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### **Searching for the Higgs at the Tevatron – Present and Future<sup>1</sup>**

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The Tevatron has delivered more than 3.5 inverse femtobarns of proton-antiproton collisions to the DZero and CDF experiments. Using a wide variety of approaches, the two collaborations are analyzing these data to search for the Higgs boson. The search includes two different production mechanisms for the Higgs boson. In the low mass range,  $M_H < \sim 135 \text{ GeV}/c^2$ , the analyses search for the Higgs boson produced in association with either a W or Z boson. Identifying the vector boson, typically through one of its leptonic decays, greatly reduces background sources. However, to obtain the best sensitivity, these analyses must also rely on the fact that a Higgs boson in this mass range is expected to decay primarily to a bottom-antibottom quark pair. In the higher mass range,  $130 < M_H < 200 \text{ GeV}/c^2$ , the analyses search for the Higgs Boson produce singly and decaying to a pair of vector bosons, primarily WW. This talk will review the analysis techniques such as event selection, b-quark tagging, advanced analysis approaches, and the unique challenges of the Tevatron Higgs boson search. The talk will present the current production cross section limits, including the combined limits between different search channels and between CDF and DZero results. Finally, it will discuss the prospects for future limits based on projected data sample sizes and anticipated improvement to the search techniques.

<sup>1</sup>Presenting for the CDF and DZero Collaborations