

Fission fragment mass and kinetic energy yields of Fermium isotopes*

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A rapidly converging 4-dimensional “*Fourier over Spheroid*” (FoS) shape parametrization [1,2] is used to model the fission process of heavy nuclei. The potential energy landscape is computed within the macroscopic-microscopic approach, on top of which the multi-dimensional Langevin equation is solved to describe the fission dynamics. Charge equilibration at scission and de-excitation by neutron evaporation of the primary fragments after scission are considered. The model describes a wide variety of observables, including fission-fragment mass, charge, and kinetic energy yields, as well as post-scission neutron multiplicities, and most importantly, their correlations. The latter are crucial to unravel the complexity of the fission process. The parameters of the dynamical model were tuned to reproduce experimental data obtained from thermal neutron-induced fission of ²³⁵U, which allows us to discuss the transition from asymmetric to symmetric fission along the Fm isotopic chain [3].

[1] C. Schmitt, K. Pomorski, B. Nerlo-Pomorska, J. Bartel, Phys. Rev. C **95**, 034612 (2017).

[2] K. Pomorski, B. Nerlo-Pomorska, Acta Phys. Polon. Conf. Suppl. **16**, 4-A21 (2023).

[3] K. Pomorski, B. Nerlo-Pomorska, C. Schmitt, Z. G. Xiao, Y. J. Chen, L. L. Liu, Phys. Rev. C **107**, 054616 (2023).

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