

# Universality for free fermions

*Thursday, May 26, 2022 3:15 PM (45 minutes)*

The ground state of a free Fermi gas is a classical example of determinantal processes introduced by Macchi (1975) whose correlation kernel is associated with a Schrödinger operator on  $\mathbb{R}^n$ . In this talk, I will explain how one proves universality of local correlations for these models using semiclassical analysis. If time permits, I will also mention a central limit theorem for a one-dimensional Fermi gas and explain the connection with random matrix theory. Joint work with Alix Deleporte.

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