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Ground States of Structure of Even ^{104}-^{106} Ru Isotopes

Authors : I. Hossain, Huda H. Kassim, Fadhil I. Sharrad, Said A. Mansour

Abstract : In this conference, we apply the interacting boson model-1 (IBM-1) formula for U(5) symmetry in order to calculate the energy levels and reduced transition probabilities for a few yrast transitions in Ru with neutron N=60, 62. The neutron rich even-even isotopes of Ru are very interesting to investigate using IBM-1, because even 104,106Ru isotopes are great consequence due to excited near the magic number 50. The calculation of ground state band and B(E2) values using IBM-1 for Z=44 are not calculated to describe the valuable information of nuclear structure by U(5) limit. The parameters in the formula are deduced based on the experimental energy level and value of B(E2, 2+->0+). The yrast states and transition strength B(E2) from 1st 4+ to 1st 2+, 1st 6+ to 1st 4+ and 1st 8+ to 1st 6+ states of Ru for even N= 60, 62 were calculated. The quadrupole moments, deformation parameters and U(5) limit were discussed for those nuclei.

Keywords : B(E2), energy level, ^{104}Ru, ^{106}Ru
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