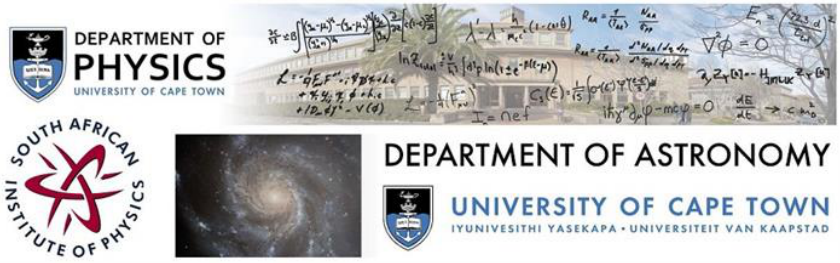

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Estimation of the fake rate background in same sign W^{+mn}W^{+mn} production at the LHC with ATLAS Detector

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

Abstract content
   (Max 300 words)
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At the Large Hadron Collider, Vector Boson Scattering (VBS) has been identified as a promising interaction for understanding of the Elecroweak Symmetry Breaking (EWSB). One of its production mechanisms is the same sign W^{+mn}W^{+mn} production process, and has never been observed. This talk present an estimation of the fake background in same sign l^{+mn}l^{+mn} + E^{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 sign l^{+mn}l^{+mn} + E^{miss}_T + 2jets are W +jet, ttbar, 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 ttbar decay using Monte Carlo simulations. For this analysis only electrons were considered in the final state.

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