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Solvability of Schramm-Loewner Evolution via Liouville Quantum Gravity

Tuesday, May 13, 2025 10:30 AM (1 hour)

Schramm-Loewner evolution (SLE) is a random planar curve arising as the scaling limit of interfaces in critical statistical physics models such as percolation and the Ising model. Remarkably, SLE also describes the interface in the conformal welding of Liouville quantum gravity (LQG) surfaces. This mini-course explores the rich interplay between SLE, LQG, and conformal field theory (CFT). We will derive exact identities linking SLE to CFTs with central charge $c1$, and in particular show that a three-point correlation function of SLE agrees with the imaginary $DOZZ$ formula from CFT.

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