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Path-Integral Complexity for Perturbed CFTs

Friday 25 May 2018 14:30 (25 minutes)

In this talk I will formulate a path-integral optimization for two-dimensional conformal field theories perturbed by relevant operators. I will present several evidences how this optimization mechanism works, based on calculations in free field theories as well as general arguments of RG flows in field theories. Our optimization is performed by minimizing the path-integral complexity functional that depends on the metric and also on the relevant couplings. Then, we compute the optimal metric perturbatively and find that it agrees with the time slice of the hyperbolic metric perturbed by a scalar field in the AdS/CFT correspondence. Last but not the least, we estimate contributions to complexity from relevant perturbations

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