

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Flavor Changing Neutral Higgs Boson Meets the Top and the Tau at Hadron Colliders CHUNG KAO, Univ of Oklahoma — We investigate the prospects for discovering a top quark decaying into one light Higgs boson (h^0) along with a charm quark in top quark pair production at the CERN Large Hadron Collider (LHC) and future hadron colliders. A general two Higgs doublet model is adopted to study the signature of flavor changing neutral Higgs (FCNH) interactions with $t \rightarrow ch^0$, followed by $h^0 \rightarrow \tau^+\tau^-$. We study the discovery potential for the FCNH signal and physics background from dominant processes with realistic acceptance cuts and tagging efficiencies. Promising results are found for the LHC running at 13 or 14 TeV collision energy as well as a future pp collider at 27 TeV.

Chung Kao
Univ of Oklahoma

Date submitted: 08 Jan 2020

Electronic form version 1.4