The decay constants f_{D_s} and f_{D^+} in three-flavor lattice QCD

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We determine the charmed meson decay constants in $2+1$ flavor lattice QCD. We find $f_{D^+} = 201 \pm 3 \pm 17$ MeV and $f_{D_s} = 249 \pm 3 \pm 16$ MeV where the errors are statistical and the combined systematic uncertainty. We simulate quarks as light as $m_q/m_s = 0.1$ and use NLO predictions of Chiral Perturbation Theory to control the extrapolation to the physical results. We study three lattice spacings in order to estimate the continuum limit. All of the results presented at Lattice 2005 appear in the publication: C. Aubin *et al.*, "Charmed meson decay constants in three-flavor lattice QCD", Phys. Rev. Lett. **95**, 122002 (2005), [arXiv:hep-lat/0506030] .

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