Introduction
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  • exploit the most advanced HPC hardware platforms
  • exploit the most advanced computing techniques and resources, to cover numerical and symbolic operations, sourcing from expertise as diverse as advanced mathematics and machine learning
  • review underlying TH framework to maximize benefit of the above

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• **maximize event-generation efficiency:** improved unweighting, pre-filtering w.r.t. analysis selection criteria, reduced negative-weight contributions, streamlined evaluation of systematics, …
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- harmonize the global ongoing efforts and promote their visibility
- define the priorities, the resources needed, and discuss the way forward
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  - dedicated computing training/tutorials, …, for MC/NnLO developers?
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  ➡ the role of CERN TH, EP, IT in providing support?
Agenda

MONDAY:
1. The perspective of the experiments (ATLAS, CMS)
2. The experience of the MC developers (Pythia, Herwig, Sherpa, Madgraph)
3. The HPC landscape and the coding challenges/opportunities provided by new hardware
4. The MG5 -> GPU project experience

6:30pm Welcome drink (Salle des Pas Perdus)

TUESDAY
1. Phase space sampling and more
2. Matrix element calculations, LO & NLO, acceleration techniques, GPU porting, negative weight reduction
3. PDFs and hadronization
4. NNLO and beyond
5. Discussion, the next steps forward