Abstract Submitted
for the APR07 Meeting of
The American Physical Society

Search for scalar top admixture in the $t\bar{t} \to \ell$+jets channel SUJUNG PARK, University of Rochester, D0 COLLABORATION — We report on a search for scalar top quark pair production in the lepton+jets channel. Just like Standard Model top quarks, scalar top quarks are produced in pairs in proton-antiproton collisions. One of the preferred scenarios is for the scalar top to decay to a b-quark and a chargino, with the chargino subsequently decaying into a real or virtual W boson and a neutralino. The neutralino escapes without being detected. Thus, the final state signature can be a lepton, two b-jets and two light quark jets, which is identical to the signature of Standard Model $t\bar{t}$ production. We use the kinematic differences between the exotic and the Standard Model scenarios to separate the two.

Ulrich Heintz
Boston University

Date submitted: 10 Jan 2007 Electronic form version 1.4