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Search for a spin-zero high mass resonance with the $Z(\ell\ell)Z(\nu\nu)$ final state in 2016 with CMS

The latest results of the search for a high mass scalar boson using the 13TeV proton-proton collision data acquired by the CMS experiment in 2016 will be presented. In particular, this poster will be focused on the decay channel $H \rightarrow ZZ \rightarrow \ell\ell\nu\nu$ selected from data corresponding to an integrated luminosity of 35.9/fb. An analysis of the reconstructed transverse mass and missing transverse energy is performed in different event categories, and limits are set on the production cross section of a heavy scalar of variable width in the gluon-fusion and vector-boson fusion production modes.

Experimental Collaboration

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