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Search for Associated Production of W and Higgs Bosons in the All Hadronic Decay Mode JUSTACE CLUTTER, University of Kansas, D0 COLLABORATION — We present a search for a low mass standard model Higgs Boson particle, produced via an associated W Boson, in the hadronic decay channel where the Higgs Boson particle decays into two b quarks and the W Boson decays into two light quarks. The dataset, collected at the D0 experiment at Fermilab, has a total integrated luminosity of 1 fb^{-1}. A basic set of cuts designed to prefer a Higgs Boson hadronic decay signature including but not limited to the total number of jets and the number of b quark jets in an event is applied to the data. The data is further enhanced for the Higgs Boson decay though the use of a decision tree trained on a combination of Monte Carlo signal simulations and an orthogonal data sample, designed to represent the dominant QCD background, based on the requirement for a single b quark jet in the event. A two dimensional fit to the invariant mass of the two b quark jets and the invariant mass of the remaining two light quark jets is explored as a technique to determine a limit on the production cross section of the standard model Higgs Boson.

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