

Problems on Processing of Thermal Scattering Law Data with AMPX-6/AMPX-6 を使った熱中性子散乱則データの処理に関する問題

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The US nuclear safety analysis code system SCALE6.2 [1] is also widely used in Japan, but the bundled AMPX continuous energy libraries are produced only from the US nuclear data library ENDF/B. Thus I produced an AMPX continuous energy library of JENDL-5 with the AMPX-6 code [2] bundled in SCALE6.2. In this nuclear data processing I found out that several produced AMPX continuous energy files of the thermal scattering law data in JENDL-5 had strange cross section data. I examined reasons why the strange cross section data were produced in detail and specified that an inadequate processing method of the thermal scattering law data in AMPX-6 caused the strange cross section data. I improved AMPX-6 and obtained adequate AMPX continuous energy files of the JENDL-5 thermal scattering law data.

References

- [1] (Ed.) W.A. Wieselquist, R.A. Lefebvre, M.A. Jessee, "SCALE Code System", ORNL/TM-2005/39 Version 6.2.4 (2020).
- [2] D. Wiarda, M.E. Dunn, N.M. Greene, M.L. Williams, C. Celik, L.M. Petrie, "AMPX-6: A Modular Code System for Processing ENDF/B", ORNL/TM-2016/43 (2016).

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