

Renormalizing Diffusion Models

Thursday 30 May 2024 11:30 (45 minutes)

I will explain how Polchinski's formulation of the renormalization group of a statistical field theory can be seen as a gradient flow equation for a relative entropy functional. Subsequently, I will explain how this idea can be used to design adaptive bridge sampling schemes for lattice field theories. or equivalently diffusion models which learn the RG flow of the theory (in a precise sense). Time permitting, I will discuss the interaction of this numerical method with effective field theory. Based on joint work with Jordan Cotler.

Primary author: REZCHIKOV, Semen (Princeton University / Institute of Advanced Study)

Co-author: COTLER, Jordan (Harvard University)

Presenter: REZCHIKOV, Semen (Princeton University / Institute of Advanced Study)

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