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Measurement of the Top Quark Pair Production Cross Section in the All-Hadronic Channel at DØ HENDRIK HOETH, University of Wuppertal, Germany, DZERO COLLABORATION — Measurement of the top quark pair ($t\bar{t}$) production cross section at hadron colliders can be used to test perturbative QCD predictions. Within the Standard Model, the top quark almost always decays to a W boson and a b quark. We present studies for the measurement of the $t\bar{t}$ production cross section at $\sqrt{s} = 1.96$ TeV in $p\bar{p}$ collisions using data collected by the Dduring Run II of the Fermilab Tevatron collider. We consider the all-hadronic channel, characterized by six jets (two of them b jets) in the final state, and discuss the techniques being developed for an optimal separation between signal and the overwhelming QCD multijet background. These involve b-tagging by means of a secondary vertex tagger, as well as Neural Networks to exploit the differences between signal and background in event topology.

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