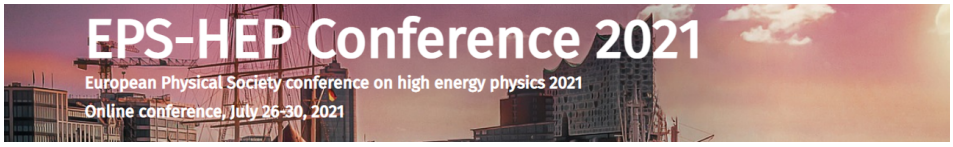

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Searches for heavy resonances decaying into Z, W, and Higgs bosons at CMS

Monday 26 July 2021 15:15 (15 minutes)

We present a summary of searches for new heavy resonances decaying into pairs or triplets of bosons, performed on proton-proton collision data collected with the CMS detector at the CERN LHC at a center-of-mass energy of 13 TeV. A common feature of these searches is the boosted topology, where the decay products of the considered bosons (both electroweak W, Z bosons and the Higgs boson) are expected to be highly energetic and close in angle. In cases with hadronic boson decays this leads to massive, large radius jets with substructure. The exploitation of jet substructure techniques (with deep neural networks and others), allows to increase the sensitivity of such searches. Techniques to calibrate such jets discriminant and to estimate total background in data are used. Results are interpreted in the context of multiple scenarios beyond the standard model.

Collaboration / Activity

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