

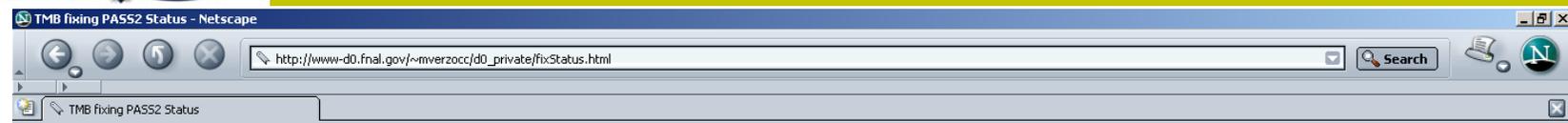


CSG Report & Athena

- **Pass2 Fixing & Skimming**
 - **Events, Definitions, Schedule**
- **D0correct**
 - **New version**
- **Athena**
 - **Root-tuples, Bad Runs/LBNs, Lumi**



TMB Pass2 Status

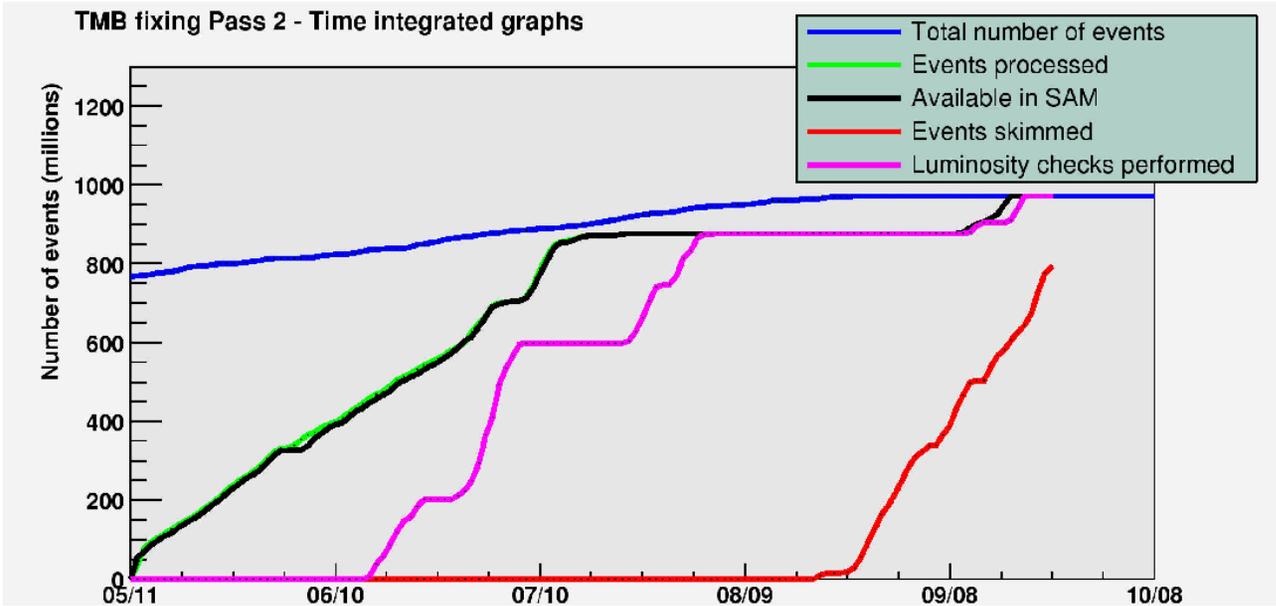


TMB fixing PASS2 Status

TMB fixer Pass2 Status (all versions) on 23 Sep at 09:17

Total Events	971187179		
Processed Events	971187179	100.00%	
Events in SAM	971187179	100.00%	
Skimming	796949436	82.06%	
Luminosity checks	971187179	100.00%	
Total Files	57708		
Processed Files	57708	100.00%	
Fixed Files in SAM	57708	100.00%	
Skimmed files	48104	83.36%	
Lumichecked files	57708	100.00%	

