

**CENTRE D'ETUDES NUCLÉAIRES DE
BORDEAUX-GRADIGNAN**

Lundi 11 Juillet 2016

à 11h

Un café sera servi à partir de 10h15

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Formation and Dynamics of fission fragments

Microscopic description of fission dynamics remains one of the major challenges in nuclear physics. 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.

A proper description of the dynamics in this latter stage of the fission process is crucial as it has been shown to generate most of the excitation energy in the fragments.

Time-dependent microscopic approaches are well suited to study the descent of the potential toward scission. The importance of superfluid dynamics is investigated in fission modes of fermium isotopes. The dynamics affect scission configuration and the kinetic and excitation energies of the fragments. Quantum shell effects are shown to play a crucial role in the dynamics and formation of the fragments.

Salle des Séminaires du CENBG

Le Haut Vigneau - BP 120 - F-33175 Gradignan Cedex