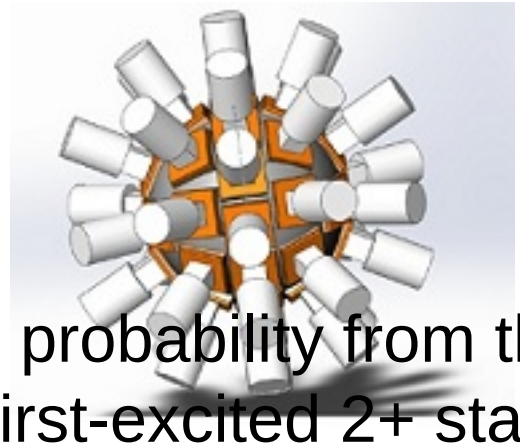
Frontiers in Gamma Ray Spectroscopy FIG18



Contribution ID : 6

Transition probability from the ground to the first-excited 2+ state of Ti isotopes

Content :

Neutron rich Ti isotopes are particularly interesting because they exist with two proton excess near the proton magic number 20. Since the nuclei in excited state will be hot rotating due to higher agitation of nucleons (higher internal excitation), a temperature of optimum value is included in the suitable statistical model and the excited levels are calculated. The Eγ values obtained from these energies are used in different formulae for B(E2) values. Considering a total of 30 isotopes of titanium, the mean life time has also been calculated by increasing the rotational factor. The high value of B(E2;0+g.s⊠2+) obtained at A=42, 50 and 60 reveals a strong shell gap at the neutron magic Nos. 20, 28 and 38. The small peaks at A=38 and 56, also give the evidence of obtaining exotic neutron magic Nos. N=16 and 34, as for Ni and Ca. It is also obtained that the B(E2;0+g.s⊠2+) depends upon the initial state (I1) of the system before transition or the difference between the initial and final state of transition (Ii-If) and not only on the final state (If) and it hold good for N≥ Z cases. The influence of higher temperature in the B(E2;0+g.s⊠2+) transition also discussed.

Primary authors : Mrs. P, Preetha (Research and Development Center, Bharathiar University, Coimbatore-641 046, TamilNadu)

Co-authors : Dr. KUMAR S, Santhosh (Kanchi Mamunivar Center for Post Graduate Studies, Puducherry, U.T of Puducherry - 605 008.)

Presenter : Mrs. P, Preetha (Research and Development Center, Bharathiar University, Coimbatore-641 046, TamilNadu)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : Poster