

Abstract Submitted
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Recent Improvements in the Summation Calculation of Antineutrino Spectra¹ ALEJANDRO SONZOGNI, TIMOTHY JOHNSON, ELIZABETH MCCUTCHAN, National Nuclear Data Center, Brookhaven National Laboratory, PARASKEVI DIMITRIOU, Nuclear Data Section, International Atomic Energy Agency — The antineutrino spectrum following the fission of an actinide nucleus can be calculated using a comprehensive set of fission yields and decay data, an approach known as the summation method. We have recently updated our databases to incorporate newly published results as well as to perform some corrections and updates. These summation calculations are now in better agreement with those from the conversion method. The advantage of the summation method is that one can understand the rich correlations between the different radiation types - gammas, electrons, neutrons and antineutrinos – as well as study the time dependence of the radiation intensity in a variety of situations. Additionally, we have performed a sensitivity study to identify different elements of the input nuclear data which have an important impact in the calculation of antineutrino spectra and which would benefit from a precise measurement.

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