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Search for Heavy Massive Fourth-Generation Neutrinos at CDF
JARED VASQUEZ, UC Irvine — Within the standard model of elementary particles we have dis- covered three generations of quarks and leptons. A natural extension would be the addition of a fourth generation, the lightest of which may be the neutrino. Using 4 fb^{-1} of data from collisions recorded by the CDF detector in proton-antiproton collisions at the Tevatron with center-of-mass energy of 1.96 TeV, we present a search for such a fourth generation neutrino. We search for pair production of unstable massive fourth generation neutrinos each which decay to a heavy stable neutrino and a Z boson. We examine the mode in which one Z decays leptonically and the other hadronically, leading to a final state of two jets, two charged leptons and missing transverse momentum.

Daniel Whiteson
UC Irvine

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