

# Talk Laura Foini: The eigenstate thermalization hypothesis and free probability

*Monday 30 September 2024 10:00 (1 hour)*

The eigenstate thermalization hypothesis and free probability

The eigenstate thermalization hypothesis (ETH) was developed to explain the mechanism by which “chaotic” systems reach thermal equilibrium from a generic state. ETH is an ansatz for the matrix elements of physical operators in the basis of the Hamiltonian, and since its postulation, numerous studies have characterised these quantities in increasingly fine detail, providing a solid framework for understanding the (thermo)dynamics of quantum many-body systems. ETH can be viewed as a generalisation of random matrix theory and, in fact, within this ansatz matrix elements are modelled as random variables.