



Les Houches Workshop Series

== Physics at TeV Colliders ==

2019 Session : 10 to 28 June

LES HOUCHES



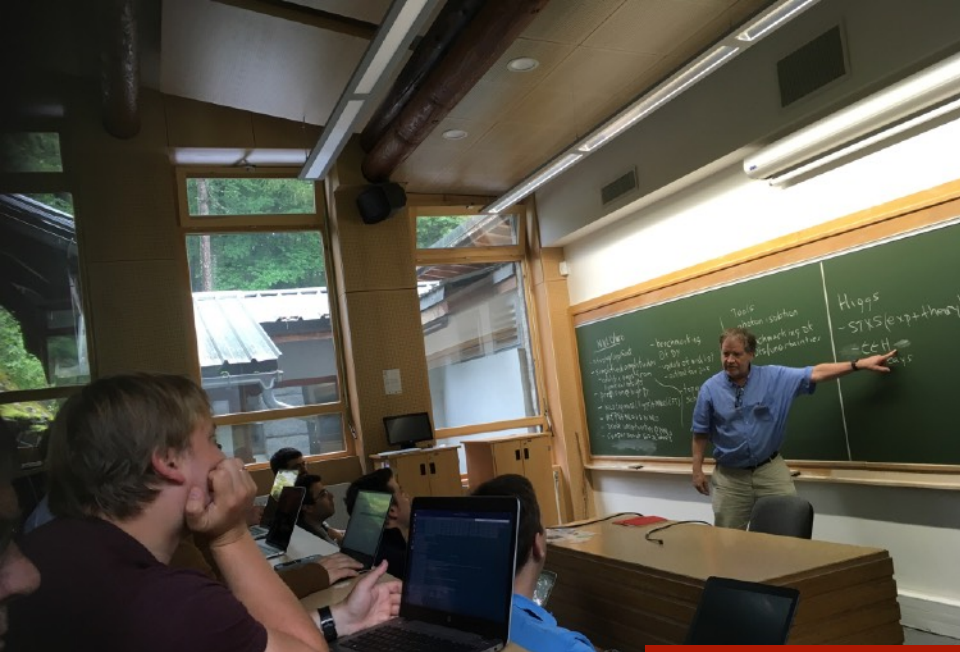
A few words

The Organisers

SESSION I



Les Houches Spirit?



Les Houches Spirit





Les Houches Spirit



Work Done?

Please add your projects/names to this list

STXS Topics

- [Discussion meeting 12th June with LHC H XS WG2](#)

Define and test binning options for ttH (and tH) production

TODO: to be filled in

- NNLO nTuples
- PDF benchmarking
- Photon isolation
- NNLO subtraction prospects for 2 --> 3
- Wishlist update
- Log(R) study?

Jets

We have made a special e-group for anyone who wants to join these discussions: [houches-2019-topics-jets](#).


There is also a slack channel: [Invite Link](#). In terms of topics, this is what we have brainstormed so far:

- **Where is quark/gluon discrimination actually useful?** One complication is that many other analysis selections are already purifying the selection (e.g. requiring two forward jets with large m_{jj} already suppresses gluon jets for VBF/VBS). Examples:
 - PDFs
 - VBF
 - $X \rightarrow gg$
 - Susy cascades
 - ISR tagging
 - W tagging
 - top tagging
- **Extraction of the strong coupling constant** This was a main focus of the last Les Houches and we plan on at least having a discussion about this one of the days. As part of this, we may want to do a short study of the difference between inclusive jets (F. Ringer et al.) and dijets.
- **Tuning with jet substructure** One motivation for performing measurements of jet structure is to improve MC tunes. It would be good to understand which observables are actually sensitive to which parameters, taking note of what has already been measured. IRC safe observables may not be so useful for tuning. Another sub-topic: can we understand the ATLAS jet pull angle measurement from the point of view of parameter variations? (quite significant tension between Pythia and data).

Les Houches 2019 Tools and Monte-Carlo Working Group

- **List of Participants** (Accessible only to resgistered participants)
 - Present in Les Houches in session 1
 - Present in Les Houches in session 2
 - The Global List including all registered participants for Tools and MC

Session 1

- intro talk:  PDF
- ideas before LH

Project pages

- Jet activity in VBF Z and VBF W events
- MC variation ("compendium")
- MC variation ("case study")
- $t\bar{t} + b\bar{b}$ (2 Nb jets)
- $gg \rightarrow HZ$ pheno study
- self consistency of ISR in showers
- dealing with negative weights
- differential EW corrections for $t\bar{t}W$

WIKI

All of you have an account

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Slack Channels?

