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Measurement of Higgs bosons decaying to Tau lepton pairs and Constraints on Anomalous HVV couplings

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In 2017 CMS was the first experiment to observe the Higgs boson in its decay to Tau Leptons. Now, using 35.9 1/fb of data collected by CMS from proton-proton collisions at the Large Hadron Collider in 2016, this channel is used to search for anomalous couplings in the production of the Higgs. The search is performed using the Matrix Element Likelihood Analysis (MELA) method to constrain four different types of anomalous couplings. The final limit makes use of an advanced 2 dimensional fit technique and results, so far, remain consistent with the Standard Model. The analysis is described and plans for the future, which include implementation of a machine learning algorithm for improved event selection, are presented.

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