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Study of B_{u,d,s} \to K0*(1430)P and K0*(1430)V decays within QCD factorization

We study the nonleptonic charmless $B_{u,d,s}$ to KO(1430)P(P=K|pi) and KO(1430)V(V=K, rho, omega|phi) decays. The amplitudes are calculated within the QCD factorization, and the non-perturbative quantities are evaluated by using a covariant light-front approach. The branching fractions and CP asymmetries of theses decay modes are calculated, some decay modes are first predicted, and some useful relations based on SU(3) flavor symmetry are discussed. Comparing the theoretical results with the current available experimental data, it is found that KO(1430) can be described as the lowest-lying p-wave state rather than the first excited one.

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