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Update to ENDF/B Decay Data Sub-library for Reactor Antineutrino Research Purposes.[1] R.J. LOREK, A. MATTERA, E.A. MCCUTCHAN, A.A. SONZOGNI, Brookhaven National Laboratory — Nuclear databases have played an important role in understanding the production of electron antineutrinos in nuclear reactors, which is currently of importance for refining our understanding of neutrino oscillations, reactor monitoring, and non-proliferation. In order to provide more reliable results, the ENDF/B decay data sub-library has been recently updated to include the latest available β-decay results from various neutron rich nuclides that utilized TAGS and high-resolution gamma spectroscopy techniques. Additionally, we have added half-lives and delayed neutron probabilities from the recent IAEA Coordinated Research Project on the subject. With this new version of the sub-library we have calculated Inverse Beta Decay antineutrino spectra as well as yields as function of fuel burn-up, which were compared to the recently published Daya Bay and RENO results.

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