

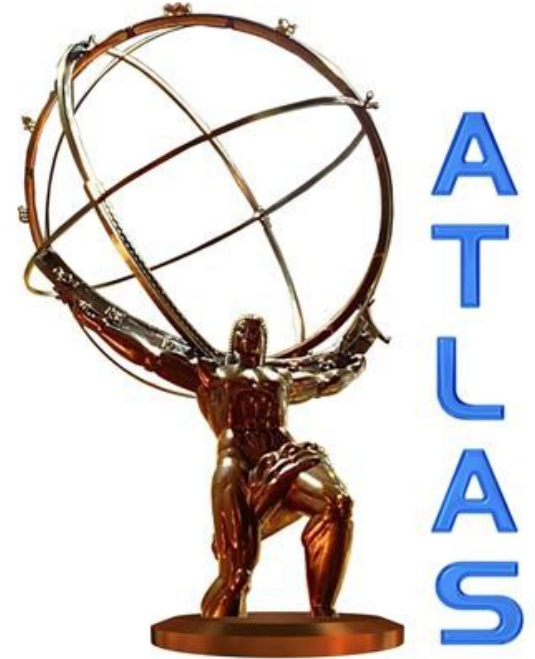
bbH in ATLAS

THE UNIVERSITY OF
WARWICK

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bbH Cross Section Kick-Off
Meeting

28/11/14



bbH in ATLAS for 2012

- Mainly considered in context of MSSM $H \rightarrow \tau\tau$ search, but also small component of signal for SM searches
- For MSSM $H \rightarrow \tau\tau$:
 - bbA/H/h generated using SHERPA at LO
 - Production cross sections calculated in Santander matching scheme following prescription from LHC Higgs Cross Section Group

bbH in ATLAS for 2015

- Again, mainly considered in context of MSSM $H \rightarrow \tau\tau$, 2HDM searches etc., but also consider the contribution to SM production cross sections
- Plan to generate bbA/H/h at NLO using MG5_aMCatNLO
 - V2.1.2 run in discussion with Marius
 - first cross checks of distributions underway
- Would also like to generate bbA \rightarrow Zh using MG5_aMC@NLO with the correct spin correlations
 - Is this possible?
- Also looked into Pythia8 as alternative