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Long-distance effects in inclusive $\bar{B} \rightarrow X_d \ell^+ \ell^-$ decay

Quark decays mediated by neutral currents are forbidden at tree level in the SM and are therefore sensitive to BSM corrections via indirect effects. The manifestation of these currents in *inclusive* decays such as $\bar{B} \rightarrow X_{s(d)} \ell^+ \ell^-$ is particularly amenable to theoretical analysis, as *integrated* decay rates can be computed in an Operator Product Expansion. Local power corrections, resolved (nonlocal) power corrections and $q\bar{q}$ resonances are nonperturbative effects that play an important role in the phenomenology of neutral semileptonic inclusive B -decays. We include these effects in predictions for the branching ratio, forward-backward asymmetry and CP asymmetry of the rare decay $\bar{B} \rightarrow X_d \ell^+ \ell^-$.

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