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*On the origin of certain dualities in two-dimensional quantum field theories*

The term duality refers in the context of quantum field theory to the existence of multiple Lagrangian or Hamiltonian representations for one and the same abstract quantum field theory, defining perturbative expansions in different regimes of the parameter space. As duality usually is a non-perturbative phenomenon, it is typically hard to demonstrate that it is realised in a given quantum field theory, and to understand why this is the case. Motivated by this, we revisit the origin of the self-duality of the Liouville quantum field theory in the light of the proof of the formula for the three-point function of Liouville theory recently given by Kupiainen, Rhodes and Vargas. The goals of my talk will be (i) to draw a coherent picture of the self-duality of Liouville theory that combines the new results of Kupiainen, Rhodes and Vargas with published and unpublished earlier work on Liouville theory, and (ii) to explain why similar phenomena should be expected to occur in much wider classes of two-dimensional quantum field theories including the sigma models relevant for the AdS-CFT correspondence.