Updated daily automatically





Pass2 Fixing & Skimming

- TMB Fixing is complete for all data from 20 Apr 2002 up to the current shutdown (23 August 2004)
- Skimming is nearly complete
 - Should be done by late next week
- What you need to know:
 - Some small losses at TMB fixer level
 - 2-3 pb⁻¹ from June when incorrect L3 code was running on some farm nodes (Reco cannot handle it)
 - 0.063% because of zero magnetic field
 - 0.0008% because of Reco crashes
 - Some special runs made it into skims because they were of type physics
 - Some event duplication
 - Need to recover some data at the skimming level (few days)
 - Changed list of triggers to include v13 triggers (into skims)
- Pass2 skims are not ready for full-on processing
 - CSG will send email & post to D0 News after completing data recovery and file checks
 - Can use p14.03.00 Pass2 skims (smallest set) if you really need to start



Pass2 TMB Skims

All data available in SAM (reside on 9940B tapes, access conflicts with pick_event processes and skimming)

*sam translate constraints -dim='data_tier thumbnail and appl_name p14tmbfixer and version p14.fixtmb2.02 and file_name TMBfix2-recoT_%.raw_*****_prod_p14.fixtmb2.02'*

where *** is the original version of the data processing:**

- p14.03.00/p14.03.01/p14.03.02
- p14.05.00/p14.05.02
- p14.06.00/p14.06.01
- %13%_p14.05.02

(data from DST reprocessing)

Copy of Marco's slide from CSG mtg (22 Sep)



New Luminosity Tools

- Merge functionality of existing tools from Marco, top_dq to provide users with common methods to:
 - OR triggers (with or without prescales)
 - Define triggers for a given dataset
 - Access the databases
 - LBNs, Bad Runs, etc.



Athena Root-tuple Maker

- **V01-05-02 - available since mid-June 2004**
 - D0correct v00-00-06
 - Compiled with p14.06.00, maxopt
 - Tracks, electrons, vertexing, missing ET, muons
 - 3 Jet branches
 - JES corrected, JES+Muon corrected & Uncorrected for Jet Reco studies
 - L1, L2 and L3 trigger branches for efficiency studies
- **New version (p16.04, d0correct v7.5)**
 - Suyong provided tarball Tuesday, but...
 - New version of d0correct is coming out next week with p16.05 (next slide)

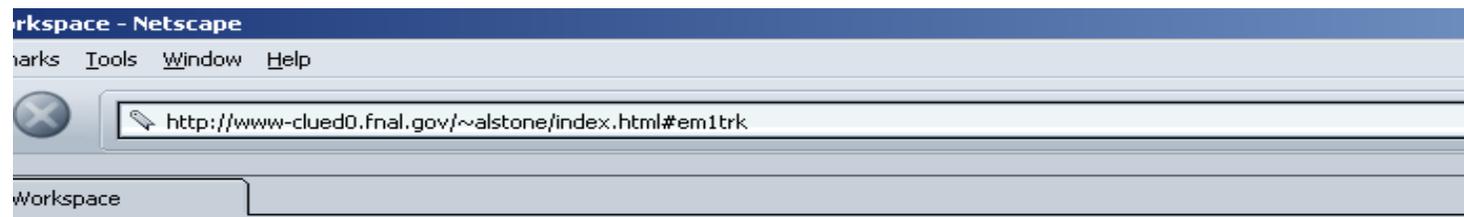


d0correct

- New version for p16.05, including changes
 - bug fixes in EM likelihood, EM MC smearing
 - fix problems with cal_t42: read the right CalDataChunk
 - new cal_event_quality
 - small changes into tmb_analyze
- Future d0correct changes need to be requested through web interface (linked from CSG page)
- Try to build new version next week
- This meshes nicely with the Pass2 skimming schedule
- We will delay making new Athena root-tuples from Pass2 TMBs (fixed & skimmed) for another 1-2 weeks
 - May be last set of Athena root-tuples as the Common Analysis Format may be ready for general consumption by end of the year



TMB Pass1 EM1TRK Skim



Use python script to create SAM dataset definitions by tape & job script. Easier to keep track of completed jobs or restart failed jobs.

