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Direct CP asymmetry in D -> pi^+\pi^- and D -> K^+K^- from QCD Light-Cone Sum Rules

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Precise unambiguous predictions of CP-violating observables in charm decays are hard and often plagued by non-perturbative uncertainties. We calculate hadronic matrix elements with penguin topology in the weak nonleptonic D -> pi^+\pi^- and D -> K^+K^- decays using techniques of light-cone QCD sum rules. With that, we perform numerical analysis and estimate the direct CP-asymmetry in D -> pi^+\pi^- and D -> K^+K^- decays.

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