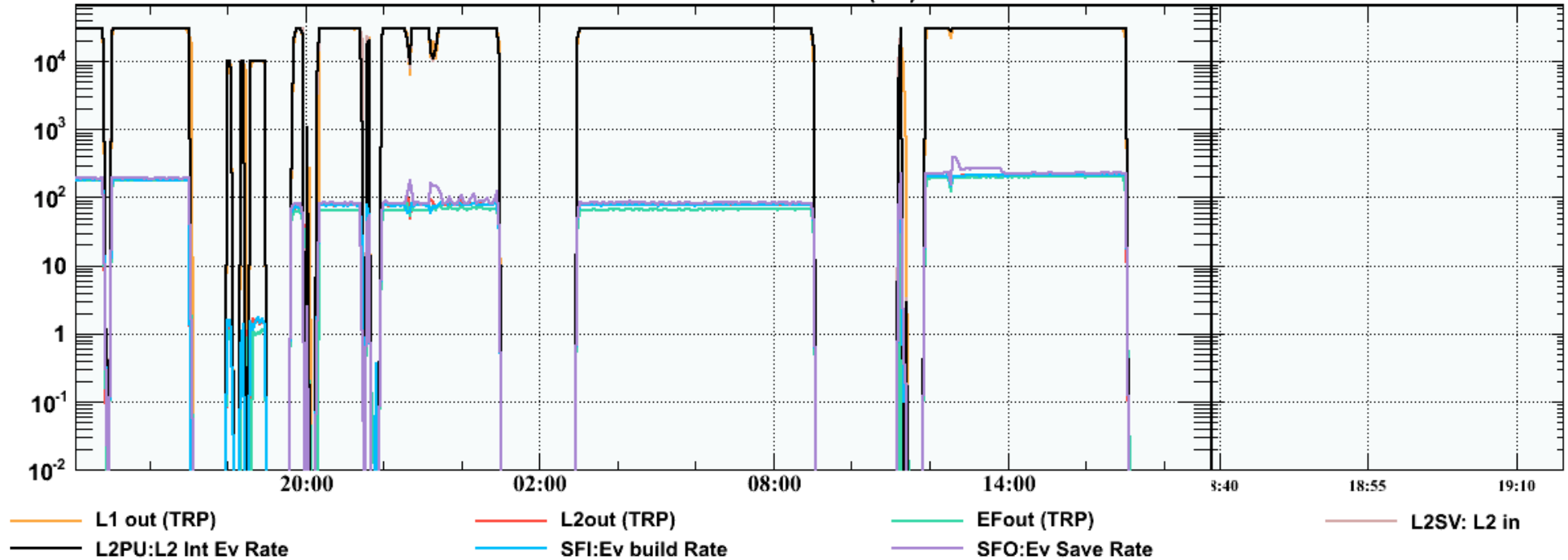


Trigger Offline DQ Monitoring

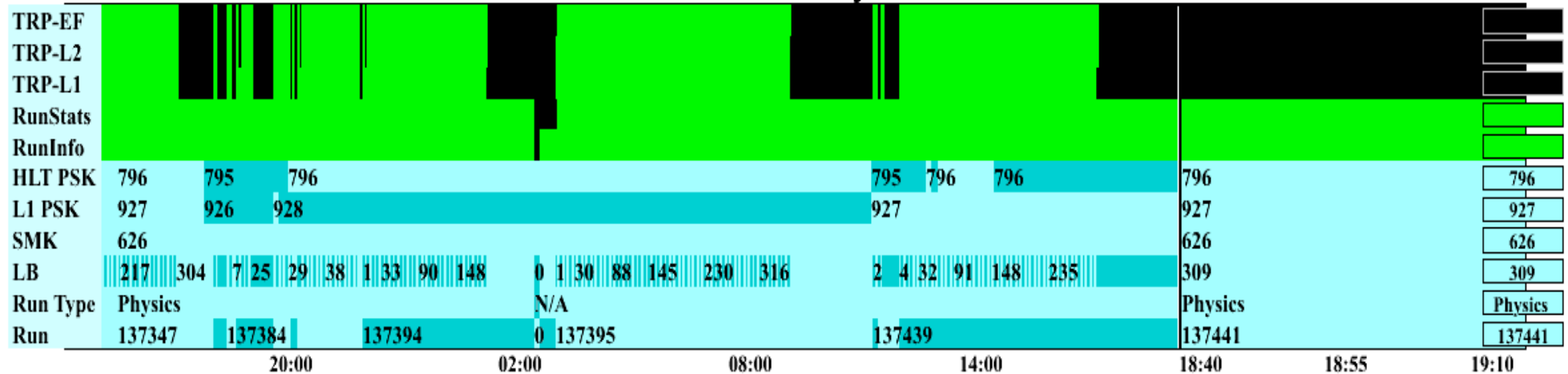
Ricardo Goncalo for Trigger Offline Monitoring

