MEM 2nd workshop discussion

Fabio, Florencia, Kyle, Tilman+all participants

Discussion

1. Is the NLO problem solved?
2. What is the best code to do loops?
3. What is the best code to do NLO computations?

More seriously

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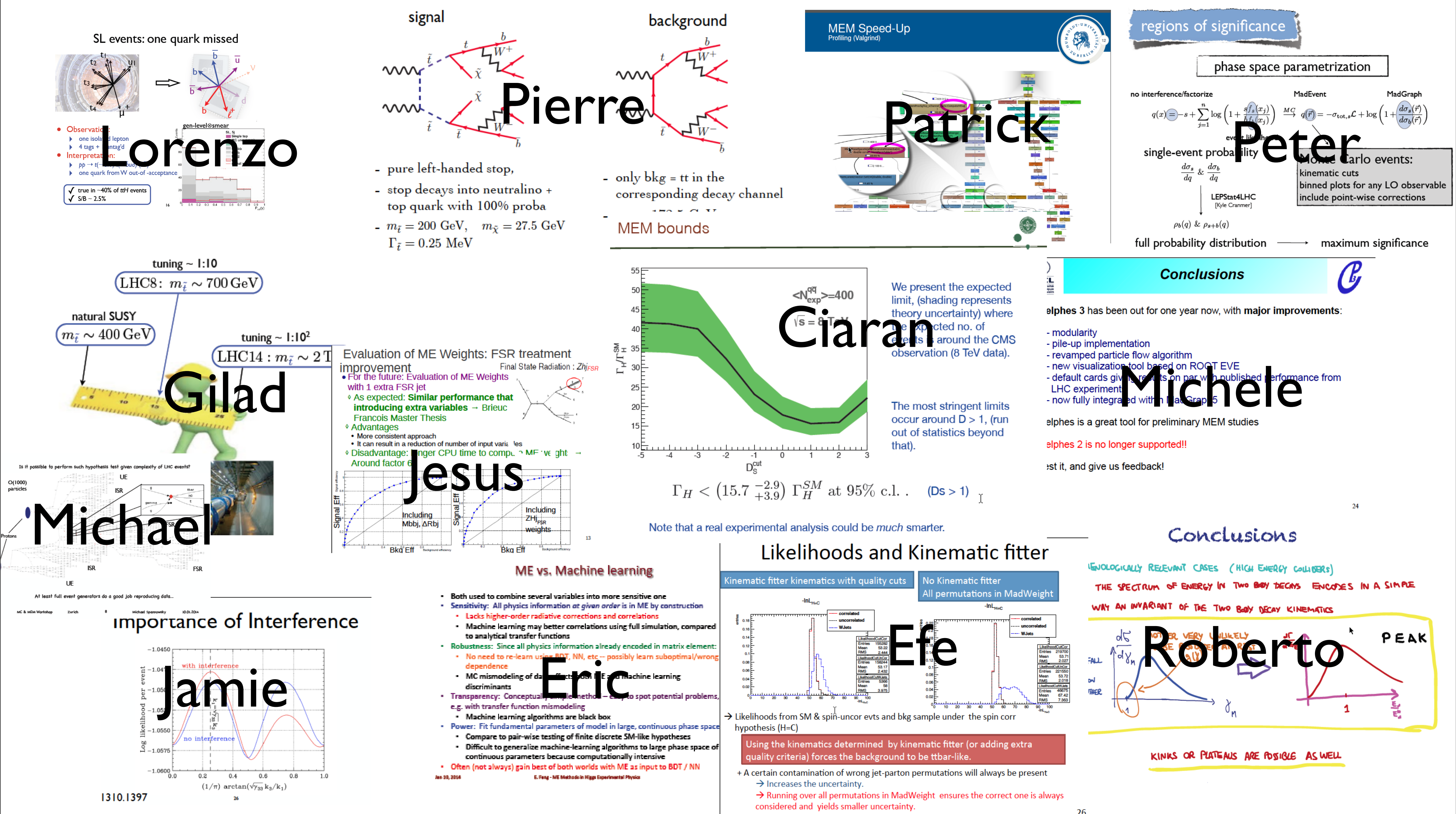
1. Theorists can have a more direct impact on experimental analyses.
2. Experimentalists can become directly involved in pheno studies.

