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Excited and Exotic B, B_s and B_c mesons

Tuesday, August 9, 2022 7:00 PM (1 hour)

A study of heavy-light meson spectroscopy, specifically the excited and exotic spectra of B , B_s and B_c is presented. This work was done on an anisotropic lattice of volume $20^3 \times 128$, with (2+1) flavours of dynamical quarks. A large basis of suitable operators was used in a variational analysis to determine finite volume spectra grouped by lattice irrep for each meson. Spin-identified spectra were produced by assigning continuum quantum numbers J^P to each energy level based on the distribution of dominant operator overlaps, up to spin $J = 4$. By examining the operator-state overlaps for each energy level in the lattice irreps, candidate states for a lightest hybrid supermultiplet with $J^P = (0, 1, 2)^-$ were identified in B , B_s and B_c .

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