

COLLECTIVE EXCITATIONS OF EVEN-EVEN  
SUPERDEFORMED NUCLEI

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Starting from the microscopic Hamiltonian of a nucleus, we derived an equation to describe the rotation and quadrupole vibrations of even-even axially symmetric nuclei, having an arbitrary deformation  $\beta$ . In case of small  $\beta$ , it reduces to the Bohr - Mottelson equation with  $\gamma \approx 0$ . Such an equation is used for calculations of vibrational-rotational energies of superdeformed nuclei.