## Foot Prints of New Physics in b->ctv Transitions

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In this work, we perform a combined analysis of the R(D), R(D) and  $R(\mathcal{J}/psi)$  anomalies in a model-independent manner based on the general framework of the four-fermion effective field theory, with paying special attention to the employ of the hadronic form factors. For the B->D(D) transition form factors, we use the HQET parametrization that include the higher order corrections of O(lambda\_QCD/m,alpha\_s) and determined

recently from a fit to lattice QCD and light-cone sum rule results in complementary kinematical regions of the momentum transfer. For the Bc->J/psi(eta\_c) transitions, we use the form factors calculated in the covariant light-front quark model, which are found to be well consistent with the preliminary lattice results. From our analysis,

the two classes of vector operators are shown to be the most favored single new physics (NP) operators by the

current experimental constraints within 2sigma and the LEP1 data on  $Br(Bc\rightarrow \tau \nu)$  as well as the minimum chi^2 fit,

while the tensor operator is also allowed but severely constrained, and the scalar ones are excluded. Using the

favored ranges and fitted values of the Wilson coefficients of the single NP operators, we also give prognosis for

the physical observables such as the ratios of decay rates  $R(D(D^*), R(J/psi(eta_c)))$  and other polarized observables as well as the q2 distributions.

## Type

Parallel talk

## Sessions (parallel only)

Heavy Flavor

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