

A general beta crossover ensemble

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What this is all about? In RMT we have the standard bulk, soft and hard edge regimes for spectral statistics which we now understand to be described (for all "temperature" parameters β) through families of Dirac, Schroedinger, or diffusion operators. The mathematical physics literature however offers up a veritable zoo of "non-regular" cases, many arrived at via a double scaling limit in which one crosses over from one standard asymptotic regime to another. Thus far, analysis of these non-regular cases has been largely relegated to $\beta = 2$ (with a smattering of results at $\beta=2$ and 4). We will describe a limiting general beta cross-over ensemble where the hard and soft edges meet.

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