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Search for heavy non-SUSY BSM particles in boosted final states

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Many models of physics beyond the Standard Model (SM) contain enhanced couplings to massive standard model particles like the W,Z,Higgs, and top. We present a review of non-SUSY based searches for new physics beyond the SM in final states containing these heavy particles, using proton-proton collision data collected with the CMS detector at the CERN LHC. The models probed can contain heavy gauge bosons, excited quarks, gravitons, and both chiral and vector-like top and bottom quark partners. We analyze a wide range of final states, from multi-leptonic to entirely hadronic, and many results use novel analysis techniques to identify and reconstruct highly boosted final states that are created in these topologies. These techniques provide increased sensitivity to new high-mass particles over traditional search methods.

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