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The role of very weak gamma-ray transitions¹ W. DAVID KULP, Georgia Institute of Technology — The success of a nuclear model is generally judged with respect to how well the model reproduces the experimental excitation spectrum and the transition strengths of the strongest γ -ray transitions. When many models apparently describe the same nucleus, measuring the weakest transitions very well can provide insight into which models are preferred and can lead to new physics when a simple model appears to break down. Gamma rays at the limits of detection are presented and the implications of these measurements for nuclear models are discussed.

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