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Extending GEANT4 "Radioactive Decay" for the Analysis of Complex Total Absorption Analysis Cases

Friday, 26 April 2019 10:00 (20 minutes)

We will present a new event generator created for the calculation of the response functions of total absorption spectrometers used in the study of complex beta decays. The development is based on an extension of the Radioactive Decay package. In the even generator, the level scheme of the decay of interest is divided in two regions: one region in which the original information from high resolution measurements is kept, and another region where the excitation energy is divided in energy bins that decay to lower lying levels using an statistical model. The statistical model is based on level density functions and gamma strength functions of E2, M1, and E1 character. Details of the use of this event generator in the analysis of the ISOLDE (CERN) experiment IS539 will be presented.

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