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Search for diboson production in the lepton plus missing transverse energy plus two b -quark jets final state at CDF MARCO TROVATO, University of Pisa (INFN), CDF COLLABORATION — Studying diboson production in final states containing a lepton, neutrino, and a pair of b -quark jets is important since the event topology is identical to that expected for the associated production of a W boson and a standard model Higgs boson for Higgs masses below $135 \text{ GeV}/c^2$. Thus, searches for diboson production in this final state are a preliminary and necessary step towards making a potential Higgs discovery. Here we present a search for WW/WZ in events with a lepton, missing transverse energy, and b -quark jets. A new multi-variate tagger to distinguish b -quark jets from light-quark jets is introduced. Moreover we include events with three or more jets in the final state to our candidate sample to increase the acceptance for signal events. We also describe an new procedure for improved reconstruction the Z -invariant mass for events in this sample.

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