



Contribution ID: 109

Type: poster

Accurate decay-constant ratios f_{B^*}/f_B and $f_{B_s^*}/f_{B_s}$ from QCD sum rules

We present our analysis of the decay constants of the beauty vector mesons within QCD sum rules for the two-point correlators of vector currents. While the decay constants of the vector mesons, similar to the decay constants of the pseudoscalar mesons, individually have large uncertainties induced by theory parameters not known with a satisfactory precision, these uncertainties almost entirely cancel out in the ratios of vector over pseudoscalar decay constants. These ratios may be thus predicted with very high accuracy due to the good control over the systematic uncertainties of the decay constants gained upon application of our hadron-parameter extraction algorithm. Our results are $f_{B^*}/f_B = 0.944 \pm 0.011_{\text{OPE}} \pm 0.018_{\text{syst}}$ and $f_{B_s^*}/f_{B_s} = 0.947 \pm 0.023_{\text{OPE}} \pm 0.020_{\text{syst}}$. Thus, both f_{B^*}/f_B and $f_{B_s^*}/f_{B_s}$ are less than unity at 2.5σ and 2σ level, respectively.

Authors: MELIKHOV, Dmitri (HEPHY & SINP, Moscow State University); SIMULA, Silvano (INFN); LUCHA, Wolfgang (HEPHY)

Presenter: MELIKHOV, Dmitri (HEPHY & SINP, Moscow State University)

Track Classification: Flavour Physics and Fundamental Symmetries