Abstract for an Invited Paper
for the APR06 Meeting of
The American Physical Society

Testing the top quark lifetime

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Experiments at the Fermilab Tevatron are collecting large and exceptionally pure samples of top quarks, and performing measurements to confirm that the particle discovered in $p\bar{p}$ collisions a decade ago is the anticipated sixth quark. One unambiguous test is a measurement of the top quark lifetime, which is constrained by the consistency of the Standard Model to be less than 10^{-24} s. I will describe a search for anomalous decay lengths in $t\bar{t}$-like events observed with the Collider Detector at Fermilab (CDF), and report a first direct limit on the t quark lifetime.