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Search for Flavor Changing Neutral Currents in Top Quark Decays at CDF JENNIFER GIMMELL, University of Rochester, CDF COLLABORATION — In the CDF II detector at the Fermilab Tevatron, $t\bar{t}$ pairs are produced in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV. We have performed a search for the flavor-changing neutral current (FCNC) decay of the top quark $t \rightarrow Zq$. This decay is extremely rare in the standard model, and any signal at the Tevatron would be an indication of new physics. For the summer 2007 conferences, using 1.12 fb^{-1} of data we presented the world's best limit on the branching fraction $\mathcal{B}(\top \rightarrow Z\text{II})$ of 10.6% at 95% C.L. In this talk, we show the updated analysis with 1.9 fb^{-1} of data. We discriminate signal from background by exploring kinematic constraints present in FCNC events. We construct a mass χ^2 variable and fit templates to the data, taking into account shape systematic uncertainties of the χ^2 distribution. Using a Feldman-Cousins limit technique, we expect to set an improved limit on the branching fraction $\mathcal{B}(\top \rightarrow Z\text{II})$.

- Prefer Oral Session
 Prefer Poster Session

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Special instructions: Membership pending

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