Abstract Submitted
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Leptonic flavor violation in the Higgs sector at the LHC[1] BRENT MCCOY, CHUNG KAO, Univerity of Oklahoma, WEI-SHU HOU, National Taiwan University, MASAYA KOHDA, Nagoya University, AMARJIT SONI, Brookhaven National Lab — We present the discovery potential of $pp \to \phi^0 \to \tau\mu + X$ at the Large Hadron Collider (LHC), with $\phi^0 = h^0,\ H^0,\ A^0$. We choose a general Two Higgs Doublet Model (2HDM) with non-negligible flavor changing couplings in the hadronic sector, in which ϕ^0 couples to tc. Current data favors the alignment limit of a 2HDM where $\sin(\beta - \alpha) \approx 1$, which can enhance leptonic couplings to the light Higgs boson and might provide an observable flavor changing cross-section in that sector. We study the $\phi^0 \to \tau\mu$ channel for a range of $\cos(\beta - \alpha)$ and $\rho_{\tau\mu}$ values that can be consistent with the CMS excess in Run-1 and account for dominant physics background with realistic acceptance cuts at $\sqrt{s} = 13$ TeV and 14 TeV.

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