

Search for $ZH \rightarrow llbb$ production in $p\bar{p}$ collisions at D0

We present a search for a standard model (SM) Higgs boson produced in association with a Z boson in 9.7 fb^{-1} of $p\bar{p}$ collisions, collected with the D0 detector at the Fermilab Tevatron at $\sqrt{s}=1.96 \text{ TeV}$. Selected events contain one reconstructed $Z \rightarrow ee$ or $Z \rightarrow \mu\mu$ candidate and at least two jets, including at least one b-tagged jet. The data are consistent with the background expected from other SM processes. Upper limits at 95% C.L. on the ZH production cross section times branching ratio are set for Higgs boson masses $100 < M_H < 150 \text{ GeV}$. The observed (expected) limit for $M_H = 115 \text{ GeV}$ is a factor of 3.7 (4.2) larger than the SM prediction.

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