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A Global Fitting Method for Extracting Electroweak Cross-Sections in the Dilepton Decay Channel SHAN-HUEI CHUANG, University of Wisconsin, MIRCEA COCA, MARK KRUSE, Duke University, CDF COLLABORATION — We present a search for Higgs bosons in a mass range between 140 GeV and 180 GeV using CDF Run 2 proton-antiproton collision data taken at $\sqrt{s} =$ 1.96 TeV. Higgs bosons with such a mass decay predominantly to a W boson pair. After selecting events with two high-P_T leptons and optimizing the event selection for $H \rightarrow WW$, we perform a likelihood technique to the data and the expected signal and background (which is dominated by standard model WW production) to extract cross-secton limits as a function of Higgs mass. For this we use the $\Delta\phi(\ell, \ell)$ spectrum (the azimuthal angle between the two leptons in the event) which is a good discriminator between $H \rightarrow WW$ and SM WW production. Future plans are to include additional WW decay modes.

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