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Near Physical Point Lattice Calculation of Isospin-Breaking Corrections to $K_{\ell 2}/\pi_{\ell 2}$

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In recent years, lattice determinations of non-perturbative quantities such as f_K and f_π, which are relevant for V_{us} and V_{ud}, have reached an impressive precision of O(1%) or better. To make further progress, electromagnetic and strong isospin breaking effects must be included in lattice QCD simulations.

We present the status of the RBC&UKQCD lattice calculation of isospin-breaking corrections to light meson leptonic decays. This computation is performed in a (2+1)-flavor QCD+QED using Domain Wall Fermions with near-physical quark masses. The QED effects are implemented via a perturbative expansion of the action in α. In this calculation, we work in the electro-quenched approximation and the photons are implemented in the Feynman gauge and QEDL formulation.

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