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Predicting the spectrum and decay constants of positive-parity heavy-strange mesons using domain-wall fermions

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We determine the energies and decay constants of the lowest-lying positive-parity bottom-strange and charm-strange mesons using lattice QCD. The calculations are performed with domain-wall up, down, and strange quarks and with an anisotropic clover action for the heavy quarks, on seven different RBC/UKQCD ensembles with pion masses ranging from a near physical $m_\pi \approx 139 \text{ MeV}$ up to $m_\pi \approx 431 \text{ MeV}$. On all of these ensembles, our preliminary results for the ground-state energies of the B_{s0}^* , B_{s1} , D_{s0}^* , and D_{s1} are below the BK , B^*K , DK , and D^*K thresholds, respectively.

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