Comparison of the JEFF3.3 and ENDF/BVII.1 Libraries for SCALE Calculations

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Abstract. The use of different neutron cross-section libraries may yield different results in calculations of multiplication coefficient of the same reactor core configuration. Each cross-section library is tested on a particular set of reactors, and this determines which reactors is the library targeted towards. However, with newer libraries, these differences may not be significant in comparison with experimental uncertainties. This article will look at the differences between using built-in ENDF/B7.1 and a new JEFF3.3 libraries for calculations of multiplication coefficient of VR-1 reactor using KENO6 code and implementing it for determination of its absorption rod worth.