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RStDCdfgFiveEvt

Introduction

A recipe for the full chain of analysis done with 9.0.4 on the Glasgow computers. Only 5 events were generated in order to ensure that the chain could be established.

Preliminaries

Running Athena Hello World

- HelloWorldOptions.py

Modifying Athena Hello World

Test Batch

- Input Job File: hello.job
- Output of pbs: ATLAS-Hello.o90205
- STDOUT: batchhello.log

Chain

Generation (Atlas.HepMC)

- Auxiliary Files * PDGTABLE.MeV
- Options
 - ◆ [jobOptions.pythia.vbf.py](#)
 - ◆ [jobOptions.pythia.original.py](#)
 - ◆ [jobOptions.pythia.py](#)
 - ◆ [jobOptions.pythia.vbf-out.py](#)
 - ◆ [jobOptions.pythia.vbf-out1.py](#)
 - ◆ [jobOptions.pythia.vbf-out2.py](#)
 - ◆ [jobOptions.pythia.vbf.py](#)
- Execution
 - ◆ `athena.py jobOptions.pythia.py > athena_gen.out`
- STDOUT
 - ◆ [athena_gen.out](#) (Z0 generation)
 - ◆ [athena_gen1.out](#) (Higgs Generation)
 - ◆ [athena_gen2.out](#)
- Output File
 - ◆ [vbf.pool.root](#)
 - ◆ [vbf1.pool.root](#)
 - ◆ [vbf2.pool.root](#)

Simulation (G4 Hits)

- Auxiliary Files
 - ◆ [RomeGeo2G4.py](#)
 - ◆ [fieldmap.dat](#)
- Options
 - ◆ [RomeSimulationConfig.py](#)
 - ◆ [RomeSimulationConfig1.py](#)
 - ◆ [RomeSimulationConfig2.py](#)
- Execution
 - ◆ `athena.py RomeSimulationConfig.py RomeGeo2G4.py > athena_sim.out`
- STDOUT
 - ◆ [athena_simvbf.out](#)
 - ◆ [athena_sim1.out](#)
 - ◆ [athena_sim2.out](#)
- Output File
 - ◆ [vbf4hits.pool.root](#)
 - ◆ [vbf4hits1.pool.root](#)
 - ◆ [vbf4hits2.pool.root](#)

Digitization (G4 Digits)

- Auxiliary Files
 - ◆ None
- Options
 - ◆ [vbfDigiOptions.py](#)
 - ◆ [vbfDigiOptions1.py](#)
 - ◆ [vbfDigiOptions2.py](#)

- Execution
 - ◆ athena.py myDigiOptions.py Digitization/Atlas.AtlasDigitization.py > athena_digi.out
- STDOUT
 - ◆ athena_vbfdigi.out [↗](#)
 - ◆ athena_digi1.out [↗](#)
 - ◆ athena_digi2.out [↗](#)
- Output File
 - ◆ vbf4digi.pool.root [↗](#)
 - ◆ vbf4digi1.pool.root [↗](#)
 - ◆ vbf4digi2.pool.root [↗](#)

Reconstruction (ESD)

- Auxiliary Files
 - ◆ RecExCommon_topOptions.py [↗](#)
- Options
 - ◆ vbfRecOptions.py [↗](#)
 - ◆ vbfRecOptions1.py [↗](#)
 - ◆ vbfRecOptions2.py [↗](#)
- Execution
 - ◆ athena.py myRecOptions.py RecExCommon_topOptions.py > athena_rec.out
- STDOUT
 - ◆ athena_rec.out [↗](#)
 - ◆ athena_rec1.out [↗](#)
 - ◆ athena_rec2.out [↗](#)
- Output File
 - ◆ vbfesd.pool.root [↗](#)
 - ◆ vbfesd1.pool.root [↗](#)
 - ◆ vbfesd2.pool.root [↗](#)

Create AOD (AOD)

- Auxiliary Files
 - ◆ None
- Options
 - ◆ optESDtoAOD.py [↗](#)
 - ◆ optESDtoAOD1.py [↗](#)
 - ◆ optESDtoAOD2.py [↗](#)
- Execution
 - ◆ athena.py optESDtoAOD.py RecExCommon_topOptions.py > athena_aod.out
- STDOUT
 - ◆ athena_aod.out [↗](#)
 - ◆ athena_aod1.out [↗](#)
 - ◆ athena_aod2.out [↗](#)
- Output File
 - ◆ vbfaod.pool.root [↗](#)
 - ◆ vbfaod1.pool.root [↗](#)
 - ◆ vbfaod2.pool.root [↗](#)

Analysis (Ntuple)

- Auxiliary Files
 - ◆ None

- Options
 - ◆ [AnalysisSkeleton_jobOptions.py](#)
- Execution
 - ◆ `athena.py AnalysisSkeleton_jobOptions.py > athena_anal.out`
- STDOUT
 - ◆ [athena_anal.out](#)
- Output File
 - ◆ [AnalysisSkeleton.root](#)

