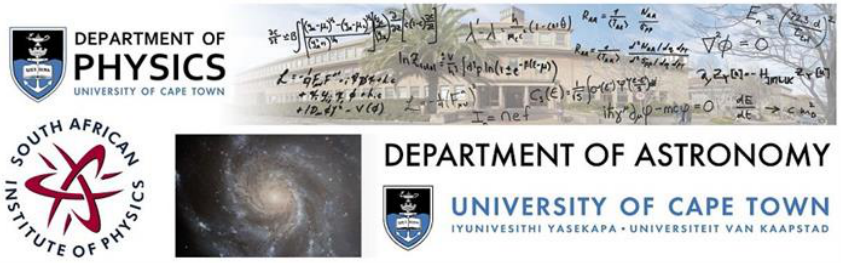

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The production of multiple leptons due to heavy bosons at the Large Hadron Collider

Wednesday, 6 July 2016 11:30 (20 minutes)

Abstract content
   (Max 300 words)
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We are investigating the implications of the presence of heavy neutral, H, A, and charged bosons, H+-, in terms of the production of multiple leptons in proton proton collisions at the Large Hadron Collider. Due to the conservation of gauge invariance it is postulated that the heavy scalar, H, decays into an intermediate lighter scalar, S, and the Higgs boson, h with the decays H->SS,Sh. The scalar S is assumed to decay into a pair of dark matter particles and pairs of SM particles. One of the most prominent decays would be S->WW(*), leading to the production of leptons. In addition, the decays A->ZH and H+- -> W+- H are allowed yielding multiple lepton final states, as well. The final states in interest and the distinct kinematic features will be summarised.

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

Prof. Bruce Mellado Garcia (bmellado@mail.cern.ch)/ University of Witwatersrand

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Primary author: Mr FADOL, Abdualazem (University of Witwatersrand)

Co-author: Prof. MELLADO, Bruce (University of Witwatersrand)

Presenter: Mr FADOL, Abdualazem (University of Witwatersrand)

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