

Fig. 6: (*circles*) Fraction of heavy flavor (*b, c*) to all dijet events in data, F_1 , as a function of dijet mass fraction showing the expected suppression at high M_{jj} ; (*squares*) fraction, F_2 , of inclusive MC to data from Fig. 5 (left). The agreement between the measured suppression levels in F_1 and F_2 serves to validate the MC based technique for extracting the exclusive production rate from the data.

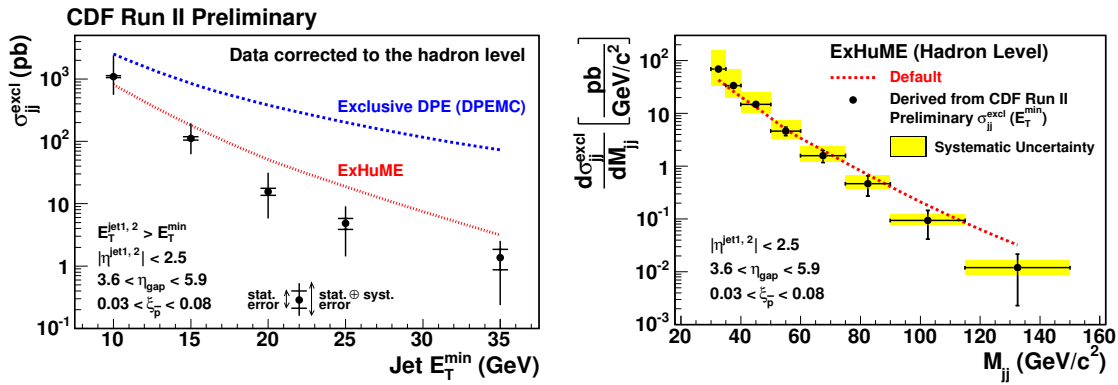


Fig. 7: (*left*) Measured exclusive dijet cross sections versus the minimum E_T of the two leading jets compared with ExHuME and DPEMC predictions; (*right*) ExHuME hadron level differential exclusive dijet cross section versus dijet mass normalized to the CDF cross sections at *left*. The systematic errors shown are propagated from those in the data; the ExHuME predictions have comparable systematic uncertainties.

5 Summary

Diffraction processes studied by CDF in Run I include elastic and total cross sections, soft diffractive cross sections with single and multiple rapidity gaps, and hard single diffractive production of dijet, W , b -quark, and J/ψ production, as well as central dijet production in events with two forward rapidity gaps (double Pomeron exchange). The results obtained support a picture of universality of diffractive rapidity gap formation across soft and hard diffractive processes, which favors a composite over a particle-like Pomeron made up from color singlet quark and/or gluon combinations with vacuum quantum numbers.

Run II preliminary results on the x_{Bj} and Q^2 dependence of the diffractive structure function obtained from dijet production are also presented, as well as results on the slope parameter of the t -distribution of diffractive events as a function of Q^2 . In the range $10^2 \text{ GeV}^2 < Q^2 < 10^4 \text{ GeV}^2$, where the inclusive E_T distribution falls by a factor of $\sim 10^4$, the ratio of SD/ND