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Searches for new resonances decaying into diboson final states with large missing transverse momentum

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We report on searches for new heavy resonances decaying to a pair of standard model (SM) bosons where the final states contain significant missing energy due to the presence of undetected neutrinos. The results are based on data collected by the CMS detector at the CERN LHC corresponding to approximately 36 inverse femtobarns of proton-proton collisions at sqrt{s}=13 TeV and extend previous experimental sensitivities to regimes with smaller coupling to SM particles and higher ranges in TeV mass scales. These channels can offer increased event yields compared to those will fully visible final states. However due to the presence of undetected neutrinos it is not possible to fully reconstruct the properties of such events. We discuss strategies used to improve sensitivities and background rejection and compare results with related analyses using alternative channels.

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