

APR09-2009-000693

Abstract Submitted  
for the APR09 Meeting of  
The American Physical Society

Sorting Category: A19. (E)

**Top quark mass measurement in the lepton+jets and dilepton channels at CDF using  $m_T^2$**  JIAN TANG, University of Chicago, CDF COLLABORATION — A measurement of top quark mass at CDF will be presented using a  $3.0 \text{ fb}^{-1}$  data sample in both lepton+jets and dilepton channels. In the lepton+jets channel, we determine the reconstructed top quark mass by minimizing the  $\chi^2$  for the overconstrained kinematic system, and we also measure the hadronically decaying  $W$  boson mass to provide an *in-situ* improvement in the determination of jet energy scale. In the dilepton channel, we replace our old observable  $H_T$ , which is the scalar sum of transverse energy of all particles in one event, with a new observable  $m_T^2$ , which is used in  $W$  mass measurements and SUSY searches. We find a satisfying improvement in our result of top quark mass measurement using this new observable.

- Prefer Oral Session  
 Prefer Poster Session

Florencia Canelli  
canelli@uchicago.edu  
University of Chicago/Fermilab

Date submitted: 09 Jan 2009

Electronic form version 1.4