

Abstract Submitted  
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**Measurement of the  $B$  Meson Production Cross Section Using  $B \rightarrow \mu^- D^0 X$**  JAMES KRAUS, University of Illinois, Urbana, CDF COLLABORATION — We present a measurement of the cross section of  $B$  meson production in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$  TeV using the CDF II detector at the Fermilab Tevatron. We use  $83 \text{ pb}^{-1}$  of data taken between October 2002 and May 2003 that was collected with a trigger sensitive to high momentum muons and displaced tracks. We use partially reconstructed decays in the following modes:  $B \rightarrow \mu^- D^0 X$ ,  $D^0 \rightarrow K^- \pi^+$ ,  $B \rightarrow \mu^- D^{*+} X$ ,  $D^{*+} \rightarrow D^0 \pi^+$ ,  $D^0 \rightarrow K^- \pi^+$ , and their charge conjugates. We correct for irreducible backgrounds, trigger efficiencies, and detector acceptance. We report the total cross section above a minimum transverse momentum ( $p_T$ ) of  $9 \text{ GeV}/c$  for the rapidity range  $|y| \leq 0.6$ .

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