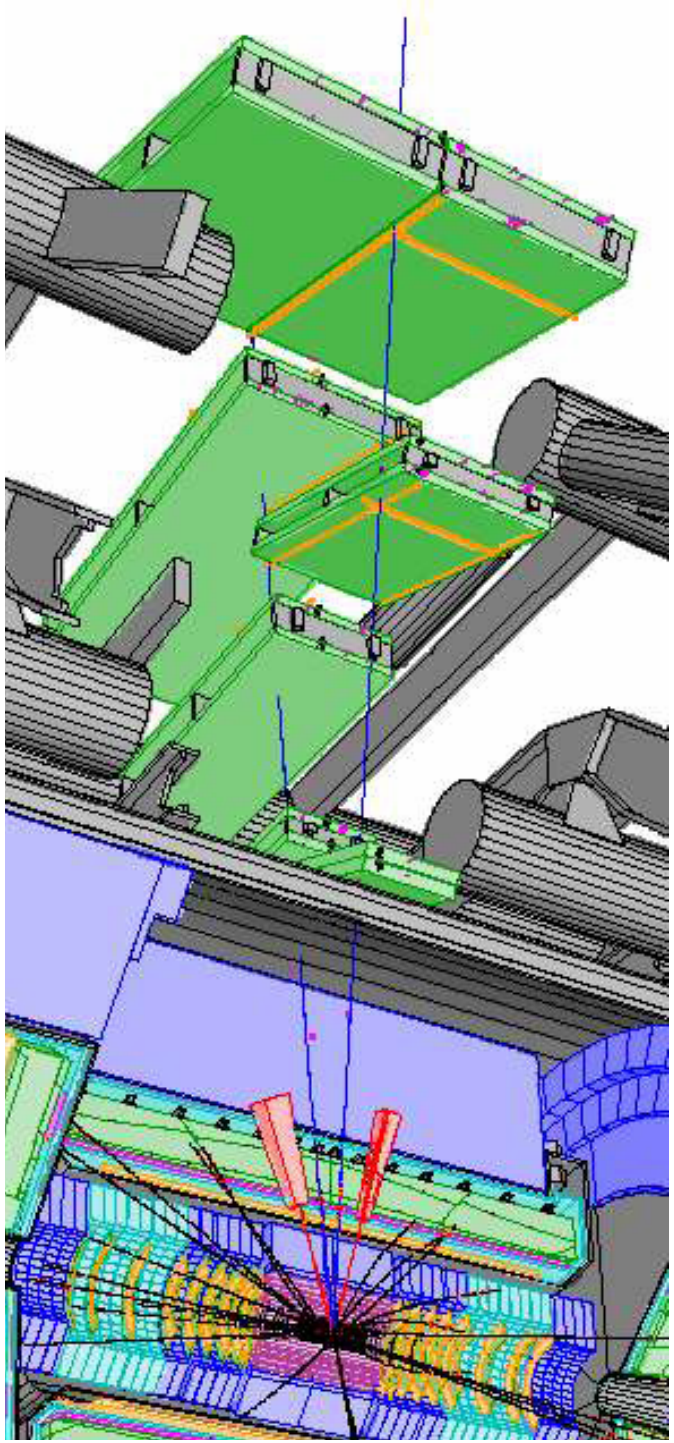


Trigger Software Validation

Outline:

- Announcements:
  - Validation files: “Sample A”
  - Validation files: RDOs
- Monitoring histograms

Olga Igonkina (U.Oregon), Ricardo Gonçalo (RHUL)
TAPM Open Meeting – Mar. 13, 2007

RDOs for trigger validation

- There were plans to write RDOs to tape immediately after reconstruction
- We (TAPM) requested that part of the RDOs be kept: these will be (were?) copied to the CERN CAF and deleted from Tier 1's
  - Available through dq2 tools and at /castor/cern.ch/gridatlas/dq2
- Basically: 6.5M events of various types; 8M single-muon events and 210k di-jets from release 11
- Full list is at: https://twiki.cern.ch/twiki/bin/view/Atlas/ValidationSample

Sample	DS ID	Stat	Actual files, version	Comment
e, pT_10	7000	10k		egamma
e, pT_15	7001	10k		egamma
e, pT_25	7003	10k		egamma
e, pT_40	7004	10k		egamma
e, pT_60	7005	10k		egamma
e, pT_120	7006	10k		egamma
e, pT_500	7007	10k		egamma
e, pT_1000	7009	10k		egamma
gamma, pT_20	7040	10k		egamma
gamma, pT_40	7041	10k		egamma
gamma, pT_60	7042	10k		egamma
gamma, pT_120	7043	10k		egamma
gamma, pT_500	7044	10k		egamma
		110k		
W_enu	5100	20k		egamma
Z_ee	5144	20k		egamma
H_4l	6381	20k		egamma
H_gamma gamma	5310	20k		egamma
W_tauhad	5107	20k		tau

Sample A

Sample A:

- High-priority sample for fast validation
  - Simulated and reconstructed every time there is a new release

- Usually this failed for several samples due to site problems etc: this time, 20% of samples going to be produced in each of five Tier 1s to avoid this

- List is here: https://twiki.cern.ch/twiki/bin/view/Atlas/ValidationSample

Main points for the TAPM community:

- Signle photons with E_T=60GeV to be replaced by sample with E_T=20 GeV (7040)

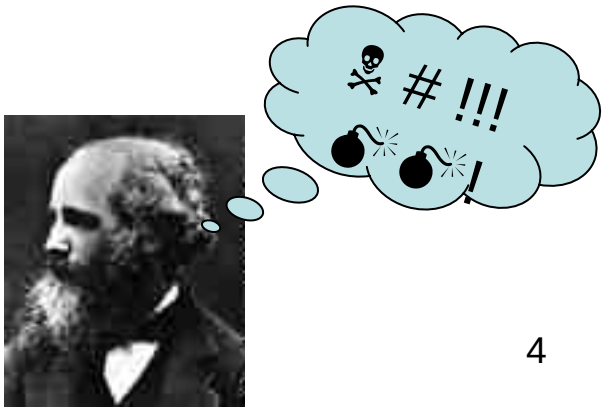
- Tau samples: 5188 will be produced instead of 5187

- Other samples were requested but cannot be included:
  - A0->tautau (5862) 10k
  - PythiaB_Bs_Ds_PhiPi_Pi_Signal3 (016701) 10k
  - PythiaB_Bplus_Jpsi_mu6mu4_Kplus (018673) 10k
  - PythiaB_Bs_mu6mu4 (017900) 10k

Automatic tests:RTT

The idea is to use the Monitoring infrastructure for validation tests in RTT:

- Tomasz produced IMonitoredAlgo and GenericMonitoringTool to instrument hypo and FEX classes
- This is quite powerful and allows monitoring of basic types (int, float), collections, objects, correlations…
- Instructions and examples are here (also from the trigger developers wiki): https://twiki.cern.ch/twiki/bin/view/Atlas/TriggerValidationHistograms
- We'd like to ask everyone developing HYPO or FEX algorithms to put monitoring histograms in their code
  - Two (tau) examples are now working; a third (e/gamma) awaits missing feature in Configurables (ToolHandleArray)
- We need to have this working as fast as possible:
  - **End of this week**? ☺



How-to

- Algorithms should inherit from IMonitoredAlgo
- Variables to be monitored should preferably be data members of the algorithm
- Declare the variables in constructor: `declareMonitoredVariable("IsoFrac",m_IsoFrac)`
- GenericMonitoringTool can then:
  1. Be attached to the algorithms
  2. Create the histograms during beginRun
  3. Grab the variables after execution