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Towards charm physics with stabilised Wilson Fermions

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We report on first computations of hadron masses and matrix elements with charm quarks in $O(a)$ improved (2+1)-flavour lattice QCD in the framework of stabilised Wilson Fermions.

Employing SU(3)-flavour-symmetric gauge field ensembles from the OpenLAT initiative, we study two strategies how to fix the physical charm quark mass.

In a first approach, we follow the standard procedure by matching to a physical meson mass such as the D-meson mass. In our new approach we implement a massive renormalisation scheme that is designed to reduce mass-dependent cutoff effects. The latter requires the determination of certain improvement coefficients and renormalisation constants around the heavy quark mass scale which is also discussed in this contribution.

Topical area

Quark and Lepton Flavor Physics

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