An energetic MEM workshop



Friday 10 January 2014

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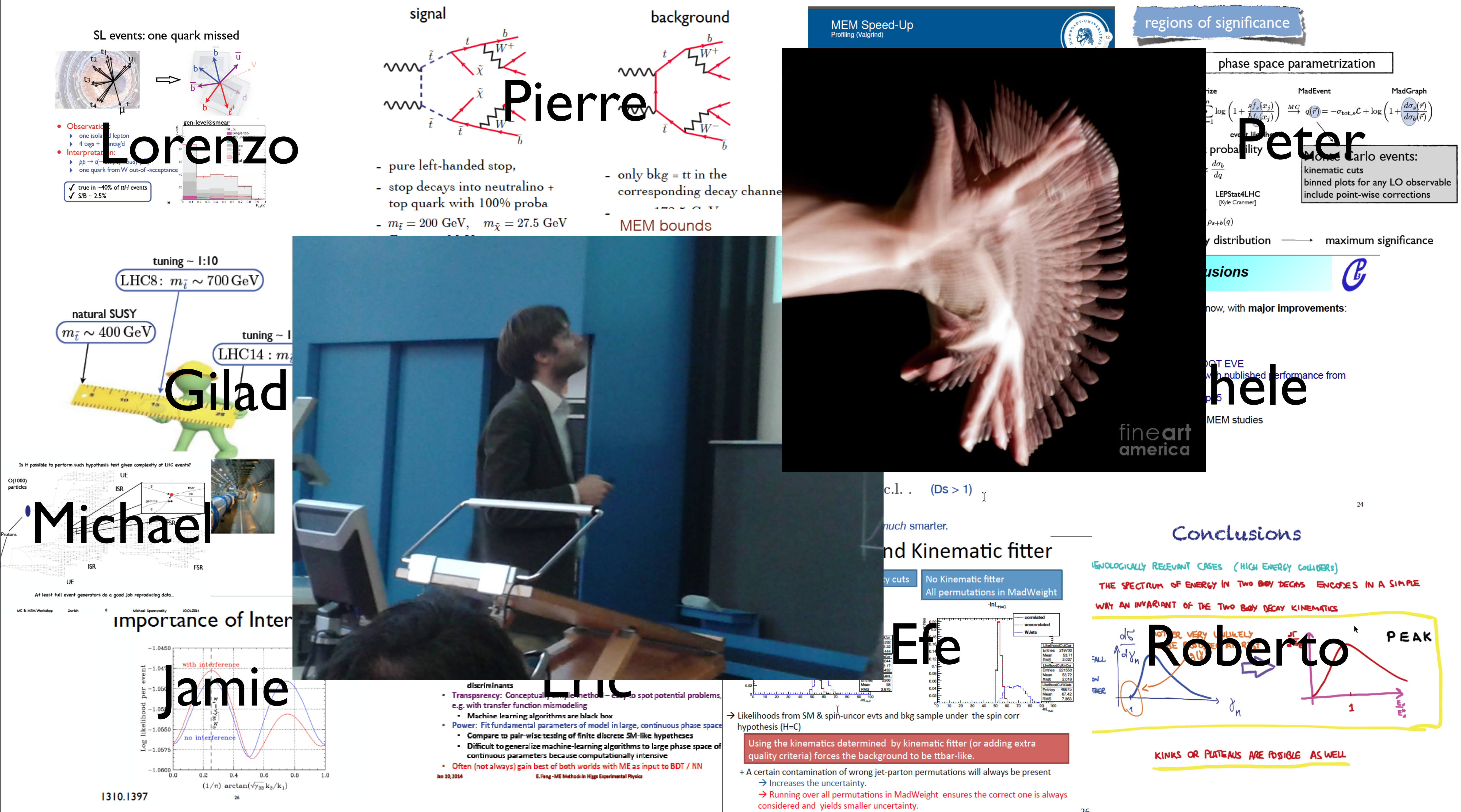

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- Several news since the May 2013 meeting:
  - New ideas (Max significance, ...)
  - New tools and updates (Berlin MEM tool, MadMax, DELPHES3, MadWeight(5), MEM@NLO, SMEM..)
  - New studies (tth, stops, single-tops, ttbar spin correlations, H>4l, ZH) TH as well as EXP!

