



Probability Seminar

Markov-Krein relation in orbital β -projection

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Abstract

The Markov--Krein relation associates a probability measure uniquely to a Rayleigh distribution. Fujie and Hasebe proved that the empirical spectral measure of a unitarily invariant Hermitian matrix and the Rayleigh distribution of its principal minor satisfy this correspondence asymptotically under convergence of moments. In this paper, we extend this result to orbital β -projections for arbitrary $\beta > 0$, where we replace the moment assumption by weak convergence of the empirical measures and introduce a weak * topology on $W^{1,1}(\mathbb{R})^*$ that naturally captures the convergence of Rayleigh distributions. In particular, our result covers the orthogonal and symplectic analogues of the Fujie--Hasebe theorem corresponding to $\beta=1$ and $\beta=4$.

Date: November 12, 2026 (Thursday)

Time: 11:00 am – 12:00 noon

Venue: Room 210, Run Run Shaw Building
HKU

All are welcome