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Measurement of single top quark production at D0 using a matrix element discriminant CHRIS POTTER, McGill University, D0 COLLABORATION — We present evidence for single top quark production in proton- antiproton collisions using a dataset of almost 1 fb^{-1} collected with the D0 detector. Single top quarks are expected to be produced in association with bottom quarks through the exchange of a W boson in the s- channel and the t-channel. We select events with one energetic electron or muon, missing transverse energy, and two, three or four jets, with at least one b-tagged jet. This analysis uses a matrix element discriminant to separate the signal from the background. We measure a cross section compatible with the Standard Model prediction for electroweak production of single top.

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