

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

Measurement of the top quark mass in the lepton+track sample at CDF MARCO TROVATO, University of Pisa, CDF COLLABORATION — We report on a measurement of the top quark mass in the lepton+track sample of $t\bar{t}$ events at CDF. This new selection was applied to $t\bar{t}$ candidates in the dilepton channel in order to increase the acceptance by relaxing the cuts on one lepton. To constrain the event kinematics the azimuthal angles of the two neutrinos are assumed as known and the top quark mass is reconstructed accordingly. The full neutrino phase space is scanned and χ^2 -dependent weights are given to the solutions in order to build a preferred mass for each event. The integrated luminosity of the data sample is 2.1 fb^{-1} . 236 candidate events were reconstructed and fitted as a superposition of signal and background. In a constrained fit with 105.8 ± 12.9 background events as determined in the production cross section studies we measure $m_t = 167.7 + 4.2 - 4.0 \text{ (stat)} \pm 3.1 \text{ (syst.) GeV}/c^2$. If the background is left unconstrained we measure $m_t = 167.7 + 4.5 - 4.3 \text{ (stat)} \pm 3.1 \text{ (syst.) GeV}/c^2$.

Florencia Canelli

Date submitted: 10 Jan 2008

Electronic form version 1.4