Gluino Branching Fractions	
$\tilde{g} \to 1t + \ldots$	0.21
$\tilde{g} \to t\bar{b}\chi_1^-$	0.080
$\tilde{g} \to \bar{t}b\chi_1^+$	0.080
$\tilde{g} \to t\bar{b}\chi_2^-$	0.024
$\tilde{g} \to \bar{t}b\chi_2^+$	0.024
$\tilde{g} \to 2t + \ldots$	0.11
$\tilde{g} \to t\bar{t}\chi_1^0$	0.099
$\tilde{g} \to t\bar{t}\chi_2^0$	0.012
$\tilde{g} \to t\bar{t}\chi_3^0$	0
$\tilde{g} \to t\bar{t}\chi_4^0$	0

TABLE II: Branching fractions for gluino decay modes to tops in the focus point region of the MSSM (SPS 2). Here the gluino has a mass of $m_{\tilde{g}} = 782$ GeV and a total decay width of $\Gamma_{\tilde{g}} = 2.6$ MeV.

where $\epsilon < 1$ and the diagonal term is summed over generations. This model was discussed in [15] as a candidate for describing the observed 2σ deviation from the SM prediction of forward-backward asymmetry in the top-pair signal at the CDF detector of the Tevatron collider [16]. The small diagonal couplings characterized by the parameter ϵ_U exist only to escape bounds on like-sign top quark events from the decay of two Z's by forcing the dominant decay $Z' \to u\bar{u}$. This study found the best match to the asymmetry and to the invariant mass distribution of the top pair with $M_{Z'} = 160$ GeV and $\alpha_X = 0.024$, with any small $\epsilon_U \neq 0$ giving comparable results. We take these values and choose $\epsilon_U = 0.1$. The dominant process for triple-top production in this model (for small ϵ_U) is the t-channel exchange of the Z', shown in Figure 4. This diagram illustrates the unique topology of these events in this Z' model, with the three tops produced at LO.

IV. RESULTS AND CONCLUSIONS

The LO triple-top production cross sections for the two new physics models discussed are calculated with MadGraph according to the prescriptions in Section II. The Z' model is