Abstract Submitted
for the APR09 Meeting of
The American Physical Society

**A Combined Search for $WH$ Production in the $\ell\nu b\bar{b}$ Decay Channel at CDF** MARTIN FRANK, Baylor University, CDF COLLABORATION — Two independent methods are being used to search for a standard model Higgs boson produced in association with a $W$ boson using data collected with the CDF II detector from $p\overline{p}$ collisions at $\sqrt{s} = 1.96$ TeV. The searches are performed using events in the $\ell\nu b\bar{b}$ final state from a data sample corresponding to an integrated luminosity of 2.7 fb$^{-1}$. The two search methods differ in terms of multivariate techniques used to separate signal from background: one uses an artificial neural network and the other uses a boosted decision tree with additional inputs dervived from matrix element calculations. We present the method used to combine the results of these searches and its effect on the overall sensitivity. In the absence of an observed excess in data, we set an upper limit on the production rate times branching ratio.

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Date submitted: 09 Jan 2009 Electronic form version 1.4