

Loop Measures and Loop-Erased Random Walk

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I will give an introduction to (discrete time, discrete space) loop measures and the loop-erased random walk (LERW), along with the closely related objects, uniform spanning trees and the Gaussian free field. The first lecture will emphasize the discrete loop measures and will be combinatorial in nature; the second will discuss the LERW in dimensions 2 through 4; and the third will discuss conformal invariance and the scaling limits in two dimensions (Schramm-Loewner evolution, Brownian loop measure).