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Addition of the Trilepton Channel to the Search for Top Flavor Changing Neutral Current (FCNC) Decays at CDF JENNIFER GIMMELL, University of Rochester — In the CDF II detector at the Fermilab Tevatron, $t\bar{t}$ pairs are produced in $p\bar{p}$ collisions at 1.96 TeV. We have performed a search for flavor-changing neutral current (FCNC) decays of the top quark: $t\bar{t} \rightarrow WbZq$. In this talk, we present the effects of adding a new leptonic decay channel to our analysis. Our current search at CDF II consists of $t\bar{t}$ pairs decaying into a hadronically decaying W , a leptonically decaying Z , and jets. The additional trilepton channel, the decay of $t\bar{t}$ pairs into a W and Z both decaying leptonically with jets, will increase the sensitivity for our top FCNC search. Using a Feldman-Cousins expected limit technique, we examine the improvement on the limit of our current top FCNC search as a function of the luminosity by adding this channel.

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