

Abstract Submitted
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SM Higgs boson Discovery Potential at CMS via WBF, $H \rightarrow ZZ \rightarrow ll\nu\nu$ UGUR AKGUN, A. MESTVIRISHVILI, A.S. AYAN, F. DURU, E. NORBECK, Y. ONEL, S. WANG, University of Iowa, CMS COLLABORATION — Among the four different production mechanisms of the Standard Model (SM) Higgs boson, Weak Boson Fusion (WBF) has the second largest cross section. This channel has a unique signature because it produces high energy quark jets in the forward and backward directions, which allows the background to be reduced, and makes WBF production a strong candidate for SM Higgs discovery. We report the CMS discovery potential for the SM Higgs boson, produced via WBF and decaying to a pair of Z^0 bosons, with one Z^0 decaying to e^+e^- and the other to $\nu_e\bar{\nu}_e$.

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