Rates and configurations over the last day (@19:10 Sun)

Global Rates (Hz)



Status History



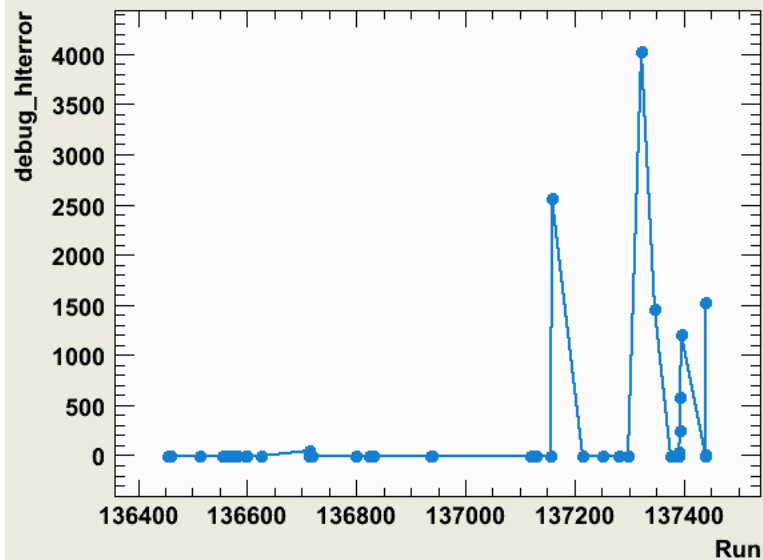
Run history @ 19:10 Sun 01 Nov

- 48 runs taken – 136455-137476
 - 73M events
 - 50M CosmicMuons
 - 2.5M IDCosmics
 - 1.9M L1Calo
 - 280k L1CaloEM
 - 1.7M MinBias
 - 6.5M Random
- 18k in debug streams
 - 4.8k L2ForcedAccept
 - 2.8k efdProcTimeout
 - 6 efdPtCrash
 - 20 efdStopTransition
 - 16k hlterror
- Large overlap between CosmicMuons and IDCosmics until run 136827
 - 25%-100% CosmicMuons in IDCosmics (95%-100% of IDCosmics also in CosmicMuons)
 - Down to 2%-5% after run 137158
- Express stream typically 25%-30% of L1Calo
- A few runs with L1CaloEM vs L1Calo shooting up
- MinBias stream typically decorrelated with any other
- Random stream also decorrelated except for ~10% overlap with Express stream

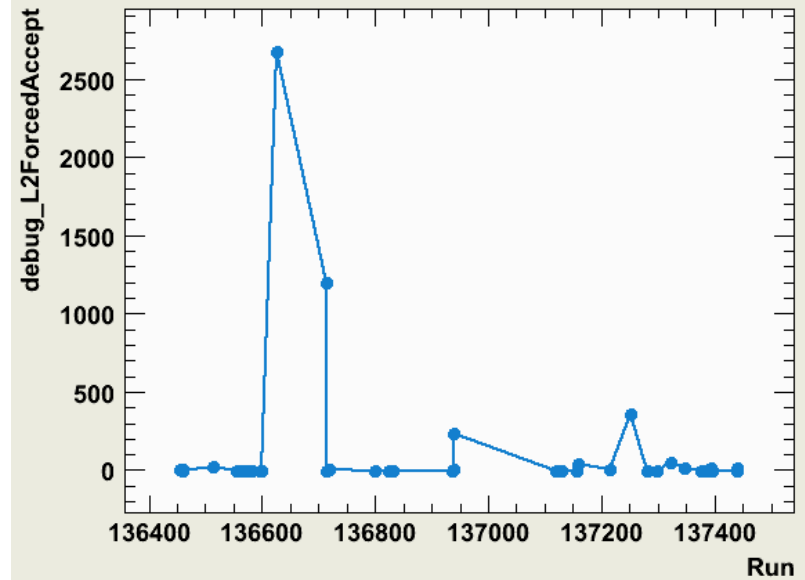
Debug Stream Analysis (see e-log)

- Some events traced to a hot LAr cell
- Some events traced to MDT data corruption
- A few problems with wrong prescale keys being used in reprocessing (#57665)