PROCEEDINGS

- Deadline **25 December 2019**
- Page guide (email the relevant coordinator for queries regarding your submission)
- The conveners will send a mail asking for statements of interest, coordinating the efforts and page length etc. Some topics will be collected in a single contribution with a contact person to be chosen by the conveners.
- Coordination between WG's essential / Sign up lists
- Authors list: not all participants in Les Houches can sign as authors. The author list will also have contributions from those taking part in the activities of the Workshop from people who were not present in Les Houches.
- **Please do not submit a copy of your sub contribution to the archives (unless it's in an expanded form for a paper of course!)**

THE FOOD

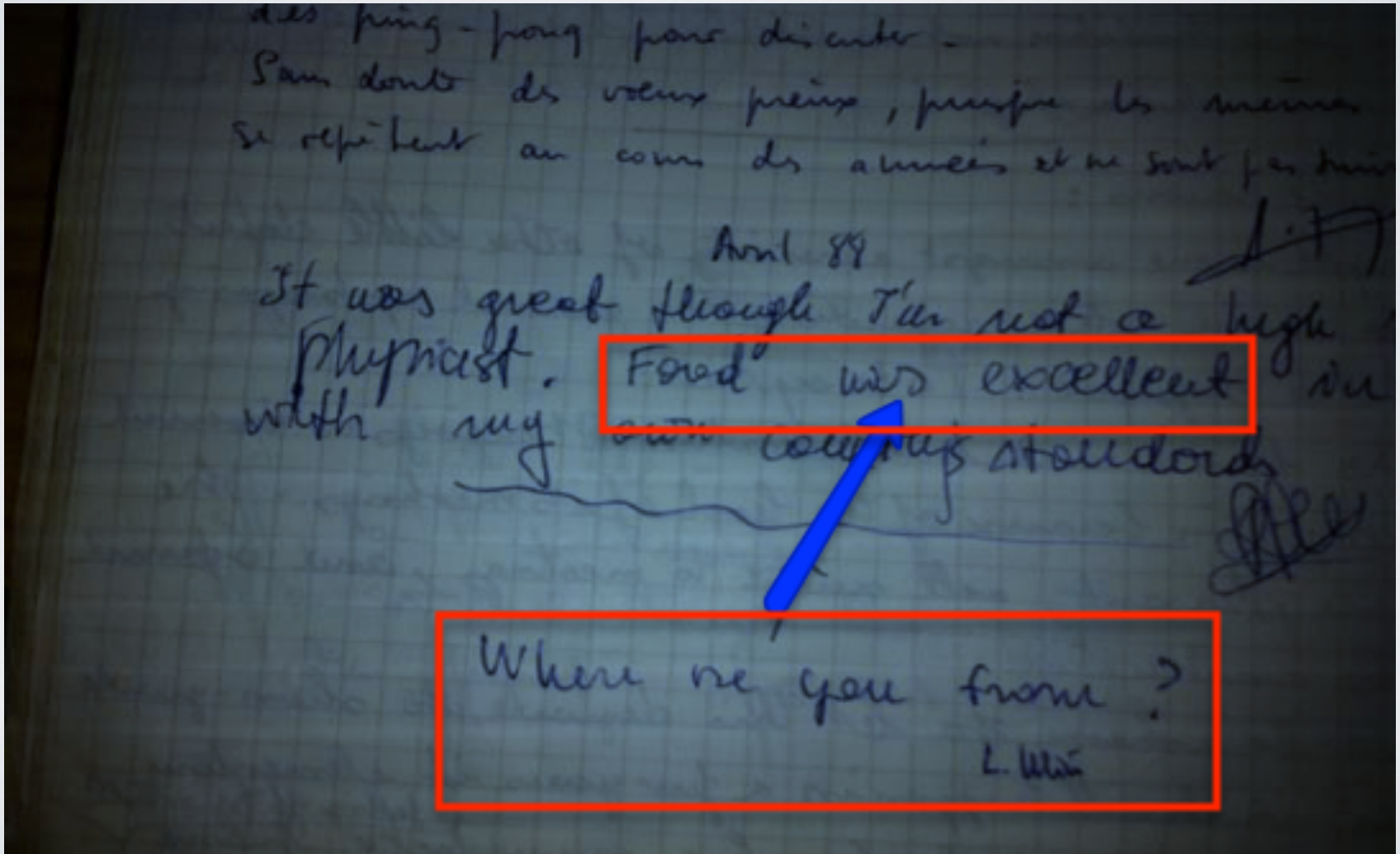
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Extras

- **Mountain Bikes** [cycle here](#)
- **Hiking** Access to and create on-line customisable detailed [maps](#) (in French)

- **Join our Facebook group.** [PhysTeV Les Houches](#).
- **Share your pictures and videos**
 -  either on [our Facebook group](#)
 - or through our OwnCloud (you can upload and view/download). [Link](#)



We have a LHI9 Session I Music Theme

THANKS/ SESSION I

- Emanuele, Jean-Philippe, Nicolas, Philippe, Marco
- Secretariat in LH (Anny, Isabel, Murielle) and at LAPTh (Dominique, Virginie)
- Computer people at LAPTh and LAPP (Mathieu and Sylvain)
- Conveners
- All of you!