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Top quark mass: latest CDF results, Tevatron combinations, and electroweak implications

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We report the results of the measurements of the top quark mass in the lepton+jet, dilepton, and all-jets channels using top pair events corresponding to an integrated luminosity of more than 4 fb-1 from proton-antiproton collisions at the Tevatron recorded by the CDF II detector. We present different results using different techniques in the lepton + jets, dilepton, all-jets channels and describe the current status of the systematic uncertainties. We present results on the precision measurement of the top quark mass and a combination of the best CDF top mass measurements. We present also a combination by the TevEWWG (Tevatron electroweak working group) of the best top mass results from CDF and D0 in Run 1 and Run 2 of the Tevatron. This result is the current world average, and offers an uncertainty almost reaching 1 GeV. The new mass value has been included in traditional LEP EWWG fits to precision electroweak data, and implications for the Standard Model Higgs have been derived.

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