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Measurement of the Top Quark Mass at D0 Using the Matrix Weighting Method on Dilepton Events DANIEL BOLINE, Boston University, D0 COLLABORATION — We present a measurement of the top quark mass in the dilepton channel based on approximately 1 fb $^{-1}$ of data collected by the D0 experiment during Run II of the Fermilab Tevatron collider. The kinematics of these events are not sufficiently constrained by the observed final state to reconstruct the top quark mass. We therefore compute a likelihood for the observed events to occur for a range of assumed top quark masses. For each event we choose the hypothesized top quark mass at which this likelihood is maximized as the estimator for the top quark mass. We compare the distribution of this estimator for all events to Monte Carlo predictions for different input top quark masses in a maximum likelihood fit to extract the top quark mass.

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