Contribution ID: **57** Type: **not specified**

Long-distance effects in inclusive $\bar{B} \to X_d \ell^+ \ell^-$ 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 $\bar{B} \to X_{s(d)} \ell^+ \ell^-$ 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 $\bar{B} \to X_d \ell^+ \ell^-$.

Primary author: JENKINS, Jack (Indiana University)

Co-authors: HUBER, Tobias (Universität Siegen); HURTH, Tobias (PRISMA Cluster of Excellence and Institute for Physics (THEP) Johannes Gutenberg University); LUNGHI, Enrico (Indiana University); VOS, Keri (Universität Siegen); QIN, Qin (Universität Siegen)

Presenter: JENKINS, Jack (Indiana University)