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Search for Standard Model Higgs Boson in H -> WW -> lvjj Channel at CDF

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We present a search for Standard Model Higgs boson (h) production in pp-bar collisions at a center-of-mass energy of 1.96 TeV. for this analysis, we use the data collected with the CDF II detector. We consider h decays into two W bosons of which one decays into a lepton plus a neutrino and another decays into two jets. This is the dominant decay mode for h mass larger than 135 GeV. This decay mode has an important kinematic feature that W bosons have a spin correlation because the spin of h is zero. We employ a likelihood method with variables such as an angle between a lepton and an up-type jet to separate signals from backgrounds.

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