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Lattice QCD calculations of B meson properties and consequences for quark flavor phenomenology MATTHEW WINGATE, University of Washington, CHRISTINE DAVIES, University of Glasgow, ALAN GRAY, EMEL GULEZ, Ohio State University, PETER LEPAGE, Cornell University, JUNKO SHIGEMITSU, Ohio State University, HPQCD COLLABORATION — Lattice QCD calculations now include the effects of 2 light sea quarks and 1 strange sea quark through the use of an improved staggered fermion action. Consequently, results important to phenomenology are free of the approximate 10% errors inherent in the quenched approximation. This talk reports on calculations of the B and B_s decay constants, matrix elements relevant for neutral B meson mixing, and $B \to \pi \ell \nu$ form factors. The focus of the talk will be on the current lattice uncertainties, the prospects for reducing them, and the role the results will play in flavor physics phenomenology.

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