

Abstract Submitted
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New techniques for reducing backgrounds originating from fake missing transverse energy in SM Higgs searches at CDF PHILIP HEBDA, Purdue University, CDF COLLABORATION — We consider associated production of a standard model (SM) Higgs boson and a W or Z boson in conjunction with the subsequent decay of the Higgs into two b -quark jets and the decay of the Z boson into neutrinos or the W boson into a lepton that escapes detection and a neutrino, which results in both cases in a detector signature of large missing transverse energy. For these channels mis-measurement of jet energies in multi-jet events is one of the primary sources of background to a potential Higgs signal. We use data-driven modeling of the multi-jet background to predict the shape of the distribution for fake missing transverse energy and fit this shape to remove background contributions to our candidate samples. The data was collected at the Fermilab Tevatron collider with the CDF detector. We present studies on the performance of this technique and its expected contribution to improvements in the sensitivity of the analysis.

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