

ANALYSIS OF THE EXCITED STATES IN EVEN-EVEN Dy ISOTOPES WITHIN IVBM

Garistov V.P.^{1,2}, Georgieva A.I.², Solnyshkin A.A.¹

¹Joint Institute for Nuclear Research, Dubna, Russia;

²Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria

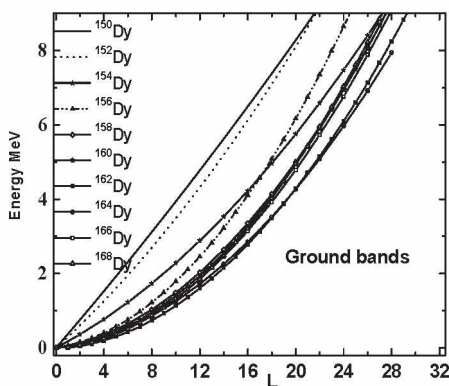
E-mail: soln@jinr.ru

The spectra of the excited states of the even-even Dy isotopes are studied relatively well and the corresponding experimental data obtained from β decay and other reactions are presented in NNDC tables.

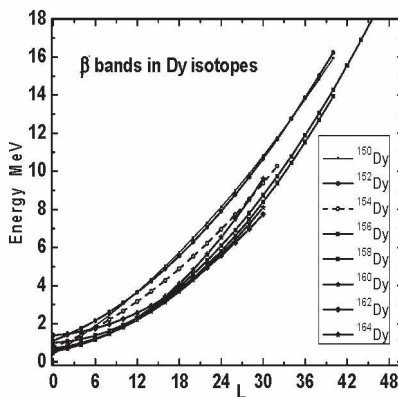
Except the common characteristics like charge number, even number of neutrons and the ground states with $K^\pi=0^+$ these isotopes differ by number of neutrons and eventuality by deformation.

We analyze the peculiarities in behavior of rotational bands in Dy isotopes and the energies of the excited states with the same spin depending on the neutron number. The analysis is performed within the framework of Interacting Vector Bosons Model (IVBM) [1].

In figures below are shown the results for the theoretical description of the ground and β – bands energies with the corresponding values of the average deviation per point for all the isotopes under consideration.



$$\Delta_{AV} = 0.0008 \text{ MeV.}$$



$$\Delta_{AV} = 0.0017 \text{ MeV.}$$

1. A.I.Georgieva, H.G.Ganev, J.P.Draayer, V.P.Garistov // PEPAN. 2009. V.40. P.894.