

Abstract Submitted
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Low-energy enhancement in gamma-strength function of rare-earth elements ANNA SIMON, University of Notre Dame, MAGNE GUTTORMSEN, ANN-CECILIE LARSEN, University of Oslo, CORNELIUS W. BEAUSANG, University of Richmond, PETER HUMBY, University of Richmond, University of Surrey — The Oslo method is a tool for extracting level density and gamma-strength functions from experimental data. Typically applied to gamma spectra obtained with NaI detectors, it was limited to gamma energies above 1 MeV. However, recent application of the technique to data obtained using Compton suppressed clover detectors allowed for lowering that limit to 0.5 MeV and revealed a low energy enhancement (upbend) in the gamma-strength function of $^{151,153}\text{Sm}$ isotopes. This a first observation of such feature in a heavy, deformed nucleus. Presented here will be results of an experiment utilizing the STARLiTeR setup at Texas A&M University where (p,d) reaction was used to populate the excited states of the nuclei of interest. The impact of the present enhancement in the gSF in such heavy, deformed nuclei on the theoretical models of the upbend and the (n,γ) rates for the r-process will be discussed.

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