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Strongly dissipative vortex dynamics in the holographic superfluid

Tuesday 13 May 2025 13:00 (30 minutes)

Holography or gauge/gravity duality provides a novel description of a strongly coupled superfluid via a gravitational theory in a higher-dimensional curved space-time with a black hole. Vortex dynamics in the holographic superfluid exhibits strong dissipation in the range of real-world superfluids. The talk gives an overview of various aspects of dissipative vortex dynamics and quantum turbulence in 2 and 3 dimensions, based on numerical real-time simulations of the holographic superfluid.

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