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Tevatron constraints on models of the Higgs boson with exotic spin and parity using decays to bottom-antibottom quark pairs

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Combined constraints from the CDF and D0 Collaborations on models of the Higgs boson with exotic spin J and parity P are presented and compared with results obtained assuming the standard model value $J^P = 0^+$. Both collaborations analyzed approximately 10 fb^{-1} of proton-antiproton collisions with a center-of-mass energy of 1.96 TeV collected at the Fermilab Tevatron. They combined analyses of the $WH \to \ell\nu bb$, $ZH \to \nu\nu bb$, and $ZH \to \ell\ell bb$ channels. Two models of bosons with $J^P = 0^-$ and $J^P = 2^+$ were tested.

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