Another script does the bookkeeping.

p14 1EMTRK

21 April 2004 - 28 June 2004 (Runs 192165 - 194566)					
Skim	SAM Dataset	# Files	# Events	Subsets by Tape	Job Script
EM1TRK	p14.em1trk.post.02	255	9,382,560	46	run_em1trk.post_apr2004
25 November 2003 - 21 April 2004 (Runs 185746 - 192159)					
Skim	SAM Dataset	# Files	# Events	Subsets by Tape	Job Script
EM1TRK	p14.em1trk.post.01	665	12,280,693	158	run_em1trk.post_nov2003
20 April 2002 - 7 September 2003 (Runs 151816 - 180956)					
Skim	SAM Dataset	# Files	# Events	Subsets by Tape	Job Script
EM1TRK	p14.em1trk.01	765	32,137,764	142	run_em1trk
4 October - 6 December 2002 (Runs 165600 - 168954)					
Skim	SAM Dataset	# Files	# Events	Subsets by Tape	Job Script
EM1TRK	p14.em1trk.catch.r13	14	653,723	NA	run_em1trk_r13

This section was last modified on Thu Aug 26 16:06:15 CDT 2004.



EM1TRK Athena root-tuples

ape

marks Tools Window Help

http://www-d0.fnal.gov/~alstone/D0Work/athena.html#p14data

All EM1TRK: 20 April 2002 - 28 June 2004 (Runs 151817 - 194566)					
Athena	# Events	# Root-tuples	Disk Space	Avg Event Size	Macro Chain
v01-05-02	54,437,110	804	309.31 Gb	5.68 kb	run_em1trk_all_skim.C
21 April 2004 - 28 Jun 2004 (Runs 192165 - 194566)					
Location: /rooms/flames/Athena/v01-05-02/em1trk-post-apr2004/					
Athena	# Events	# Root-tuples	Disk Space	Avg Event Size	Macro Chain
v01-05-02	9,382,560	134	59.02 Gb	6.29 kb	run_em1trk.post_apr2004_skim.C
25 November 2003 - 21 April 2004 (Runs 185746 - 192159)					
Location: /rooms/flames/Athena/v01-05-02/em1trk-post-nov2003/					
Athena	# Events	# Root-tuples	Disk Space	Avg Event Size	Macro Chain
v01-05-02	12,263,063	369	71.05 Gb	5.79 kb	run_em1trk.post_nov2003_skim.C
20 April 2002 - 7 September 2003 (Runs 151817 - 180956)					
Location: /rooms/flames/Athena/v01-05-02/em1trk/					
Athena	# Events	# Root-tuples	Disk Space	Avg Event Size	Macro Chain
v01-05-02	32,137,764	291	175.86 Gb	5.47 kb	run_em1trk_skim.C
4 October - 6 December 2002 (Runs 165600 - 168954)					
Location: /rooms/flames/Athena/v01-05-02/em1trk_r13/					
Athena	# Events	# Root-tuples	Disk Space	Avg Event Size	Macro Chain
v01-05-02	653,723	10	3.37 Gb	6.29 kb	run_em1trk_r13_skim.C

This section was last modified on Wed Sep 22 16:23:26 CDT 2004.

- Pass1 TMBs
- Runs 151817-194566 - through v12 trigger list - taken 20 Apr 2002 - 28 Jun 2004
- 54.4 million events - less than 0.1% duplication
- 803 root-tuples using 309 Gb of disk space - average 5.7 kb event size
- Will keep this set for a while until we are completely convinced Pass2 is superior



Skimming Athena Root-tuples

- It will take 10-12 hours to process the 54 million events and 803 root-tuples to make histograms
 - Sometimes this is a necessary evil when doing efficiencies or optimizing cut, but for most work, you don't need this full dataset

