

Update of WIMS-D Libraries Using JENDL-3.2, ENDF/B-VI.5 and JEF-2.2

Choong-Sup Gil, Jung-Do Kim and Jongwha Chang

Korea Atomic Energy Research Institute
150 Dukjin-dong, Yusong-gu, Taejon, Korea

Abstract

The WIMS-D5 Libraries based on JENDL-3.2, ENDF/B-VI.5, and JEF-2.2 have been prepared and are being tested against the benchmark problems. Several sensitivity calculations for stability confirmation of the libraries were carried out such as the fission spectrum dependency, the self shielding effects of the elastic scattering cross sections, the self shielding effects of Pu-240 and Pu-242 capture cross sections below 4.0 eV, etc. The results of benchmark calculations with the libraries based on JENDL-3.2, ENDF/B-VI.5, JEF-2.2, and the '1986 library were intercompared. The predictions of criticalities and isotopic compositions with the updated libraries show good agreements with the measurements or the reference results. The multiplication factors with the library based on JENDL-3.2 are slightly higher than those of ENDF/B-VI.5 and JEF-2.2.