

Abstract Submitted
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Extreme non-statistical effects in γ decay of ^{95}Mo neutron resonances¹ PAUL KOEHLER, ANN-CECILIE LARSEN, MAGNE GUTTORMSEN, SUNNIVA SIEM, University of Oslo, KLAUS GUBER, ORNL — We obtained unprecedentedly large sets of total radiation widths Γ_γ of ^{95}Mo neutron resonances for all six s - and p -wave J^π values. We demonstrate that the resulting Γ_γ distributions can be used to test and improve nuclear models. In particular, Γ_γ distribution simulations in the framework of the nuclear statistical model yielded results in sharp disagreement with the data. Simulations modified to include doorway effects resulted in much better agreement. These results call into question the reliability of the nuclear statistical model, and demonstrate that high-quality Γ_γ data are a virtually untapped resource for testing and improving nuclear models.

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