

Abstract Submitted
for the APR06 Meeting of
The American Physical Society

Search for the decay D to $\mu\mu$ at CDF Run II EDMUND BERRY,
University of Chicago, CDF COLLABORATION — We report on a search for the
flavor-changing neutral current decay D^0 to $\mu^+\mu^-$ in $p\bar{p}$ collisions at $\sqrt{s} =$
1.96 TeV using 330 pb $^{-1}$ of data collected by the CDF experiment at the Fermilab
Tevatron Collider. A displaced-track trigger selects long-lived D^0 candidates in the
 D^0 to $\mu^+\mu^-$ search channel. The kinematically similar D^0 to $\pi^+\pi^-$ channel is
used for normalization, and the Cabibbo-favored D^0 to $K\pi^+$ channel is used to
optimize the selection criteria in an unbiased manner. This analysis is an extension
of a previous search using 65 pb $^{-1}$ of data, when a limit was set on the branching
fraction, $B(D^0 \text{ to } \mu^+\mu^-)$ less than 2.5×10^{-6} at the 90 percent confidence level.

Matthew Herndon
University of Wisconsin

Date submitted: 13 Jan 2006

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