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Charm current-current correlators in Twisted Mass lattice QCD

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The strong coupling constant and the charm quark mass are two fundamental parameters of the Standard Model.

The precision of their determination has been continuously improved in the past using both perturbative and non-perturbative methods and most recently combinations thereof.

I report on a partially quenched investigation of charm current-current correlators using two flavours of dynamical twisted mass fermions. By matching non-perturbative results for moments of (pseudo-)scalar and (axial-)vector current correlators to continuum perturbation theory the strong coupling and the charm quark mass are extracted.

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talk

Primary author: PETSCHLIES, Marcus (Humboldt-Universitaet zu Berlin)

Presenter: PETSCHLIES, Marcus (Humboldt-Universitaet zu Berlin)

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