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Type: Talk

Search for heavy resonances decaying into a pair of Z bosons using 139 fb^{-1} of proton–proton collisions at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector

Thursday 10 September 2020 11:00 (25 minutes)

A search for heavy resonances decaying into a pair of Z bosons is presented. The search uses proton–proton collision data at a centre-of-mass energy of 13 TeV collected from 2015 to 2018 that corresponds to an integrated luminosity of 139 fb^{-1} which is the full data statistics collected by the ATLAS detector during the Run 2 of the Large Hadron Collider (LHC). Different mass ranges for the hypothetical resonances are considered spanning from 200 GeV to 2000 GeV. In the absence of a significant observed excess, the results are interpreted as upper limits on the production cross section of a spin-0 or spin-2 resonance. The upper limits for the spin-0 resonance are translated to exclusion contours in the context of Type-I and Type-II twoHiggs-doublet models (2HDM), while those for the spin-2 resonance are used to constrain the Randall–Sundrum (RS) model with an extra dimension giving rise to spin-2 graviton excitations.

Is this abstract from experiment?

Yes

Is the speaker for that presentation defined?

Yes

Name of experiment and experimental site

ATLAS, <http://atlas.cern/>

Internet talk

Yes

Details

This is a talk directly invited by the organizers. ATLAS collaboration confirms that the speaker is eligible to give this talk on behalf of the collaboration.

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Session Classification: Semiplenary