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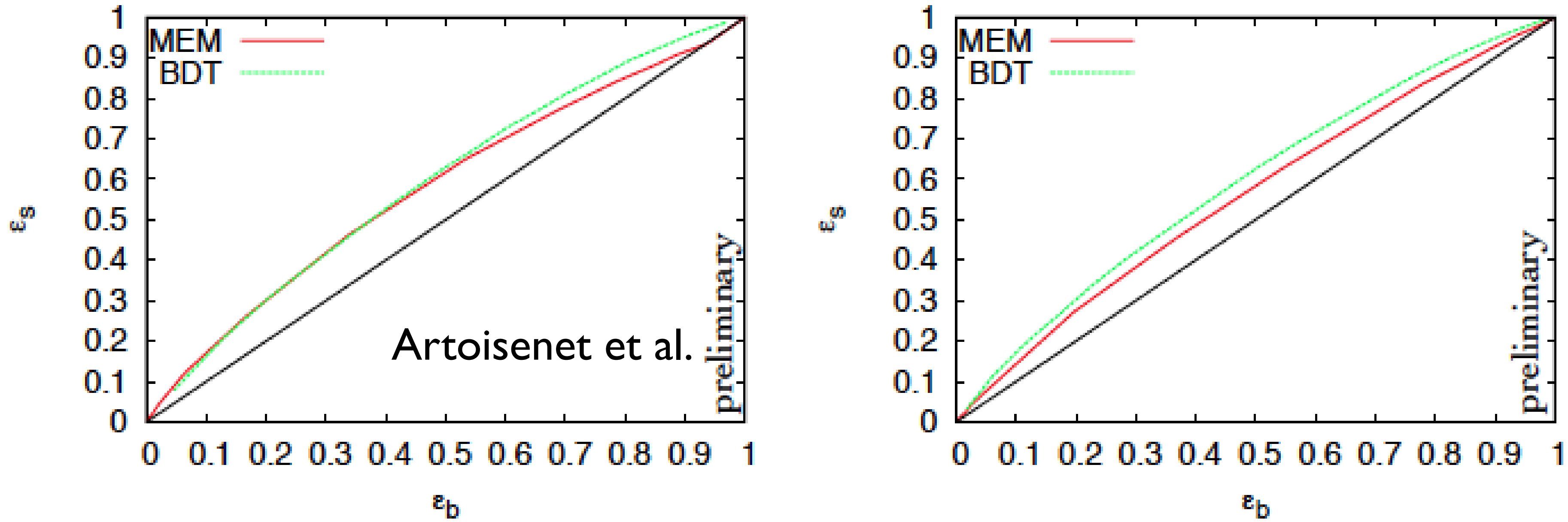
- Discussion/comparison (properties and performance and philosophy) with kinematical variables and MVA (BTD, NN)



dilepton channel single-lepton channel

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- Can the MEM be put on TH solid ground (ex. fully worked out NLO formulation, PS effects)?
- Are there clear examples of outperformance with respect to machine learning approaches?
- What are the syst. uncertainties that could be clearly parametrized and included?

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- What are the syst. uncertainties that could be clearly parametrized and included?
- What are the general statistical tools/framework needed for any analysis that could be made available?
- Interoperability/Modularity standards (à la LH..)
- Setting up/collecting benchmarks for speed/efficiency/....
- More...

Open detailed studies

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- ~~Pairing with boosted techniques~~ (see Michael's talk..)
- Extra jet radiation
- Reducible background
- High-statistics strategies
- Combinatorics optimization (e.g. with kinematic fitting)
- ....more to be added here...

Next actions

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- Next general meeting in the US end of 2014/ beginning of 2015
- Self-organized intermediate topical working sessions on “MEM community” projects
- Web point of reference (page or wiki)
- more...?

Thanks!