Contribution ID: **35** Type: **not specified**

Search for the Standard Model Higgs Boson produced in Association With a W boson

Tuesday, 31 May 2011 09:40 (15 minutes)

We present a search for the Standard Model Higgs boson produced in association with a W boson in proton-antiproton collisions at a center-of-mass energy of 1.96 TeV. We search a dataset corresponding to an integrated luminosity of 5.7 fb-1. The analysis uses the channel where the Higgs boson decays to a bottom-antibottom quark pair and the W boson decays leptonically. Therefore, we select events consistent with the signature of one high transverse-momentum electron or muon candidate, large missing transverse energy and two jets. We increased the purity of our sample by using advanced techniques to identify several categories of jets that originate from bottom quarks. We further improved our discrimination of Higgs signal from background processes through the use of an artificial neural network. We combined our searches in separate tag and charged lepton categories and set a 95% confidence level upper limit on the production cross section times branching ratio of the Standard Model Higgs boson.

Presenter: ADRIAN BUZATU (Higgs mini-session)

Session Classification: Session 1

Track Classification: Energy Frontier: Higgs Physics