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Top cross section and SM properties at CDF

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With the large dataset accumulated by CDF (more than 3 fb-1), we are able to make stringent tests on the properties of top quark. By studying production rates and distributions sensitive to the production and decay mechanisms of top quarks, we can search for contamination from non-standard model particles, or subtle differences in the electroweak or strong interactions that govern top quark interactions. We are able to measure the top cross section in many different decay channels with unprecedented precision, and uncertainties comparable to those of theoretical predictions. We will present the most recent measurements along with their combined result. We will also present the most recent and precise measurements of other properties of the top quark such charge, lifetime, width, and more carried out by the CDF collaboration at Fermilab.
Three CDF measurments of the transverse polarization of W bosons from top decays have tested the V-A nature of the weak interaction. We have set the most stringent limits on the existence of V+A coupling in top decays, which is predicted by some models of new physics.

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