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Measurement of b jet Production in Events with a Z Boson in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV JONATHAN WILSON, Baylor University, CDF COLLABORATION — A measurement of the single inclusive bottom jet cross section is presented for events containing a Z boson in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV with the Collider Detector at Fermilab. Z bosons are identified in their electron and muon decay modes, and b jets with $E_T > 20$ GeV and $|\eta| < 1.5$ are identified by reconstructing a secondary decay vertex. The measurement is based on an integrated luminosity of 337 pb^{-1} for the electron decay mode and 324 pb^{-1} for the muon decay mode. We find a cross section of $\sigma(Z + b \text{ jet}, Z \rightarrow l^+l^-) = 0.96 \pm 0.35 \text{ pb}$ and the fraction of b -jets to the total number of jets in this sample is $(2.39 \pm 0.86)\%$. This measurement is in agreement with NLO QCD predictions.

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