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Search for a W' boson decaying to a tau lepton and a neutrino in proton-proton collisions at 13 TeV with CMS

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A search for a new high-mass resonance decaying to a tau lepton and a neutrino will be reported in this poster. The analysis uses proton-proton collision data collected by the CMS experiment at the LHC at 13 TeV, corresponding to an integrated luminosity of 35.9 inverse fb. The search utilizes hadronically decaying tau leptons. An interpretation of results will be shown in the context of W' boson predicted in the sequential standard model (SSM), and also nonuniversal gauge interaction model (NUGIM), in which the W' boson decays preferentially to fermions of the third generation. In addition, a model-independent limit will be shown, allowing the results to be interpreted in other models giving the same final state with similar kinematic distributions.

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