



Contribution ID: 37

Type: Oral

A search for a heavy pseudoscalar that decays into a Z boson and another heavy scalar boson, leading to four lepton final states in pp collisions at $\sqrt{s} = 13\sim\text{TeV}$.

A search for a heavy resonance pseudo-scalar, A , decaying into a Z boson and another heavy scalar boson, H , is carried out at the LHC using a data sample corresponding to an integrated luminosity of 139 fb^{-1} from proton-proton collisions at $\sqrt{s} = 13\sim\text{TeV}$. In these studies, the scalars H will decay to two scalars S or an S and a Standard Model Higgs boson H via an effective model. The $A \rightarrow Z(\rightarrow \ell\ell)$ and $H(H \rightarrow SS \text{ or } Sh)$ production in at least four leptons final state will be examined in this search.

Primary authors: MTINTSILANA, Onesimo (University of Witwatersrand); KUMAR, Mukesh (University of the Witwatersrand); Prof. MELLADO, Bruce (University of the Witwatersrand and iThemba LABS)

Presenter: MTINTSILANA, Onesimo (University of Witwatersrand)