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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.

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