DNP17-2017-000146

Abstract for an Invited Paper for the DNP17 Meeting of the American Physical Society

Configuration interaction calculations for the region of ⁷⁶**Ge**¹ ALEX BROWN, Michigan State University

I will present a short history of the configuration interaction Hamiltonians that have been developed for the $(0f_{5/2}, 1p_{3/2}, 1p_{1/2}, 0g_{9/2})$ (*jj*44) model space. This model space is appropriate for the region of nuclei bounded by the nickel isotopes for Z = 28 and the isotones with N = 50. I will discuss results for the double-beta decay of ⁷⁶Ge that lies in the *jj*44 region. I will show results for the structure of nuclei around ⁷⁶Ge for some selected data from gamma decay, Gamow-Teller beta decay, charge-exchange reactions, one-nucleon transfer reactions, and two-nucleon transfer reactions.

 1 This work was supported by NSF grant PHY-1404442