On Monopole Excitations and Different Parity Bands in Even-Even Deformed Nuclei

V. Garistov[1,2], **A. Georgieva**[1,2], **A. Solnyshkin**[2]

[1]Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria
[2]Joint Institute for Nuclear Research, Dubna, Russia

Our analysis of the experimental data have shown that in even-even nuclei of the rare-earth and actinide regions the energies of all low lying 0^+ excited states with great accuracy can be distributed by parabolic type function of the number of monopole excitations building these states. The corresponding Hamiltonians are analyzed. We have shown also that the value of the moment of inertia of the nucleus depends on the number of monopole bosons building rotational band heads. Along with the classification of 0^+ excited states we analyze the energies of different parity bands and B(E2) transition probabilities within these bands.