

Summary of the Summer Analyses

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Summer Work

- What have we achieved/learned so far?
 - Control over the full ATLAS MC production chain
 - Generation, simulation, digitization, reconstruction
 - 2×10^5 Fully simulated events (~1.5TB), still going on...
 - Large scale tests of BigMac resources
 - SL304/Condor part does not have the required stability (~50% crash rate)
 - Systematic studies of several electron reconstruction Algorithms
 - Doing a good job with Ideal detectors
 - Need to look into effects of bad cells, sectors...
 - Systematic studies of object-based Analysis (AOD's)
 - Enough capabilities for software validation and “simple” physics analyses
 - Many issues need to be adressed
 - Heavy back navigation to Tracks and calo cells
 - Missing Trigger Info
 - Processing time, (~hours for 2×10^5)

Post summer Plans

- Updating Higgs/QCD analyses with new Release (10.0.4)
 - Stability of results?
 - Preliminary tests for release 11.x.y (Trigger,
- Look at Pile-up effects
 - Writing an ATLAS note at this level (~October)
- Trigger studies (for Higgs signal)
 - Updating the VBF Higgs ATLAS scientific note...
- Look more into Calibration effects with real processes (VBF Higgs)
 - For different Calorimeters (FCAL)
 - For different Physics objects (electrons, jets, tau's...)
 - w/o pile-up

Summary

- Summer work plans went well
 - Thanks to all, Jaspreet, Kevin, Saminder and everyone else
- Main results:
 - Rejection Factor $\sim 10^5$, for Higgs VBF channel, against QCD jets
 - Only $\sim 4\%$ loss in Signal reconstruction efficiency
- Should keep going ahead with physics/Performances studies
 - We have enough CPU resources and People
- We should show more our work at the ATLAS physics groups (Higgs, Reconstruction...)