

Nuclear Level Density Analysis Using Combined Data Sets from Different Techniques

Wednesday 26 March 2025 09:00 (45 minutes)

Knowledge of nuclear level densities remains significantly limited due to the scarcity of experimental data needed to constrain level density models. Current models rely heavily on limited experimental information derived from s-wave neutron resonance spacings. These data are only available within narrow excitation energy and spin ranges, resulting in poorly constrained models.

Alternative experimental techniques are being developed to measure nuclear level densities, offering a potential solution. Experimental findings on nuclear level densities obtained through the particle evaporation technique will be presented, along with comparisons to existing models.

Potential improvement of level density modeling is suggested to be based on an extended set of experimental data, which should include reliable data from available experimental techniques.

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Session Classification: Experiments (45' talks, 30' coffee)