



WG3 introduction

Experimental measurements

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WG3 leaders

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- ◆ Working on $H \rightarrow WW$ analysis in CMS and in the study of MC generators
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- ◆ Working in the ATLAS experiment on Higgs couplings to polarized W bosons in the VBF $H \rightarrow WW^*$ channel
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WG3 Targets

Main target:

Promote and develop **algorithms** that can help the optimization of VBS analyses in hadron collider experiments, as ATLAS and CMS



Activities in this group should be useful for the two experiments

- We want to learn things, make this group a fertile ground for ideas
 - At the same time it is clear that confidentiality of some sensitive information/techniques should be granted
- ➔ Concentrate on general, mostly experiment independent, issues



WG3 Targets

(Some) more targets:

- Definition of the most significant **observables** at hadron colliders, to isolate with maximal significance the VBS topology and to maximize sensitivity to physics BSM
- Implementation of the **data** analysis with the datasets collected by experiments at hadron colliders
- Define the procedure to **combine** separate experimental **results** obtained by the two experiments

 **targets shared with WG2**



Proposed activities

Common preparatory work: as Delphes setup and sample production...

Some topics for LHC and HL-LHC:

- Quark-gluon discrimination → two talks today by Philippe Gras (CMS) and Johannes Balz (ATLAS)
- Boosted-jet topologies → two talks today by Andreas Hinzmann (CMS) and Christoph Anders (ATLAS)
- Tracker acceptance extension effect
- Central jet veto techniques with advanced PU mitigation
- Development of helicity tagging techniques

→ If you would like to volunteer to one of the over-mentioned studies or have new proposal, please let us know!



Contacts

If interested, please subscribe to [our mailing list](#)

Links to VBSCan twiki pages:

- General one [here](#)
- WG3 dedicated [here](#)

NB: are accessible only if you subscribe to the cern group [vbscan-general](#)

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