

Abstract Submitted
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Measurement of the Cross-Section for ZH Associated Production Using CMS 13TeV Data¹ SAHITHI RUDRABHATLA, Univ of Illinois - Chicago, CMS COLLABORATION — A cross-section measurement of the Standard Model Higgs boson produced in association with the Z boson is presented, using the full Run 2 proton-proton dataset at a center-of-mass energy of 13TeV, corresponding to an integrated luminosity of 137.1 fb⁻¹, recorded with the CMS (Compact Muon Solenoid) detector. Candidate events are selected to have a Z boson decaying to a pair of charged leptons and a Higgs boson decaying to two W bosons. One of the W bosons decays to a lepton and neutrino and the other decays to a quark pair, increasing the signal event yield compared to the conventional approach of requiring both W bosons to decay leptonically, at the price of increased background. Techniques to estimate and reduce these backgrounds will be described, and the results will be presented in the context of the measurement of the associated production of vector bosons and a Higgs boson with all h->WW channels combined.

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