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Gap probabilities in two matrix models

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Abstract

We consider a chiral two-matrix model including a fixed number of characteristic polynomials for each of the two matrices. First, the recent solution for all density correlation functions of real eigenvalues is reviewed. We then present the gap probability for one matrix eigenvalue irrespectively of the positions of the eigenvalues of the second matrix. It is given by the determinant of a new kernel in terms bi-orthogonal polynomials, computed both for finite and infinite N .