

Abstract Submitted
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High-precision lattice calculation of the decay constants f_B and f_{B_s} CARLETON DETAR, University of Utah, ALEXEI BAZAVOV, Indiana University, CLAUDE BERNARD, Washington University, CHRISTOPHER BOUCHARD, College of William and Mary, NATHAN BROWN, Washington University, DAPING DU, Syracuse University, AIDA EL KHADRA, University of Illinois, ELIZABETH FREELAND, School of the Art Institute of Chicago, ELVIRA GAMIZ, Universidad de Granada, STEVEN GOTTLIEB, Indiana University, HEECHANG NA¹, University of Utah, URS HELLER, American Physical Society, JAVAD KOMIJANI, Technische Universität München, ANDREAS KRONFELD, Fermilab, JOHN LAIHO, Syracuse University, PAUL MACKENZIE, Fermilab, ETHAN NEIL, University of Colorado, JAMES SIMONE, Fermilab, ROBERT SUGAR, University of California, Santa Barbara, DOUGLAS TOUSSAINT, University of Arizona, RUTH VAN DE WATER, RAN ZHOU, Fermilab, FERMILAB LATTICE COLLABORATION, MILC COLLABORATION — We present preliminary, high-precision results for the hadronic decay constants of the B and the B_s mesons from lattice QCD simulations using a highly improved quark formulation for both heavy and light valence quarks. Calculations are carried out with several heavy valence-quark masses on lattice ensembles with 2+1+1 flavors of HISQ sea quarks at five lattice spacings and three light sea quark mass ratios m_{ud}/m_s , including approximately physical sea quark masses. This range of parameters provides excellent control of the continuum limit and of heavy-quark discretization errors.

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