Abstract:

Higher-order perturbative corrections to QCD observables are traditionally computed using the minimal subtraction scheme together with a ``physical'' choice of renormalization scale. We show how the Complete Renormalization Group Improvement (CORGI) approach may be extended to remove renormalization and factorization scale dependence from predictions for the heavy quark pair production cross section at hadron colliders. The resulting predicted CORGI cross section is roughly a factor of two larger for b anti-b production at the Tevatron than that obtained with the standard physical scale choices, potentially improving the agreement with the data.