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Matrix elements for D-meson mixing from 2+1 lattice QCD

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We present the status of our calculation of the D-meson mixing hadronic matrix elements for all five short-distance operators. We use the $N_f = 2+1$ asqtad gauge field ensembles generated by the MILC collaboration involving four lattice spacings ranging from 0.12 to 0.045 fm and up/down to strange quark mass ratios as low as 0.05. For the charm quark we use the Sheikholeslami-Wohlert action with the Fermilab interpretation. The valence quarks include the full-QCD point and up to seven partially-quenched points. The matrix elements are extrapolated to the physical point using SU(3) heavy meson staggered chiral perturbation theory. We present preliminary chiral and continuum extrapolated results for all five local operators as well as a full error budget.

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