

Abstract Submitted
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Microscopic calculation of the pre-scission energy in nuclear fission¹ WALID YOUNES, Lawrence Livermore National Laboratory — During the latter stages of fission, the energy available to the parent nucleus is divided between the kinetic energy of the nascent fragments, and their internal excitation energy. Accounting for this energy partition remains an open problem in the quantum many-body description of the fission process, and a crucial step in linking microscopic calculations of fission to experimental data. Using a time-dependent generator-coordinate approach, we have calculated the contribution to the kinetic versus excitation energy partition due to the coupling between collective degrees of freedom. We present calculations of this pre-scission energy partition for a fissioning nucleus in the descent from saddle to scission.

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