

Simulating at Realistic Quark Masses: Pseudoscalar Decay Constants and Chiral Logarithms

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Abstract: Due to improvements in computer performance and algorithms, the rapidly increasing cost for unquenched Wilson-type fermions with lighter quarks has been ameliorated and new simulations are now possible. In this talk we present results using two flavour $O(a)$ -improved Wilson fermions for meson decay constants at pseudoscalar masses down to 300MeV. Results are at several lattice spacings down to about 0.07fm and include a non-perturbative determination of the renormalisation constant. This enables us to attempt contact with (partially quenched) chiral perturbation theory.