

Calculations of delayed neutron emission after burst fission with JENDL-5*

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Calculations of delayed neutron emission after burst fission are carried out with the reactor physics code system CBZ using the specific module `OnePointSolverExplicitFPModel`. Fictitious measurement data from the six precursor-group data evaluated by Keepin et al since Keepin's evaluations were based on the measurement data. Time-dependent delayed neutron activities after a burst fission are calculated with Keepin's data, and neutron activities at 32 time points are regarded measurement values. Standard deviations of these fictitious measurement data are also calculated from uncertainty data of the six precursor-group data evaluated by Keepin. The above procedure was adopted to author's previous work in 2017[1]. On the fission by fast neutrons, the fission yield data at the incident energy of 500 keV are used. In the JENDL-5 paper, results of the delayed neutron emission for U-235 and Pu-239 fast fissions are presented in Fig. 81[2].

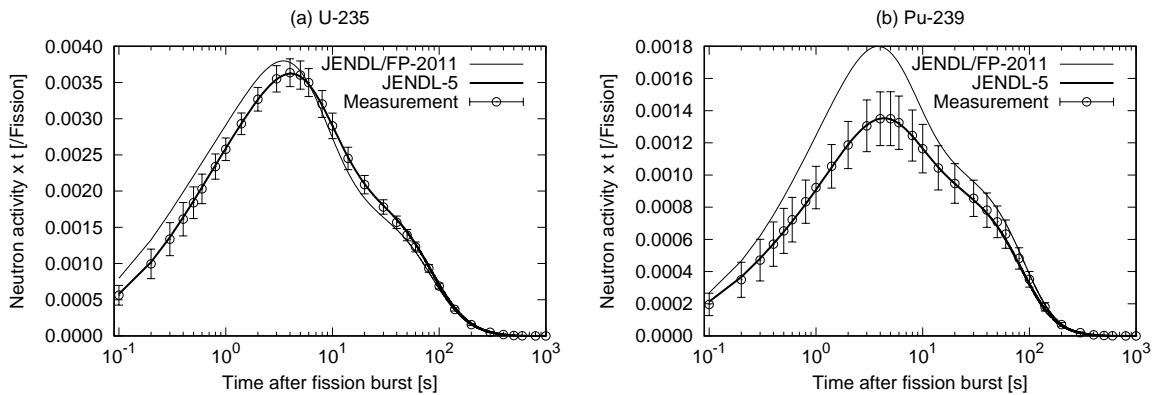


Figure 1: Delayed neutron activities after a burst fission with thermal neutrons

References

- [1] Chiba G. Consistent adjustment of radioactive decay and fission yields data with measurement data of decay heat and β -delayed neutron activities. *Ann. Nucl. Energy*, 2017; 101:23-30.
- [2] Iwamoto O, Iwamoto N, Kunieda S, et al. Japanese evaluated nuclear data library version 5: JENDL-5. *J Nucl Sci Technol*. 2023; 60:1-60.

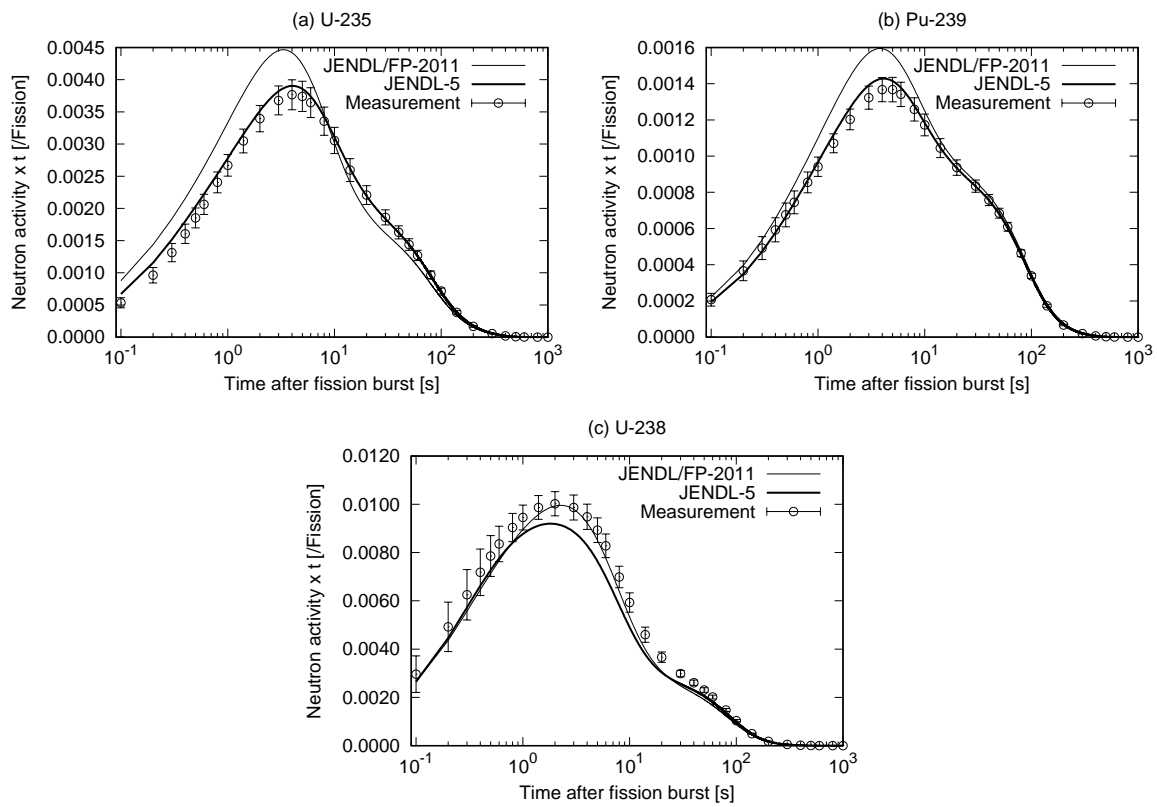


Figure 2: Delayed neutron activities after a burst fission with fast neutrons