



Contribution ID: 146

Type: Oral presentation

A variance reduction technique for hadronic correlators with partially twisted boundary conditions

Thursday, 29 July 2021 07:15 (15 minutes)

Partially twisted boundary conditions are widely used for improving the momentum resolution in lattice computations of hadronic correlation functions. The method is however expensive since every additional twist requires computing additional propagators. We propose a novel variance reduction technique that exploits statistical correlations between correlators at different twists to reduce the overall cost for computing correlators with additional twist angles. We explain and demonstrate the method for meson 2pt and 3pt functions.

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Session Classification: Algorithms (including Machine Learning, Quantum Computing, Tensor Networks)

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