Geometric and fractal properties of the Schramm-Loewner evolution

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The Schramm-Loewner evolution (SLE) is a conformally invariant family of curves that describes the scaling limit of two-dimensional statistical physics models "at criticality". These curves have many interesting fractal and multifractal properties. I will first give an introduction to SLE and then I will discuss work in recent years with a number of collaborators (Scott Sheffield, Fredrik Johansson Viklund, Wang Zhou, Brent Werness, ...) focusing on fine properties of the curve.