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Topological Susceptibility under Gradient Flow

Abstract

We study the impact of the Gradient Flow on the topology in various models. The topological susceptibility is measured directly, and by the “slab method”, which is based on the topological content of sub-volumes ("slabs"). The results obtained by both methods are consistent, but the impact of the Gradient Flow on the characteristic quantity of the slab method is different in 2-flavor QCD and in the 2d O(3) model. In the latter model we address in particular the question whether or not the Gradient Flow leads to a finite continuum limit of the topological susceptibility (rescaled by the correlation length squared).

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