

# Vector Boson Scattering at the LHC

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Scattering processes among electroweak gauge bosons include triple and quartic electroweak self-coupling interactions as well as the exchange of the Higgs boson, making them a tool for studying the delicate interplay of the gauge structure and the electroweak symmetry breaking mechanism of the Standard Model (SM).

Today, many processes exhibiting Vector Boson Scattering (VBS) have been observed at the LHC. The focus of this talk will be on the scattering of like-charge  $W^\pm$  bosons, a channel which pioneered the field of VBS in theoretical predictions and experimental measurements. Due to its charge structure, it exhibits the best signal to background ratio among VBS processes. It is hence no surprise that in this channel the first observation of a process containing VBS has been published with data from the LHC at 13 TeV.

Recent measurements with the complete Run 2 dataset move towards precision measurements in VBS, including differential cross-sections and first attempts on studying the polarisation of  $W^\pm$  bosons in VBS. Further, exclusion bounds on new physics parameters of a dimension-8 Effective Field Theory (EFT) approach are set employing the amplitude decomposition simulation and the clipping unitarisation approach. In the quest of searching for new physics with this EFT framework, analyses move towards presenting combined information, either as multidimensional exclusion bounds or with the combination of different final states.