

Fission properties of actinide nuclei at energies 26.5 and 62.9 MeV

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Fission properties of proton-induced fission on ^{232}Th , ^{237}Np , ^{238}U , ^{239}Pu and ^{241}Am targets, measured at the Louvain-la-Neuve cyclotron facility at proton energies of 26.5 and 62.9 MeV, are compared with the predictions of the state-of-the-art nuclear reaction code TALYS. The code couples the multi-modal random neck rupture model with the pre-equilibrium “exciton” and statistical models to predict fission fragment mass yields, pre- and post-scission neutron multiplicities and total fission cross sections in a consistent approach.

The experimental results are presented and the sensitivity of the calculations to the input parameters of the code and possible improvements are discussed in detail.