SHELLS IN SUPERASYMMETRIC NUCLEAR FISSION

V. A. Rubchenya[1], I. Tsekhanovich[2]

[1] *V. G. Khlopin Radium Institute, St. Petersburg, Russia*
[2] *Institut Laue-Langevin, Grenoble, France*

The multimodal approach to fission and the macroscopic-microscopic method for the calculations of charge distribution parameters for isobaric chains have been used to analyze fission product yields. In order to describe the peculiarities of fragment mass curve at very asymmetric mass split, the two narrow fission modes related to the magic numbers Z = 28 and N = 50 were introduced. The reliability of the model's predicting power was demonstrated by the agreement between calculated and experimental data on the thermal-neutron-induced fission of actinides. It was found that weight of the fission modes related to the spherical doubly-magic clusters (^{132}Sn or ^{78}Ni) depends on the neutron-to-proton ratio of a compound system.