Model independent determination of quadrupole deformation parameters from Coulomb excitation measurements

Julian Srebrny

Heavy Ion Laboratory, University of Warsaw

The non energy weighted sum rules method, invented by K. Kumar and D. Cline will be introduced (see [1]). Relation between experimental E2 matrix elements and quadrupole charge deformation, triaxiality and corresponding softness of atomic nucleus in ground as well as in excited states will be shown.

The example of experimental results for expectation value of Q^2 and $\cos 3\delta$, being a measure of quadrupole deformation and triaxiality, respectively, will be shown in various regions of nuclidic chart.

[1] *Experimental and theoretical investigations of quadrupole collective degrees of freedom in Ru-104*
J.Srebrny, T.Czosnyka, C.Droste, S.G.Rohozinski, L.Prochniak, K.Zając, K.Pomorski, D.Cline, C.Y.Wu, A.Backlin, L.Hasselgren, R.M.Diamond, D.Habs, H.J.Korner, F.S.Stephens, C.Baktash, R.P.Kostecki, Nucl. Phys. A766, 25(2006).