

Mathematical Physics Seminar

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Non-orthogonality of eigenvectors from the Haagerup-Larsen theorem

Biunitarily invariant ensembles have been thoroughly studied in recent years from the point of view of statistics of eigenvalues. An enhanced symmetry of the probability distribution function allows us to expect that all spectral properties will be determined by the singular values only. Indeed, for large matrices, a mapping between one-point densities is known as the Haagerup-Larsen theorem. Recently, this mapping has been extended to all k -point functions (Kieburg-Kösters). During my talk, I will present a recent extension of the Haagerup-Larsen theorem, which gives a simple mapping between the radial spectral cumulative distribution function and a certain one-point eigenvector correlation function, built out of (non-orthogonal) left- and right eigenvectors. I will discuss also its relation with the stability of the spectrum.

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