International Journal of Theoretical and Applied Physics (IJTAP),
ISSN: 2250-0634, Vol. 5, No. I (June 2015), pp.57-62

THE STUDY OF DEFORMATION SHAPES IN $_{20}$CA (40≤ A ≤ 48) NUCLIDES BY USING TRANSITION STRENGTHS $[M (E2)]^2$ W.U

FATIMAH ABDUL- AMEER JASIM
Physics Department,
College of Education (Ibn Al-Haithem),
University of Baghdad

Abstract

The values of the transition strengths $[M (E2)]^2_{W.u.}$ to gamma transitions from first excited states 2_1^+ to ground states 0_1^+ and that produced from pure electric quadruple emissions plotted as function for neutron number (N) in $_{20}$Ca (40 ≤ A≤48) nuclei ,the obtained shape is showing regular behavior for $[M (E2)]^2_{W.u}$ via the neutron number(N). Irregular deviation in $[M (E2)]^2_{W.u.}$ values for the neutron numbers N= 20 and 28 had been noticed , which indicates the transition strength for gamma transitions is reduced to minimum versus high excitation energy in doubly magic nuclei and that is will affected the nuclide structure.

Key words : Transition strength$[M (E2)]^2_{W.u.}$

© http: //www.ascent-journals.com