

MCnet and the LHC Higgs Cross Section Working Group

Simon Plätzer

DESY



The LHC Higgs Cross Section Working Group.

Provide cross sections, branching ratios, pseudo-observables and related recommendations as relevant to SM and *MSSM Higgs boson(s).

In operation since 2010, three yellow reports published.

Major restructuring end of 2013.

Dedicated NLO MC working group in action before 2014.

Since 2014 **three working groups**:
Higgs XS & BR, Higgs properties, BSM Higgs.

MC relevant to all working groups.

→ No extra MC working group, but close contact to MCnet.

As of September this year, I am the contact person in this respect.

All details at: <https://twiki.cern.ch/twiki/bin/view/LHCPhysics/LHCHXSWG>

The MCnet link.

- 1) Identify open question regarding MCs as raised in the working groups.
- 2) Communicate and discuss these within MCnet, aiming at recommendations to be provided to the working groups.
- 3) Also revert this workflow in a pro-active way:
What do we think is important and where is action required?

First discussion round today.

Interaction with working groups at the HXSWG meeting in January.

Please don't hesitate to contact me, if there is anything which needs to be looked at together with the individual working groups.

A MCnet Higgs mailing list would also be helpful ... counting on David.

Topics for discussion.

Things where we could provide immediate input:

- Jet bin separation: **Merging**, uncertainties, benchmarking.
- Shower and NP uncertainties in VBF category. **Non-Higgs testbeds** vs data?
- Mass effects in gg fusion?
- Boosted topologies and jet substructure: **shower benchmarks**.
- $t\bar{t}H$ plus whatever probably not highest priority.

Any suggestions welcome, and time for discussion.