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Search for a New Hadronic Resonance using Jet Ensembles at CDF CLAUDIA SEITZ, Rutgers Unversity, EVA HALKIADAKIS, AMITABH LATH, Rutgers University, CDF COLLABORATION — We present a model independent search for three-jet hadronic resonances within multi-jets events in $\sqrt{s} =$ 1.96 TeV $p\bar{p}$ collisions at the Fermilab Tevatron using the CDF II detector. Pair production of $SU(3)\_C$ adjoint Majorana fermions such as supersymmetric gluinos that decay through hadronic R-parity violation to three quarks is used to quantify our sensitivity to new physics. Selection criteria based on the kinematics of an ensemble of jet combinations within each event help to extract signal from copious QCD background. Our background estimates include all-hadronic ttbar decays that have a signature similar to signal. We observe no significant excess outside the top mass window in 3.2 fb^{-1} of data in an invariant mass range 77 GeV/c^2 to 240 GeV/c^2 and place 95% C.L. limits on the pair production cross section of gluinos each decaying to three jets as a function of gluino mass.

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