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Search for single top quark production at CDF using a multivariate likelihood method SARAH BUDD, University of Illinois at Urbana-Champaign, CDF COLLABORATION — The electroweak production of single top quarks has been sought after since the discovery of the top quark more than 10 years ago. The measurement of the cross section for single top quarks provides sensitivity to the CKM element V_{tb} and is sensitive to various models of physics beyond the standard model. We present new results from the search for single top quark production using 2 fb^{-1} of data accumulated with the CDF detector. We select events with one charged lepton, large missing transverse energy, and two jets, where one jet is identified as a b-quark jet using displaced secondary-vertex information from the CDF silicon detector at the Fermilab Tevatron. Results are given using a multivariate likelihood function, used to search for s-channel and t-channel single-top production as well as the combined process.

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