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Prospects for the stout smearing as an equivalent approach to the Wilson flow

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In this talk, we present the equivalence between the Wilson flow and the stout smearing. The similarity between these two methods was first pointed out by Lüscher's original paper on the Wilson flow. We first show the analytical equivalence of two methods, which indicates that the finite stout smearing parameter induces $O(a^2)$ correction. We secondly show that they remain equivalent in numerical simulations within some numerical precision even with finite cutoffs and stout smearing parameters by directly comparing the expectation values of the action density and we shortly mention the use of the equivalence.

Topical area

Theoretical Developments

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