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Search for W+gamma (leptonic) Resonance with the CMS experiment with full RunII data KAK WONG, University of Maryland, College Park, CMS COLLABORATION COLLABORATION — In this talk we present the current status of a W+gamma resonance search in the leptonic channel, using the full LHC Run II data set of 13TeV proton-proton collisions collected with the CMS detector, corresponding to an integrated luminosity of 137 fb^{-1}. Final states with a W boson and a photon are interesting as they can be used to test several Beyond the Standard Model (BSM) theories including charged Higgs and folded supersymmetry models. The leptonic final state is expected to set improved limits for masses below 1TeV compared to searches in the hadronic channel due to a smaller backgrounds. To better model backgrounds due to misidentifications, we employ data-based methods to estimate electron-to-photon misidentification and jet-to-photon misidentification. We will present the expected limits including systematic uncertainties for the combined 2016 - 2018 LHC running period.

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