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On the logarithmic CFT structure of 2D critical percolation

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The large-scale behavior of two-dimensional critical percolation is expected to be described by a conformal field theory (CFT). Moreover, the latter is believed to be a log CFT, exhibiting logarithmic singularities together with the usual power-law divergences of CFT correlations functions. After a general introduction, I will discuss various (log) CFT features of the scaling limit of two- dimensional critical percolation, such as:
- the recent proof of the conformal covariance of connection probabilities,
- its implications for the proof of the Delfino-Viti conjecture,
- asymptotic expansions that can be interpreted as operator product expansions (OPEs),
- the first rigorous proof of the emergence of logarithmic singularities,
- the percolation "energy"field and its logarithmic partner.

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