

Abstract Submitted
for the SES12 Meeting of
The American Physical Society

Visualizing the Matrix Element Method JAMES GAINER, KONSTANTIN MATCHEV, University of Florida — The Matrix Element Method (MEM) is an increasingly popular technique in experimental particle physics. In this method, the squared matrix elements for producing the observed final state using various hypotheses, such as a signal hypothesis and a background hypothesis, are calculated. The resulting matrix elements can be used to quantify when events are more “signal-like” or “background-like,” thus allowing more sensitive searches for new physics. We provide an introduction to this method. We then demonstrate a simple interpretation of signal and background matrix elements, which is appealing visually and may inspire novel searches for new physics.

James Gainer
University of Florida

Date submitted: 18 Sep 2012

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