

Searches for neutral BSM Higgs bosons decaying into tau leptons.

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The CMS Collaboration has reported in Run 2 two excesses above the background expectation in the search for a Beyond Standard Model Higgs boson decaying into tau leptons [1], at masses of 0.1 and 1.2 TeV and in the gluon fusion production process.

This talk will present the strategy for a similar search with data collected by the CMS experiment in Run 3. First distributions and comparisons among data and Monte Carlo simulations will be shown for 2022 and 2023 data.

References

- [1] Albert M Sirunyan et al. Search for additional neutral MSSM Higgs bosons in the $\tau\tau$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. *JHEP*, 09:007, 2018.