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Local eigenvalue statistics for band matrices with a transfer operator approach

Abstract:

Some recent results on the universality of local eigenvalue statistics for band matrices will be discussed. The method is based on analysis of the integral representations for the spectral correlation functions obtained with SUSY approach.

We show that when the band width $W > N^{1/2} \log^5 N$, the second correlation function is the same as that for GUE.