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Title: Random matrix models inspired by quantum transport and localization

Abstract: Kravtsov and collaborators (2015) have used Random Matrix (RM) models to describe ergodic to localization transition by focusing primarily on the properties of the eigenvectors of model Hamiltonians. To understand the transition in disordered quantum conductors in terms of an experimentally observable quantity, we have studied alternate RM models using transmission instead of energy levels, where the conductance can be expressed as a linear statistic of appropriate eigenvalues. I will discuss our attempts to find an appropriate RM model to describe the Anderson transition as a transition in the distribution of conductance, from a Gaussian to a Poisson-like, via a very broad and highly asymmetric critical distribution.