



Contribution ID: 422

Type: Talk

## Search for the EW production of a VW pair plus two jets in the semi-leptonic $lvjj$ channel with full Run-II data

Monday 12 December 2022 16:15 (15 minutes)

A search for the electroweak production of a vector boson scattering using a WV ( $V=W/Z$ ) pair with two jets is reported, where W decays leptonically while the other boson (V) decays hadronically, resulting in a semi-leptonic final state. The data correspond to an integrated luminosity of  $138 \text{ fb}^{-1}$  of the proton-proton collision produced at the center of mass energy of 13 TeV collected by the CMS experiment at LHC. Events are categorized into two groups based on the hadronically decaying W boson, whether it is reconstructed as one large-radius jet or as a pair of resolved jets. In this talk, I will be presenting the cross-section measurement in WV channel at the symposium. The cross-section is reported in a fiducial phase space defined at the parton level. All parton transverse momenta must be greater than 10 GeV, and at least one pair of outgoing partons must have an invariant mass greater than 100 GeV. The observed electroweak signal strength is  $0.85 \pm 0.12 \text{ (stat)}^{+0.19}_{-0.17} \text{ (Syst)}$ , corresponding to a signal significance of 4.4 standard deviations. The simultaneous measurement of the electroweak production agrees with the standard model prediction.

### Session

Top Quark and EW Physics

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**Session Classification:** WG10 - Top Quark and EW Physics