

Abstract Submitted  
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**Observation of Single Top Quark Production at the DZero Experiment** CECILIA GERBER, University of Illinois at Chicago, ANN HEINSON, University of California, Riverside, REINHARD SCHWIENHORST, Michigan State University, D0 COLLABORATION — Using  $1 \text{ fb}^{-1}$  of data, D0 reported an evidence for the production of single top quarks at 3 standard deviations, in 2007. Three different state-of-the-art multivariate techniques: Decision Trees (DT), Matrix Elements (ME), and Bayesian Neural Networks (BNN), were used to identify the small signal from the overwhelming backgrounds. A weighted average of measurements from all three analyses was then done via the Best Linear Unbiased Estimate (BLUE) to further enhance the sensitivity. Here we present a multivariate approach to combining results, which takes as input the output discriminants of the DT, ME, and BNN analyses. Preliminary results suggest a significant improvement upon the simple weighting technique.

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