

Remarks on Activation Analyses for Decommissioning/廃止措置のための放射化計算における注意点

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Activation analyses are essential in planning and execution of reactor decommissioning, where the ORIGEN-2 and ORIGEN-S codes are often used in Japan. This presentation points out problems in these codes and introduces the ORIGEN code, which is bundled in the US nuclear safety analysis code system SCALE6.2 [1] or later. ORIGEN solves most of the problems but SCALE6.2 bundles only the libraries from the nuclear data library ENDF/B-VII.0 or later. Thus I produced new libraries [2] for the ORIGEN code from JENDL-5. I also present remarks on calculations with the two-dimensional Sn code DORT [3] which is often used to calculate neutron spectra for activation analyses.

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] C. Konno, M. Kochiyama, H. Hayashi, "Generation and verification of ORIGEN and ORIGEN-S activation cross-section libraries of JENDL-5 and JENDL/AD-2017", Mechanical Eng. Journal, Vol. 11, Paper No.23-00386 (2024).
- [3] ORNL RSICC, "DOORS3.2a: One, Two- and Three-Dimensional Discrete Ordinates Neutron/Photon Transport Code System", RSIC CODE PACKAGE CCC-650 (2007).

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