IBM-2 calculation with configuration mixing for Ge isotopes
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Physics Division, ORNL — Recent results on Coulomb excitation experiments of
radioactive neutron-rich Ge isotopes at the Holifield Radioactive Ion Beam Facility
allow the study of the systematic trend of $B(E2; 0^+ \rightarrow 2^+)$ between the sub-shell
closures at $N = 40$ and the $N = 50$ [1]. The new information on the $E2$ transition
strengths constitutes a stringent test for the nuclear models and has motivated us
to revisit the use of Interacting Boson Model in this region. We show that the IBM-
2 with configuration mixing is a successful model to describe the shape transition
phenomena that take place around $N = 40$ in stable germanium isotopes, as well
as the predictions given by this model about the evolution of the structure for the
radioactive $^{78,80,82}$Ge nuclei.