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

Wednesday 19 June 2024 18:00 (20 minutes)

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 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 perturbation theory. Unlike the systematic error from QHD, truncation errors are assessable and systematically improvable, hence allowing robust predictions of form factors.

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