# Study of Nuclear Structure of $^{146}$SM Using Interacting Boson Model-1

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***Abstract*— The interacting boson model hamiltonian is used to describe the energy spectrum, B(E2) value and B(E2) branching ratios for inter-band and intra-band transitions for three quasi-bands in 146Sm. It is found that IBM-1 reproduces the observed complex nuclear structure very well. The agreement between the theoretical results and the observed data are satisfactory for all possible observed nuclear properties. Present results are compared with the dynamic pairing-plus-quadrupole model, IBM-2 and previous interacting boson approximation calculations.**

***Index Terms*— Nuclear structure of 146Sm, interacting boson model-1, energy spectrum, B (E2) values, B(E2) ratios and Q2+.**

IJRS