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Top quark pair production and top quark properties at CDF

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Result of merging two abstracts:

We present the most recent CDF top quark pairs production cross sections measurements. We also present the test of Standard Model predictions for top quark decaying into b quarks, performed by measuring the ratio R between the top quark branching fraction to b quark and the branching fraction to any type of down quark. The extraction of the CKM matrix element $|V_{tb}|$ from the ratio R is discussed. Finally, the direct measurement of top quark width and the W helicity fractions from top decays are shown.

We present the latest measurements on the forward-backward asymmetry (AFB) in top anti-top quark production in proton-antiproton collisions with center-of-mass energy of 1.96 TeV using CDF II detector at the Tevatron. With the full CDF Run II data set, the measurements are performed in top anti-top decaying to final states that contain one or two charged leptons (electrons or muons). In addition, we combine the results of the leptonic forward-backward asymmetry between the two final states. All the results show deviations from the next-to-leading order (NLO) standard model (SM) calculation.

Summary

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