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Measurement of the top quark mass in ppbar collisions using events with two leptons

We present a measurement of the top quark mass in ppbar collisions at sqrt(s)=1.96 TeV using ttbar events with two leptons and accompanying jets in 4.3 fb-1 of data collected with the D0 detector at the Fermilab Tevatron collider. We analyze the kinematically underconstrained dilepton events by integrating over their neutrino rapidity distributions. We reduce the dominant systematic uncertainties from the calibration of jet energy using a correction obtained from ttbar−>lepton+jets events. We also correct jets in simulated events to replicate the quark flavor dependence of the jet response in data. In combination with our previous analysis we measure mtop=174.0+/-2.4(stat)+/-1.4(syst) GeV.

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