

Construction of O_h -symmetrized states for quadrupole-octupole collective model

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One of the most important problem of nuclear models constructed in intrinsic frames is symmetrization procedure of states expressed in the intrinsic collective variables.

In the paper we consider the standard definition of the collective intrinsic variables $(\alpha_{20}, \alpha_{22}, \{\alpha_{3\mu}\}, \Omega)$ which lead to the octahedral symmetrization group O_h . The examples of the symmetrized states for low angular momenta $J = 0, 1, 2, \dots$, for the collective hamiltonian $H = H_{vib}^{T_d} + H_{rot}^{D_2}$ are constructed.