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## Semi-Leptonic Vector Boson Scattering in the ATLAS detector

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Vector boson scattering processes are precision probes of the electroweak sector and provide strong sensitivity to new physics that affects gauge and Higgs couplings. Although VBS cross sections in the Standard Model are small, these processes have been observed at the Large Hadron Collider by the ATLAS and CMS experiments. The semi leptonic final state, where one boson decays hadronically to a quark antiquark pair and the other decays leptonically to electrons, muons, or neutrinos, ensures good statistical power and access to multiple coupling structures despite having significantly higher background than purely leptonic channels. At high transverse momentum, VBS provides strong sensitivity to quartic gauge couplings. An interpretation based on Effective Field Theories enables model independent limits on possible deviations from the Standard Model.

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