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The energy and multiplicity correlation of resonances in ^{151,153}Eu(n,γ) reaction[1] U. AGVAANLUVSAN, J. BECKER, R. MACRI, W. PARKER, P. WILK, C.Y. WU, R. CLEMENT, LLNL, T. BREDEWEG, E. ESCH, J. O'DONNELL, R. REIFARTH, R. RUNDBERG, J. SCHWANTES, J. WOUTERS, J. ULLMANN, D. VIEIRA, J. WILHELMY, LANL, S. SHEETS, D. DASHDORJ, G. MITCHELL, NCSU/TUNL, C. FOLDEN, D. HOFFMANN, H. NITSCHE, UC Berkeley, A. ALPIZAR-VICENTE, R. HATARIK, CO School of Mines — Highly granulated with 160 BaF_2 crystals and a 4π solid-angle coverage, the state-of-the-art DANCE array at LANSCE offers an opportunity to study detailed statistical properties of atomic nuclei. The neutron capture for neutron energies <1eV up to 100 keV has been measured for ^{151,153}Eu targets. Stable Eu isotopes on Be backings were used. In this presentation, the resonances in ^{151,153}Eu are considered. The parameters characterizing most of the resonances were previously known. For each resonance the gamma-ray multiplicity and energy distribution are deduced. The variation from resonance to resonance is investigated. In addition, radiative cascades following the neutron capture are simulated and compared with the experimental results shedding light on the nearly unknown subject of transitions between highly excited states in the compound nucleus.

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Undraa Agvaanluvsan
Lawrence Livermore National Laboratory

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