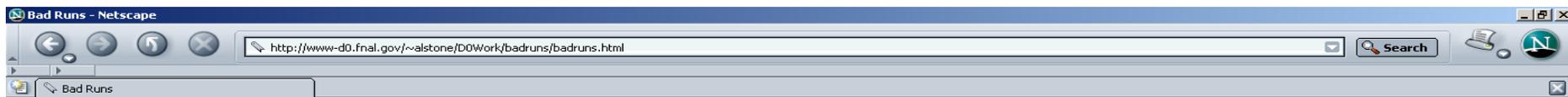
Data: 20 April 2002 - 28 June 2004 (Runs 151817 - 194566)				
Location: /rooms/flames/alstone/skims/v01-05-02/em1trk/				
Cuts: 1 EM object with emf>0.9, iso<0.15, hm \times 7<12, Track Match, CC-only				
Athena	Macro	# Original Events	# Skimmed Events	# Skimmed Root-tuples
v01-05-02	run_em1trk_skim.C	54,431,899	1,784,949	7
Cuts: 1 EM object with emf>0.9, iso<0.15, Track Match, pT>25				
Athena	Macro	# Original Events	# Skimmed Events	# Skimmed Root-tuples
v01-05-02	run_em1trk_skim.C	54,431,899	1,374,437	7

Found a couple of minor bugs, so root-tuples need to be remade, but idea is the same.

- Note: The EM1TRK skim requires at least one EM object with pT > 8 GeV.
- Note: An EM fraction greater than 90% is already required for the leading EM object(s) with ID=10 or 11 in the EM skims - 1EMloose, EM1TRK, 2EM, 2EMhighpt.



Bad Runs Page



Bad Runs

Questions, comments and requests should be sent to the Alan L. Stone
Last modified: Tue Sep 14 10:53:11 CDT 2004

Intro	CAL	CFT	CalJetMet	L1CAL	SMT
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- [Athena](#)
- [Clued0 Workspace](#)
- [Physics Page](#)
- [Higgs](#)
- [Dilepton + Jets](#)
- [Marc's Analysis](#)
- [CAB](#)
- [d0tools](#)
- [RECO](#)
- [SAM](#)
- [clued0](#)
- [Common Sample](#)
- [Data Tier](#)
- [Agenda Server](#)
- [List Server](#)
- [Runs & Stores](#)
- [Run II Luminosity](#)

Intro

- The [Offline Run Quality Database](#) was queried for the quality flag "BAD" for the detector/ID groups of CAL, CFT, Jet/MET & SMT.
- More information can be found on the [D0 Data Quality](#) web page.
- Lists of bad runs culled from the full set of physics runs from 19 April 2002 to the present (Runs >= 151816) have been generated separately. These lists need to be reviewed periodically as:
 - More physics runs are recorded and reconstructed
 - Better discriminating algorithms are used to select bad runs
 - New corrections are applied to data to minimize bad runs

This section was last modified on Tue Sep 14 10:52:30 CDT 2004.

CAL

- [Run Quality output](#) for Calorimeter Bad Runs
- [Descending List](#) of Calorimeter Bad Runs
- [Root Macro function](#) with Calorimeter Bad Runs

This section was last modified on Thu Jul 29 12:47:21 CDT 2004.

CFT

- [Run Quality output](#) for Tracking & Preshower Bad Runs
- [Descending List](#) of Tracking & Preshower Bad Runs
- [Root Macro function](#) with Tracking & Preshower Bad Runs

This section was last modified on Mon Aug 30 13:33:01 CDT 2004.

CalJetMet

- Combined CAL+CFT+SMT bad run [list](#) and [macro](#) through all physics run range.
- Combined CAL+CFT+L1CAL+SMT bad run [list](#) and [macro](#) through all physics run range.
- [fill_badruns](#) script that I used to make the combined lists and macros.

- See the [Calorimeter Data Quality](#) web page maintained by Viatcheslav Shary and Laurent Duflot.

- The [Tracker & Preshower data quality](#) is monitored by Marj Corcoran.

cal_event_quality is used to identify: "ring of fire", "coherent



Luminosity

- Run Range Luminosity method for diEM trigger

	EM1TRK		
	E1_2L20	2EM_HI	Diem Total
Delivered	246.779 pb-1	178.944 pb-1	425.723 pb-1
Recorded (all)	227.3129 pb-1	150.122 pb-1	377.4349 pb-1
Recorded (good)	201.4743 pb-1	119.354 pb-1	320.8283 pb-1

- Method to OR multiple unrescaled single EM triggers
 - Same bad run and bad LBN lists. Same run range. Same skim.

Single EM Lumi Results	
First Run	161977
Last Run	194566
Recorded	322.774 pb ⁻¹