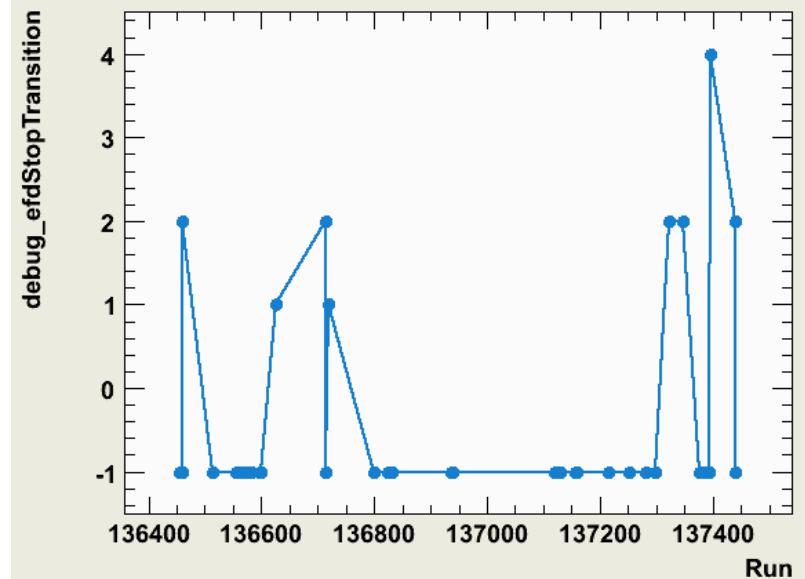
ATLAS Run Query: debug_hlterror vs. Run



ATLAS Run Query: debug_L2ForcedAccept vs. Run



ATLAS Run Query: debug_efdStopTransition vs. Run



Problems

- L2 spikes in endcaps disappeared but not clear why
 - <https://savannah.cern.ch/bugs/?57182> - Closed
- Fake tracks compared to offline tracks increased from 24th October
 - <https://savannah.cern.ch/bugs/?57698>
- After the reprocessing, events have hterror tags on top of calibration tags
 - <https://savannah.cern.ch/bugs/?57867>
- HLTDQM configuration errors online
 - <https://savannah.cern.ch/bugs/?57954>
- Wrong configuration keys storage affects reprocessing
 - <https://savannah.cern.ch/bugs/index.php?57665>
- Timeout guard in TrigMuonEFSegmentFinder sends events to hterror in reprocessing
 - <https://savannah.cern.ch/bugs/index.php?57872>
- Illegal stream type in cosmic menu – in principle fixed
 - <https://savannah.cern.ch/bugs/index.php?57837>

Trigger DQ Flags

- Level 1:
 - **L1CAL** 401 : L1 calorimeter trigger
 - **L1MUB** 402 : L1 Muon Barrel
 - **L1MUE** 403 : L1 Muon EndCap
 - **L1CTP** 404 : L1 CTP
- Detectors:
 - **TRCAL** 411 : calorimeter trigger
 - **TRIDT** 431 : inner detector tracking
- Trigger slices/reconstruction:
 - **TRBJT** 421 : b-jet slice
 - **TRBPH** 422 : B physics slice
 - **TRCOS** 423 : cosmics slice
 - **TRELE** 424 : electron slice
 - **TRGAM** 425 : photon slice
 - **TRJET** 426 : jet slice
 - **TRMET** 427 : missing ET slice
 - **TRMBI** 428 : minimum bias slice
 - **TRMUO** 429 : muon slice
 - **TRTAU** 430 : tau slice
- Not filling DQ flags yet...
- Experts should be activated from 2nd November
- Inner Detector Trigger will probably start before that

Trigger Offline Shifter Interface

- Anna's and Alessandro's scripts for analysis and reprocessing of debug stream essential
 - It would be important to have TMS framework available asap!!
- Page to display results needs to be readable by non-experts
 - Great step forward by using cursor tips with Tomasz's help
 - Histogram formatting (text labels) still needs some work

Scanned directory: 00137322_debug_L2ForcedAccept_2009-10-31_120927/gif

[View All](#)

Chain Name EF	Chain Name EF:Chain Step EF
Chain Name EF:HLT Internal	Chain Name EF:HLT Reason
Chain Name L2	Chain Name L2:Chain Step L2
Chain Name L2:HLT Internal	Chain Name L2:HLT Reason
EF Status Result:EF PSC Result	EF Status Result:EF PSC Result
Event Counter Reset Counter Lvl1 ID	Event Counter Reset Counter Lvl1 ID:Chain Name EF
Event Counter Reset Counter Lvl1 ID:Chain Name L2	Event Counter Reset Counter Lvl1 ID:Event Counter Lvl1 ID
Event Counter Reset Counter Lvl1 ID:Global ID	Global ID
Global ID:Chain Name EF	Global ID:Chain Name L2
HLT Action:HLT Reason	HLT Reason:HLT Internal
L1ItemHisto	L2 HLT Result:L2 PSC Result
LBVSL1Item	Stream Tag Name
lumiblock	node ID

Chain_Name_L2

L2 Chain where an hit error occured.

If `_No Error in Chain_`, there is no chain that caused an hit (L2) error in the event.

If `_No L2 Result_`, no L2 result was found in the data.

Conclusions and Thanks!

- Could either recover or trace debug stream events to online hardware problems
- Work still needed in shifter interface, but pretty nice already
- The shifters:
 - Clemencia Mora
 - Pedro Jorge
 - Fedor Prokoshin
- The usual suspects ;-)
 - Joerg Stelzer
 - Anna Sfyrla
 - Tomasz Bold