Many-Body Quantum Chaos, Spectral Form Factor, and Ginibre Ensemble

by

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ALL INTERESTED ARE WELCOME
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Abstract

The study of spectral statistics is of importance in theoretical physics due to its universality and utility as a robust diagnosis of quantum chaos. In this talk, I will firstly present an exact universal scaling form of the spectral form factor for a many-body quantum chaotic (MBQC) system, deriving the "bump-ramp-plateau" behaviour. Secondly, I will provide evidence that the non-Hermitian Ginibre ensemble behaviours emerge in MBQC systems with large system sizes, just as Hermitian Gaussian ensemble behaviours emerge in MBQC systems in late time. (Based on arXiv:2207.12390)

Biography

Amos Chan is a postdoctoral fellow at the Princeton Center for Theoretical Science at the Princeton University, and is an incoming Lecturer in Physics in the Lancaster University in the UK in 2022. He obtained his DPhil in Theoretical Physics from the University of Oxford in 2019, MASt from the University of Cambridge, and BSci from the University College London.

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