Turkish Journal of Physics

IBA-1 Calculations of E2/M1 Mixing Ratios and Quadrupole Moments in ^{154}Gd

Mehmet BAYLAN
Pamukkale University, Faculty of Arts and Sciences,
Department of Physics, Denizli-TURKEY

Abstract: In this study the Interacting Boson Approximation is applied in its basic form (IBA-1) to the calculation of gamma-ray E2/M1 multipole mixing ratios and quadrupole moments [Q(2^+)] of electromagnetic transitions in ^{154}Gd. The numerical results obtained for ^{154}Gd are in reasanably good agreement with previous experimental and theoretical values.

Key Words: IBA-1, deformation parameter, quadrupole moment, mixing ratios.