

The Vector Boson Scattering in the ZZ Production at ATLAS

Friday, 19 January 2018 16:05 (40 minutes)

Evidence of the vector boson scattering (VBS) phenomena was discovered in Run 1 of the ATLAS detector at the LHC in the same sign WW production channel. Since the detector acquire more and more data in Run 2, the phenomena starts to be accessible also in the ZZ channel. This channel is very clean because of the small background other than coming from QCD and provides a good opportunity to enlarge the knowledge of such rare processes. The multivariate analysis (MVA) techniques are utilised to further extract the signal from QCD background. The analysis strategy is to measure the cross-section of the ZZ in the VBS-enhanced phase-space and then extract the electroweak VBS cross-section using the MVA techniques. The study is also challenging the setting of limits on anomalous quartic gauge coupling.

Primary author: PENC, Ondřej (České vysoké učení technické v Praze)

Presenter: PENC, Ondřej (České vysoké učení technické v Praze)

Session Classification: ATLAS physics