A Study of Scissors Mode of Excited Nuclei from (n,γ) Reactions*

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Measurements of γ-ray cascades originating from radiative neutron capture in several deformed nuclei were performed using different experimental setups. Specifically, two-step γ cascades [1] following the capture of thermal neutrons were measured at the Řež reactor, while multi-step γ cascades following the neutron capture were measured with 4π BaF_2 detectors at isolated resonances in Los Alamos [2] and at unresolved resonance region in Karlsruhe [3].

Experimental data from these experiments were analyzed within the statistical approach using the DICEBOX code [4]. Results of the analysis indicate that the scissors mode of *excited nuclei* plays an important role in the γ decay of all the deformed nuclei studied. Properties of the mode seen from our analysis will be discussed and compared with experimental results from different reactions, including the (γ,γ') reaction.

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