

# **H $\rightarrow\tau\tau$ analysis with ATLAS experiment: status and objectives**

*Tuesday, 25 June 2019 12:30 (20 minutes)*

Analysis of Standard Model Higgs boson decays to a pair of  $\tau$ -leptons is currently performed by the ATLAS experiment with full data set collected in Run 2. Among many aims of the analysis, there are precise measurement of Higgs Boson properties, coupling to tau-leptons, cross section in the corresponding decay channel. The talk will explain the analysis strategy. The focus will be given to event selection procedure and its revisiting, as well as object reconstruction. The status and developments of the main mass estimation technique (Missing Mass Calculator) will be presented.

The outlook at the observed significance of the H $\rightarrow\tau\tau$  signal over the expected background will be given. The results on total cross section in H $\rightarrow\tau\tau$  decay channel using data at  $\sqrt{s}=13$  TeV will be also discussed.

**Primary author:** PETUKHOVA, Krystsina (Charles University (CZ))

**Presenter:** PETUKHOVA, Krystsina (Charles University (CZ))