

On the potential of Light-Cone Sum Rules without semi-global Quark-Hadron Duality

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The calculation of local form factors involved in the SM predictions of semileptonic B -meson decays at low- q^2 is a crucial ingredient in the assessment of the B -anomalies. We revisit their calculation in QCD Light-Cone Sum Rule with B -meson Light-Cone Distribution Amplitudes. In our strategy, we bypass the semi-global quark-hadron duality (QHD) approximation which usually contributes an unknown and potentially large systematic error to the prediction of form factors. We trade this improvement for an increased reliance on higher-order contributions in QCD perturbation theory and higher-twist contributions in the light-cone OPE. Unlike the systematic error from QHD, the magnitude of truncation errors is assessable and systematically improvable, hence allowing robust predictions of form factors.

Authors: CARVUNIS, Alexandre (Università di Torino); MAHMOUDI, Nazila (Universite Claude Bernard Lyon I (FR)); MONCEAUX, Yann

Presenter: CARVUNIS, Alexandre (Università di Torino)

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