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Lattice extraction of the TMD soft function using the auxiliary field representation of the Wilson line

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The TMD soft function may be obtained by formulating the Wilson line in terms of auxiliary 1-dimensional fermion fields on the lattice. In the "timelike" region, this corresponds to the *moving* heavy quark effective theory (HQET). I present the results of the one-loop calculation of the Euclidean space analog to the soft function, and show that it must proceed in the "spacelike" region. Finally, I present the details of an exploratory numerical study in preparation for the lattice computation.

Topical area

Structure of Hadrons and Nuclei

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