

Heavy-quark physics with a tmQCD valence action

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We introduce a mixed-action approach based on CLS ensembles, where a valence $N_f=2+1+1$ fully-twisted tmQCD action is combined with the $N_f=2+1$ non-perturbatively $O(a)$ -improved Wilson sea sector. Some field-theoretical properties of this setup (unitarity, $O(a)$ improvement, relevance of open boundary conditions) are discussed. Particular emphasis is given to the application of this setup to heavy-quark flavour physics, focusing on the developments needed to address the leading systematic effects in the charm sector.

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