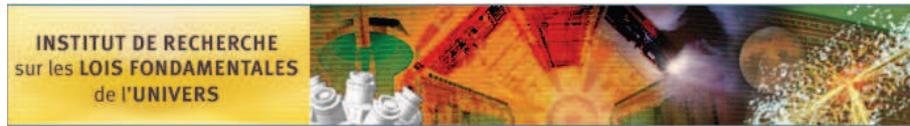


Service de Physique Nucléaire



Séminaire

le vendredi 20 juin 2014 à 11h

CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

Formation and dynamics of fission fragments

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Although the overall time-scale for nuclear fission is long, suggesting a slow process, rapid shape evolution occurs in its later stages near scission. Theoretical prediction of the fission fragments and their characteristics are often based on the assumption that the internal degrees of freedom are equilibrated along the fission path. However, this adiabatic approximation may break down near scission. This is studied for the symmetric fission of fermium isotopes. The non-adiabatic evolution is computed using the time-dependent Hartree-Fock method with a BCS approximation of pairing correlations, starting from an adiabatic configuration where the fragments have acquired their identity. It is shown that dynamics has an important effect on the scission configuration and on the kinetic and excitation energies of the fragments. The vibrational modes of the fragments in the post-scission evolution are also analyzed.

Le café sera servi 10 minutes avant

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