



Contribution ID: 118

Type: Oral Presentation

Production of the Madala boson in association with top quarks

Wednesday, 5 July 2017 10:00 (20 minutes)

The Madala hypothesis is the prediction of a new heavy scalar, the Madala boson, that has had previous success in explaining several anomalies in LHC Run 1 and 2 data. In the literature, the Madala boson has so far primarily been discussed in the context of its dominant production mode, gluon fusion. However, it can be shown that a study of its production in association with top quarks can provide us with crucial information about the model, as well as explain the enhancement of top associated Higgs production that has been observed in the data – most notably in leptonic channels. For this study, Monte Carlo events have been produced and passed through a detector simulation. These events are then run through every available analysis that studies top associated Higgs production by the ATLAS and CMS collaborations. With the Madala hypothesis prediction, an effective signal strength is calculated and compared with the observed values.

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

Yes

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

PhD

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

Yes

Primary author: Mr VON BUDDENBROCK, Stefan (University of the Witwatersrand)

Presenter: Mr VON BUDDENBROCK, Stefan (University of the Witwatersrand)

Session Classification: Nuclear, Particle and Radiation Physics 2

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