

Search for diboson production in final states with missing transverse energy and jets at CDF

We present a search for diboson production in final states with missing transverse energy and jets using the latest amount of data collected by the CDF detector at the Fermilab Tevatron. We select events containing two jets with transverse energies above 25 GeV and significant missing transverse energy (MET). Observing a signal in this event topology is challenging due to the large backgrounds from W+jet and QCD multi-jet production. We present new methods for significantly reducing the QCD multi-jet background in which mis-measured jets lead to large, fake MET within the events. An event by event calculation of MET significance, taking into account the energy resolution of the jets within each event, allows for the removal of events in which the determined significance is below that expected for signal.

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