



Contribution ID: 212

Type: Poster Presentation

Estimation of the fake rate background in same sign $W^{+}W^{+}mn$ production at the LHC with ATLAS Detector

Tuesday, 5 July 2016 16:10 (1h 50m)

Abstract content (Max 300 words) Formatting & Special chars

At the Large Hadron Collider, Vector Boson Scattering (VBS) has been identified as a promising interaction for understanding of the Electroweak Symmetry Breaking (EWSB). One of its production mechanisms is the same sign $W^{+}W^{+}mn$ production process, and has never been observed. This talk present an estimation of the fake background in same sign $l^{+}l^{+}mn$ + $E_{\text{miss}}T$ + 2jets signature coming from the scattering of two W bosons with the same electric charge. The two W's are required to decay leptonically considering electrons and muons only. The background processes that can mimic the signature of same sign $l^{+}l^{+}mn$ + $E_{\text{miss}}T$ + 2jets are W +jet, $t\bar{t}$, single top or QCD multijet processes where one or two jets are mis-reconstructed as leptons. The main objective is to estimate fake background coming from $t\bar{t}$ decay using Monte Carlo simulations. For this analysis only electrons were considered in the final state.

Apply to be considered for a student award (Yes / No)?

Yes

Level for award (Hons, MSc, PhD, N/A)?

MSc

Main supervisor (name and email) and his / her institution

Dr Andrew Hamilton, University of Cape Town

Email: andrew.hamilton@uct.ac.za

Office Phone:(021) 650-3349

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

No

**Please indicate whether
this abstract may be
published online
(Yes / No)**

Yes

Primary author: Ms THUSINI, Xolisile (University of Cape Town)

Presenter: Ms THUSINI, Xolisile (University of Cape Town)

Session Classification: Poster Session (1)

Track Classification: Track B - Nuclear, Particle and Radiation Physics