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SLE and its partition function in multiply connected domains

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Schramm-Loewner Evolution SLE_κ were introduced by Schramm as the unique family of laws on curves in simply connected domains satisfying conformal invariance and a Markov property. However, in multiply connected domains, there are additional degrees of freedom, and these two properties alone do not uniquely determine SLE_κ. Lawler suggested imposing the additional requirement of the so-called restriction property to obtain a (non-constructive) characterization. Nevertheless, the mass - or partition function - of the resulting measure is not a priori guaranteed to be finite.

In this talk, we will review two explicit constructions of $SLE\kappa$ in multiply connected domains, for different values of κ and various topological cases, from which the partition function can be determined and is finite.

Based on joint work with J. Aru.

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