

MICROSCOPIC IBM AND DESCRIPTION OF HIGH SPIN STATES BASED ON THE FDSM SUBSPACE

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A microscopic description of the Interacting Boson Model (IBM) has been developed by regarding as our collective state subspace the Fermion pair subspace of the Fermion Dynamical Symmetry Model (FDSM), but employing a Hamiltonian for the real nuclei, including monopole pairing, quadrupole pairing and quadrupole-quadrupole interactions. With the help of the modified Dyson mapping, a non hermitian collective Hamiltonian have been derived. To describe the high spin states, an additional broken S pair and the relevant couplings have also been included. The eigenvalue problem has been solved within the subspace of the physical Boson states, thereby eliminating the spurious state effects. The backbending in Ba isotopes, and in ^{154}Gd , ^{156}Dy , ^{158}Er and ^{160}Yb isotones have been well reproduced by our calculations.