

Abstract Submitted
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Search for a Standard Model Higgs boson in the $WH \rightarrow \tau\nu b\bar{b}$ channel with 4.0 fb^{-1} at D0 MELVIN MELJER, Radboud University Nijmegen/NIKHEF, DZERO COLLABORATION — We present a search for a low mass ($m_H < 135 \text{ GeV}$) Standard Model Higgs boson in a 4.0 fb^{-1} dataset of proton antiproton collisions at 1.96 TeV center-of-mass energy, recorded by the D0 detector at the Tevatron collider. This search was specifically aimed at the Higgs boson decaying to a $b - \bar{b}$ pair, with an associated W boson which decays into a hadronically decaying tau and a tau-neutrino. We require large missing transverse energy, a jet identified as a hadronic tau and to optimize acceptance, we require only loose b identification requirements on two jets, or one jet with tight b identification requirements. This analysis was done using Boosted Decision Trees and in the end a limit was set on Standard Model Higgs boson production.

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