

Near Scission α -particle Emission in Fission

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Abstract

Experimental studies have shown that nuclear fission is a slow process and it involves complex dynamical evolution of a nucleus into a dinuclear configuration leading to the scission of the neck. In low energy and spontaneous fission, emission of charged particles at the scission stage has been investigated extensively in the past (termed as ternary fission). In heavy ion induced fission, emission of charged particles in the pre- fission and near scission stages provides a clue to the statistical properties as well as the fission dynamics of the excited nucleus. In the present talk, we will discuss the results of our experiment in B+Th fission and bring out the systematic features in alpha particle emission in the pre-fission and neck emission stages for various target-projectile systems.