

Abstract Submitted  
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**Search for a Fermiophobic Higgs Boson Decaying into Diphotons at CDF** BENJAMIN RAY, ROBERT GROUP, RAY CULBERTSON, CALLIE DEMAY, CDF/FNAL, CDF COLLABORATION — A search is performed for a Higgs boson decaying into photons using 3 1/fb of data collected by the CDF detector at center-of-mass energy of 1.96 TeV at the Fermilab Tevatron. The production processes of associated production with a W or Z boson and vector boson fusion are considered. Limits on the fermiophobic Higgs boson production rate, and its branching fraction into a diphoton pair are obtained as a function of the Higgs boson mass. A lower limit on the mass of a fermiophobic Higgs boson is also presented.

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