

CMS Vector Boson Scattering SM combination and EFT at dimension-6 in the $l\nu qq$ decay channel

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Effective Field Theory (EFT) interpretations of the LHC data are gaining popularity as they allow to decouple analyses from a specific UV-complete model. All the leading dimension-six terms can be constrained only by combining inputs from Top, Higgs, EW and QCD physics. While typically Vector Boson Scattering (VBS) measurements are interpreted in terms of subleading dimension-eight EFT operators, they can provide useful orthogonal constraints in a global view. This work explores the sensitivity of the semileptonic VBS $WV \rightarrow l\nu qq$ to constrain eight dimension-six Wilson coefficients using 138/fb of data collected by CMS during Run-II. In view of a global EFT interpretation of VBS measurements, the simplest SM VBS combination will be presented using six public results from CMS using the Run-II dataset. The combination aims at measuring six purely EW production cross sections for W and Z boson pairs.

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