



Contribution ID: 18

Type: not specified

Search for Higgs boson pair-production in the $bb\tau^+\tau^-$ decay channel with the ATLAS detector

Monday, July 30, 2018 9:00 AM (15 minutes)

In this talk we present a search for resonant and non-resonant Higgs boson pair-production decaying to $bb\tau^+\tau^-$, considering the semi-leptonic and fully hadronic final states of the τ -leptons. The analysis uses 36.1 fb^{-1} of data collected by the ATLAS experiment at the LHC in 2015 and 2016 at a centre-of-mass energy of $\sqrt{s} = 13 \text{ TeV}$. The inclusion of the fully hadronic decay channel in this analysis further improves the sensitivity of the $hh \rightarrow bb\tau^+\tau^-$ decay in contrast with Run-1 results. Results for non-resonant Higgs pair-production are compared to Standard Model predictions. The data are also analyzed to probe resonant Higgs pair production, constraining a model with an extended Higgs sector based on two doublets and a Randall-Sundrum bulk graviton model.

Primary author: DONADELLI, Marisilvia (Universidade de Sao Paulo (BR))

Presenter: DONADELLI, Marisilvia (Universidade de Sao Paulo (BR))

Session Classification: Análise de Dados

Track Classification: Análise de Dados