

Lattice gauge fields under Gradient Flow

Content

The computation of the topological charge Q and its density ρ_Q , in field theories is often relevant. However, ρ_Q is only well defined for smooth configurations of the fields. Unfortunately, it is difficult to obtain directly on the lattice. Most of the generated configurations are rough due to ultraviolet fluctuations. The Gradient Flow is a powerful method to smooth out field configurations in a control manner. We implemented the Gradient Flow in the Schwinger model, and the SU(3) lattice gauge theory. We measure the topological susceptibility by the so-called slab method by first smoothing out the field configurations.

Summary

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