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Precision measurement of the top quark mass in events with two leptons at D0 HUANZHAO LIU, Southern Methodist University, D0 COLLABORATION — We present a measurement of the top quark mass in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using $t\bar{t}$ events with two leptons (ee, $e\mu$ or $\mu\mu$) in the final state. This analysis utilizes an integrated luminosity of 4.3 fb^{-1} collected with the D0 detector at the Fermilab Tevatron collider. We employ a neutrino weighting technique to extract the top mass from 319 dilepton events. To reduce the dominant systematic uncertainties from jet energy calibration, we apply the jet energy corrections determined from a dijet invariant mass using $W \to jj$ decays in $t\bar{t} \to \ell$+jets events. We also apply corrections to jets in Monte Carlo events to replicate the flavor dependence of the jet response in data.

Marco Verzocchi
Fermi National Accelerator Laboratory

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