

News and discussion

LHCEWWG: Jets & EW bosons

August 24, 2020

ATLAS: Eram Rizvi, Ben Nachman

CMS: Vieri Candelise, Mikko Voutilainen, **Hannes Jung**

LHCb: Stephen Farry, Will Barter

ALICE: James Mulligan, Nima Zardoshti

Theory: Marek Schoenherr

TWiki: <https://twiki.cern.ch/twiki/bin/view/LHCPhysics/EWWG2>

Indico: <https://indico.cern.ch/category/3290/>

slides today: Mikko Voutilainen, U. Helsinki and HIP

- Today is likely Hannes' last meeting as official CMS co-convener (though will stay for YR)
- Big thanks for having had such a big role in Jets & EW bosons in the last years!
- And enjoy your well-deserved vacation :)



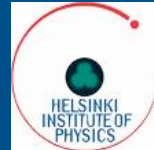
- **LHCEW General Meeting** will take place on October 8—9 (Thursday/Friday)
 - ▶ Zoom + maybe a room at CERN (tbc)
 - ▶ We should aim to a comprehensive status updates of our activities in this last months and ready to discuss on the yellow report!
- **Joint WG2 (Jets & bosons) + WG3 (multibosons) + VBS** on Sep 23 (Wed)
 - ▶ Zoom + <https://indico.cern.ch/event/945204/>
 - ▶ Discuss QCD and EWV+jets studies in the VBF phase-space for VBF topology
 - ▶ Sign-up for presentations!
- **Jet substructure** at one of future Jets & bosons meetings (date to be set)
 - ▶ Andreas Hinzmann (CMS) interested of interplay of jet substructure and MC tuning
 - ▶ Ben to invite him to give a talk?

- **Benchmark comparisons for “Yellow Report”**
 - ▶ Common tool setup by Hannes and his group to run matrix element + shower with RIVET
- Tutorial git page: <https://gitlab.cern.ch/lhcewwg/lhcewwg-vjets/benchmark-comparisons>
 - ▶ accessible after signing up on **lhcewwg** mailing list (CERN E-groups link on TWiki)
 - ▶ also at </afs/cern.ch/user/j/jung/work/public/benchmark>
 - ▶ what needs to be covered/described in tutorial?
 - CASCADE (PB TMDs)
 - SHERPA? MadGraph? both?
 - HERWIG? Pythia8?
 - ▶ other updates?
- We should show substantial progress at next LHCEWWG general meeting in Oct
 - ▶ discussion: list of people and comparisons already committed to (next page)
 - ▶ contact us if you want to join this effort!

- Our contributions to the Yellow Report for LHCEW general meeting in Oct
 - ▶ Benchmark cross sections
 - ▶ Intrinsic k_T tunes
 - ▶ Benchmarks from jet substructure
 - ▶ Treatment of systematics
- Responsibilities
 - ▶ who can do what for the benchmarking?



Meeting on VBF and VBS



- Parton shower contributions (Jäger, Karlberg, Plätzer, Scheller, Zaro: [arXiv:2003.12435](https://arxiv.org/abs/2003.12435))
- Other effects — PB TMDs?

- Can we setup CMS, ATLAS, ALICE Run 2 legacy inclusive jets for statistical comparison?
- Would allow stringent test of systematics correlation models, even LHC combination
- Coordination best done **before** final Run 2 results published
 - ▶ phase space definition (anti- k_T $R=0.4$, $\Delta|y|=0.5$ bins, $\sim 1\sigma$ p_T bins)
 - ▶ gen-level target definition ($c\tau=1.0$ cm particles, neutrinos excluded)
 - ▶ systematics model (sources vs correlation matrix)
 - ▶ **auxiliary measurements** with same phase space + expt. ref. MC ($Z\mu\mu$ +jet balance, dijet balance)
 - ▶ **contact people** for cross section and JEC auxiliary measurements (actual PhDs doing the work)

LHC-EW WG: Jets and EW bosons



Monday 24 Aug 2020, 16:30 → 17:50 Europe/Zurich

Description We will use ZOOM for the meeting:

<https://cern.zoom.us/j/7861953672>

Meeting ID: 786 195 3672

And only in case of problems we go back to vidyo

(<https://vidyoportal.cern.ch/join/Fn6muEWvrQ>)

16:30 → 17:00 News and discussion

🕒 30m

- Tutorial
- Yellow Report / LHCEW general meeting in Oct
- Common meeting with multiboson group on VBF and VBS

Speakers: Vieri Candelise (Universita e INFN Trieste (IT)), Mikko Voutilainen (Helsinki Institute of Physics (FI)), Hannes Jung (Deutsches Elektronen-Synchrotron (DE))

17:00 → 17:20 Draft of QCD@LHC plenary on "Jet measurements at LHC" for feedback

🕒 20m

Speaker: Mikko Voutilainen (Helsinki Institute of Physics (FI))