

Vector boson fusion Higgs production in $H \rightarrow WW \rightarrow l \nu l \nu$ in ATLAS

Friday, 16 August 2013 15:20 (15 minutes)

With the discovery of the Standard-Model-like Higgs boson in the summer of 2012, experimental focus has shifted to the measurement of its properties. Higgs boson production via a vector boson fusion (VBF) process is a direct consequence of the Higgs mechanism of electroweak symmetry breaking. This process is directly sensitive to the coupling of the Higgs boson to the weak vector gauge bosons. The contribution will summarize latest ATLAS results for the VBF Higgs production in the $H \rightarrow WW$ decay mode. The analysis uses proton-proton collision data corresponding to 4.6 fb⁻¹ of data at $\sqrt{s} = 7$ TeV and 20.7 fb⁻¹ of data at $\sqrt{s} = 8$ TeV recorded by the ATLAS detector. This presentation will focus on analysis techniques and statistical interpretation of the observed data.

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Session Classification: Electroweak Symmetry Breaking and the Higgs Sector

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