

Investigation of the contribution of forbidden beta transitions to the reconstruction of the reactor antineutrino spectra by the conversion method

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In this work, the influence of the first forbidden beta transitions on the accuracy of reconstruction of cumulative reactor antineutrino spectra of uranium and plutonium fission products by conversion of the corresponding cumulative beta spectra is investigated. It is shown that the most reliable way to account for forbidden transitions is a direct *ab initio* calculation of the forbidden component of cumulative spectra and subsequent conversion of the permitted component. It is found that the ratio of cumulative spectra is stable to variations in the conversion procedure associated with the introduction of forbidden transitions.

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