

Truncation Method For Random Bounded Self-Adjoint Operators

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Abstract

In this talk, I wish to discuss the linear algebraic techniques for approximating the spectrum of bounded random self-adjoint operators on separable Hilbert spaces. The random version of the truncation method used to approximate spectrum of a bounded self-adjoint operator in [1], is presented here. The Wigner operators are considered here as their truncations will become the well known Wigner matrices, and the eigenvalue distributions of such random matrices of large order are used in the spectral approximation problem. The infinite dimensional operator version of the estimations by Tao and Vu in [7] is done. Finally, a new method - analogous to the quadratic projection method and second order relative spectra, used in [2, 3, 5, 6] - is proposed to predict the spectral gaps that may arise between the bounds of essential spectrum of a bounded self-adjoint operator. This talk is based on the recent work [4]

References

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