SÉMINAIRE du GROUPE THÉORIE

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Progress on the description of low energy fission dynamics within the TDGCM+GOA

The growing need for nuclear data in applications such as the r-process in astrophysics is an incentive to build theory capable of predicting the fission yields for a wide range of systems, observables, and input channels. One of the most promising theoretical frameworks is the time dependent generator coordinate method (TDGCM) applied under the Gaussian overlap approximation (GOA). However, the computational cost of this method was up to now a hurdle to perform accurate realistic calculations with two and more collective degrees of freedom. To overcome this limitation, we develop the code FELIX aiming to solve the TDGCM+GOA equation for an arbitrary number of collective variables. In this talk, we will report the recent results related to the calculation of low energy fission yields within TDGCM+GOA. We will briefly present the numerical methods adopted as well as the status of the latest version of FELIX. Finally, we will emphasize the main limitations of this approach and present some prospective to overcome them.

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