

Exploring the CP-sensitive STXS staging in the HWW decay channel by the ATLAS experiment

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The current STXS stage 1.2 binning is not sensitive to the charge-parity property of the Higgs boson. While there is an on-going effort to finalize the STXS stage 1.3 bins, the ATLAS experiment is making a first attempt at measuring CP-sensitive STXS-like bins in the H \rightarrow WW decay channel. This is done by measuring cross-sections split by the signed azimuthal angle difference between the two leading jets. This STXS measurement considers both ggF and VBF production modes in order to explore the ggF and VBF CP-odd anomalous coupling simultaneously. The CP-odd effect is characterized by SMEFT operators in the Warsaw basis and the analysis aims to constrain the corresponding CP-odd Wilson coefficients, considering only the linear term from SM-BSM interference. The talk focuses on the motivation of the binning and gives an overview of the CPV test strategy.

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Session Classification: Selected topics on VBF and related