VBF, VBS, and Triboson Cross Section Measurements

Status: October 2023

y-axis categories (top to bottom):
- $\gamma\gamma$
- $Z\gamma\gamma \to \ell\ell\gamma\gamma$
- $W\gamma\gamma \to \ell\nu\gamma\gamma$
- $WW\gamma \to e\nu\mu\nu\gamma$
- $WZ\gamma \to e\nu\mu\nu\gamma$
- WWW, (tot.)
- $-\ WWW \to \ell\nu\ell\nu jj$
- $-\ WWW \to \ell\nu\ell\nu\ell\nu$
- WWZ, (tot.)
- $\mathbf{H}jj$ VBF
- $-\ H(\to WW)jj$ VBF
- $-\ H(\to\gamma\gamma)jj$ VBF
- Wjj EWK (M(jj) > 1 TeV)
- $-\ M(jj) > 500$ GeV
- Zjj EWK
- $Z\gamma jj$ EWK
- $\gamma\gamma \to WW$
- $(WV+ZV)jj$ EWK
- $W^{\pm}W^{\pm}jj$ EWK
- $WZjj$ EWK
- $ZZjj$ EWK

ATLAS Preliminary

$\sqrt{s} = 7,8,13,13.6$ TeV

Theory

LHC pp $\sqrt{s} = $ **13.6 TeV**
Data
stat
stat ⊕ *syst*

LHC pp $\sqrt{s} = $ **13 TeV**
Data
stat
stat ⊕ *syst*

LHC pp $\sqrt{s} = $ **8 TeV**
Data
stat
stat ⊕ *syst*

LHC pp $\sqrt{s} = $ **7 TeV**
Data
stat
stat ⊕ *syst*

data/theory