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Search for Higgs Bosons in $WW^* \to \ell^+\ell'^-$ Decays JONAS STRANDBERG, University of Michigan, D0 COLLABORATION — The process $H \to WW^* \to \ell^+\ell'^-$ (ℓ, $\ell' = e$,μ) is studied in $p\bar{p}$ collisions at the center of mass energy $\sqrt{s} = 1.96$ TeV with the upgraded D0 detector at the Fermilab Tevatron accelerator. A Higgs particle with a mass greater than 140 GeV primarily decays into a of W-bosons and the semi-leptonic decay channels of the W provide a clear signature. Besides the search for the Standard Model Higgs, exotic models with enhanced Higgs production cross sections are already probed with data corresponding to integrated luminosity of 0.9 fb^{-1}.

Ulrich Heintz
Boston University

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