Full Chain in one job

- Pbs Submission File
 - ◆ [fullchain.job](#)
- Shell Script
 - ◆ [fullchain.sh](#)
 - ◆ [fullchain.zsh](#)
 - ◆ [fullchain-safe.sh](#)
- STDOUT
 - ◆ [fullchain.out](#)
 - ◆ [fullchain.log](#)
 - ◆ [\[\[http://ppewww.ph.gla.ac.uk/~stdenis/atlasvbf904/batchfullchain2.log\]\[batchfullchain2.log\]](http://ppewww.ph.gla.ac.uk/~stdenis/atlasvbf904/batchfullchain2.log)
- Batch Output
 - ◆ [ATLAS-fullchain.o90216](#)

Common

- [PoolFileCatalog.xml](#)

What are these?

- CLIDDBout.txt
- Out.MuonboyDumpF
- Out.MuonboyRecInfo
- Out.MuonboyTiming
- MyAtlas.JobOptions.py
- MyJobOptionsOriginal.py
- vbf-out.py
- vbf.py
- vbfgen.log
- vbfgen-out.log
- AtRndmGenSvc.out
- jobOptions.pythia.template

Zero Length

- fort.79
- cdb.log
- fullchain.out
- tape.avpul

File Sizes

```
-bash-2.05b$ ls -lh public_html/atlasvbf904/*.root
-rw-r--r--  1 stdenis  cdf          7.0K Oct 21 01:02 public_html/atlasvbf904/AnalysisSkeleton.
-rw-r--r--  1 stdenis  cdf          97K Oct 21 01:02 public_html/atlasvbf904/vbf1.pool.root
-rw-----  1 stdenis  cdf          97K Oct 21 01:02 public_html/atlasvbf904/vbf2.pool.root
-rw-r--r--  1 stdenis  cdf       146K Oct 21 01:02 public_html/atlasvbf904/vbfaod1.pool.root
-rw-----  1 stdenis  cdf       142K Oct 21 01:02 public_html/atlasvbf904/vbfaod2.pool.root
-rw-r--r--  1 stdenis  cdf       138K Oct 21 01:02 public_html/atlasvbf904/vbfaod.pool.root
-rw-r--r--  1 stdenis  cdf        2.0M Oct 21 01:02 public_html/atlasvbf904/vbfesd1.pool.root
-rw-----  1 stdenis  cdf        2.0M Oct 21 01:02 public_html/atlasvbf904/vbfesd2.pool.root
-rw-r--r--  1 stdenis  cdf        1.7M Oct 21 01:02 public_html/atlasvbf904/vbfesd.pool.root
-rw-r--r--  1 stdenis  cdf        7.4M Oct 21 01:02 public_html/atlasvbf904/vbfg4digi1.pool.r
-rw-----  1 stdenis  cdf        7.6M Oct 21 01:02 public_html/atlasvbf904/vbfg4digi2.pool.r
-rw-r--r--  1 stdenis  cdf        5.9M Oct 21 01:02 public_html/atlasvbf904/vbfg4digi.pool.ro
-rw-r--r--  1 stdenis  cdf        2.5M Oct 21 01:02 public_html/atlasvbf904/vbfg4hits1.pool.r
-rw-----  1 stdenis  cdf        2.7M Oct 21 01:02 public_html/atlasvbf904/vbfg4hits2.pool.r
-rw-r--r--  1 stdenis  cdf        2.1M Oct 21 01:02 public_html/atlasvbf904/vbfg4hits.pool.ro
-rw-r--r--  1 stdenis  cdf          97K Oct 21 01:02 public_html/atlasvbf904/vbf.pool.root
```

To summarize for 5 events in the chain:

```
for 5 events I get:
  99522 Oct 21 01:02 public_html/atlasvbf904/vbf.pool.root
 2637248 Oct 21 01:02 public_html/atlasvbf904/vbfg4hits1.pool.root
 7809425 Oct 21 01:02 public_html/atlasvbf904/vbfg4digi1.pool.root
2073589 Oct 21 01:02 public_html/atlasvbf904/vbfesd1.pool.root
 149635 Oct 21 01:02 public_html/atlasvbf904/vbfaod1.pool.root
  7142 Oct 21 01:02 public_html/atlasvbf904/AnalysisSkeleton.root
```

Or:

```
gen   .1M    x 20 = 2M
sim   2.6M   x 20 =52M
digi  7.8M   x 20 =160M
esd   2.1M   x 20 =40M
AOD   .2M    x 20 =4M
NTp   .001M  x 20 = .02M
Total 12.7  x 20 = 250M
```

Major updates:

-- RichardStDenis - 20 Oct 2005

%RESPONSIBLE% RichardStDenis

%REVIEW%

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