

# From the Ablowitz-Ladik lattice to the Circular $\beta$ -ensemble

*Tuesday, May 24, 2022 10:15 AM (45 minutes)*

The main focus of this talk is the interplay between the theory of integrable systems, and random matrix theory.

Specifically, I consider the Ablowitz-Ladik lattice, which is an integrable system, I introduce the Generalized Gibbs ensemble for this lattice, and I relate it with a random matrix model, the Circular  $\beta$  ensemble. This connection allows me to compute explicitly the density of states for the Ablowitz-Ladik lattice in terms of the one of the random matrix ensemble.

This talk is mainly based on my recent paper with Tamara Grava, 2107.02303, and the one with Ronan Memin, 2201.03429

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