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Search for new resonances decaying into boosted W, Z and H bosons at CMS

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This talk gives an overview of the searches for new heavy resonances decaying to standard model bosons at the TeV mass scale. Results are based on data corresponding to an integrated luminosity up to about 36 inverse femtobarns recorded in proton-proton collisions at s=13 TeV with the CMS detector at the CERN LHC. The bosons coming from the resonance decay can be W, Z, or the standard model Higgs. For very heavy resonances, bosons are produced with momentum considerably higher than their mass, modifying in a very appreciable way the event topology. The quarks originated from the hadronic decay of the SM bosons will be collimated into a smaller area such that they are clustered within a single large cone jet. Dedicated reconstruction techniques are used to distinguish the merged decay products of W, Z and H bosons produced with high transverse momentum, from jets that originate from single partons.

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