Jets, MET & SUSY ou: Qu' avons nous fait en 2017?

C'est qui, nous?



Vers la Nouvelle Physique!



Reconstruction des particules à ATLAS



Quarks

Leptons







Particle flow



Particle flow





Particle flow & pile-up







'Multi-jets' & the hunt for SUSY



arXiv:1708.02794

Currently working on...

Multijets plus photon(s) in Stealth SUSY.



From arXiv:1411.7255 Theory: arXiv:1512.05781

Flavoured dark matter interpretations.



From arXiv:1501.02202

Other RnD (e.g. sensitivity / optimizations for LLPs and trigger improvements for 2018 data taking).

Top x-section (measurement) as a background to SUSY (and ttH).

SUSY: Where do we stand?





ATLAS TDAQ Phase-II upgrade

10⁵

10'

 10^{3}

 10^{2}

10-

Background rate [kHz]





ATLAS TDAQ Phase-II TDR to the reviewers TOMORROW!

250

200

350

300 Offline MET (95% eff.) [GeV]

400

150

100



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Detector Front Ends to FELIX

Data Handler to Event Builder / Storage

Storage Handler to Event Aggregator

FELIX to Data Handler

Storage Handler to EF

Event Aggregator to TierO

Handler

EF to HWTT-IF

Baseline Throughput

- Regions of Interest are derived in FW · Path through SH to EF still to be determined
- Event Builder Logical interface with Data Handlers Process 0-6 TB/s at 1 MHz
- StorageHandler 9 TB/s total I/O throughput 6 TB/s input
 3 TB/s to EF Farm 0.06 TB/s to EA
- EF to HWTT-IF 0.55 TB/s
- Event Aggregator 60 GB/s to permanent storage

a

- J. Love -- Dataflow at Mini Workshop
- Updated Throughput Table

EF to EFTrack

EF to FTK++

06/26/17

6 TB/s

6 TB/s

6 TB/s

3 TB/s

0.2 TB/s

0.35 TB/s

60 GB/s

60 GB/s

3



HVCMOS-based tracker at a future detector: self-seeded trigger.









Bonnes fêtes!