Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Search at DØ for Inclusive WZ Diboson Events in Trilepton Final States at $\sqrt(s) = 1.96$ TeV JAMES DEGENHARDT, University of Michigan, DZERO COLLABORATION — Presented is a study of searching for WZ diboson events in trilepton final states using data on $p\bar{p}$ collision collected by the DØ experiment during 2002-2004 at the Fermilab Tevatron at a center-of-mass energy of 1.96 TeV. The cleanest experimental signal for the WZ events is from a pair of leptons (e^+e^- or $\mu^+\mu^-$) from the decay of the Z boson, and another lepton (e or μ) with large transverse momentum (p_T) and a large imbalance p_T in the event (missing neutrino) from the leptonic decay of the W boson. Three trilepton events with the WZ decay characteristics is observed in DØ data. With an estimated background of 0.66 ± 0.11 events and integrated luminosities ranging from 285 - 320 pb^{-1} for different trilepton final states, we measure the WZ production cross section to be $4.4^{+3.8}_{-2.5}$ pb and set a 95% confidence level upper limit of 13.2 pb. We also obtain 95% confidence limit contours for λ_Z vs.Δg_1^Z and $\Delta\kappa_Z$ vs.λ_Z using a form factor of $\Lambda = 1$ TeV.

Sharon Hagopian
Florida State University

Date submitted: 28 Dec 2004 Electronic form version 1.4