

# VALIDATION OF THE EVALUATED FISSION PRODUCT YIELDS DATA FROM THE FAST NEUTRON INDUCED FISSION OF <sup>235</sup>U, <sup>238</sup>U, <sup>239</sup>Pu

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Track 6. Test Reactors, Experiments and Modeling and Simulations

## ABSTRACT

The evaluated fission product yields data are an important characteristic. The validation method of the evaluated fission product yields data is based on comparing the characteristics of delayed neutrons produced by the summation method with appropriate recommended data. The total delayed neutron yields and the mean half-life of delayed neutron precursors were used as the delayed neutron characteristics. It was shown in the present work that the use of fission product yields presented in the JEFF library allows to obtain values of the total neutron yields and the mean half-life precursors closest to accordingly recommended data for fission <sup>235</sup>U, <sup>238</sup>U, <sup>239</sup>Pu by thermal neutrons and for fission by fast neutrons except <sup>239</sup>Pu. The using of the fission product yields of libraries ENDF/B and JENDL gives the values of total delayed neutron yields and half-lives of delayed neutrons materially different from the recommended data. The macroscopic characteristics of delayed neutrons were calculated by the summation method. The modeling of time-dependent activity decay of delayed neutrons was carried out. The sensitivity of the macroscopic parameters was studied for used microscopic data. The most reliable sets of microscopic data were chosen.

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