations in and out of the fp model space. This approach could be also extended to the case of ^{82}Se .

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