

**Stony Brook University  
The Graduate School**

Doctoral Defense Announcement

**Abstract**

Study of vector boson scattering in the semi-leptonic final state

By

**Aungshuman Zaman**

We look into the vector boson scattering process in the semi-leptonic channel using  $20.3 \text{ fb}^{-1}$  of 2012 proton-proton collision data at  $\sqrt{s} = 8\text{TeV}$ . The final state considered is  $WVjj$  ( $V=W,Z$ ) where the  $W$  decays into one charged lepton (electron or muon) and a neutrino and the other vector boson decays hadronically. The analysis requires one charged lepton, missing transverse energy and four jets, two of them are tagging jets with a large invariant mass. Using Whizard Monte Carlo generator anomalous Quartic Gauge Coupling (aQGC) samples for different values of parameters have been produced. These samples are used to set limits on the aQGC parameters.

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