

P118 (Pass6) Reprocessing Notes

P118 Reprocessing

status: **Complete**

last update: 25 May 2011

This page is a record of the configuration for the P118 reprocessing project, recalculating diffuse response with new P6_V11 IRFs and adding to existing FT1 files. This processing will be applied to all science data, be incorporated into Level 1 processing, and results sent to the FSSC.

- [P118-FT1](#) - this [task](#) will read existing FT1 (photons) files and emit new FT1 files

Datafile names, versions and locations

Data file version numbers for this reprocessing will begin with v118.

XROOT location and file naming

Location template:

```
/glast/Data/Flight/Reprocess/<reprocessName>/<dataType>
```

Locations for P118:

```
/glast/Data/Flight/Reprocess/P118/ft1
```

File naming:

Data Type	aka	Send to FSSC	Naming template
FT1	LS-002	Yes	gll_ph_p<procVer>_r<run#>_<version>.fit

Note: 'procVer' is a field added to the file name (and the keyword "PROC_VER" in the primary header) added to the FFD ([doc](#), or [PDF](#)) on 5/12/2010.

Example:

```
/glast/Data/Flight/Reprocess/P118/ft1/gll_ph_p118_r0239559565_v118.fit  
/glast/Data/Flight/Reprocess/P118/ls1/gll_ev_p118_r0239559565_v118.fit
```

DataCatalog location and naming

Logical directory and group template:

```
Data/Flight/Reprocess/<reprocessName>:<dataType>
```

Note that the <dataType> field (following the colon) is a DataCatalog 'group' name, and file names are of the form r<run#>.

Naming examples:

```
Data/Flight/Reprocess/P118:FT1 r0239557414  
Data/Flight/Reprocess/P118:LS1 r0239557414
```

Data Sample

The data sample for P118 reprocessing includes the current definition of the "Public_v2" dataset.

Block	First run MET	First run (UTC)	Last run MET	Last run (UTC)	#Runs	#Evts	DataCatalog Source	Note
1	239557414	2008-08-04 15:43:34	311669624	2010-11-17 06:53:42	12557	435,741,248	/Data/Flight/Reprocess/P116/FT1	entire P116 dataset
1	311675447	2010-11-17 08:30:45	319652280	2011-02-17 16:17:58	1410	55,911,339	/Data/Flight/Level1/LPA/	Standard Level 1 output
2	319658687	2011-02-17 18:04:45	324849509	2011-04-18 19:58:27	908	45,004,526	/Data/Flight/Level1/LPA/	Standard Level 1 output
3	324855475	2011-04-18 21:37:53	327999656	2011-05-25 07:00:54	552	22,469,614	/Data/Flight/Level1/LPA/	Standard Level 1 output
TOTAL					15427	559,126,727		

Final number of selected photon events (in the FT1 and LS1 files) = TBD

These data (along with subsequent Level 1 data) will be in the SLAC Astroserver as P6_public_v3.

Bookkeeping

- (This page): Define ingredients of reprocessing (processing code/configuration changes)
- Processing History database: <http://glast-ground.slac.stanford.edu/HistoryProcessing/HProcessingRuns.jsp?processingname=P118>
 - List of all reprocessings
 - List of all data runs reprocessed
 - Pointers to all input data files (-> dataCatalog)
 - Pointers to associated task processes (-> Pipeline II status)
- Data Catalog database: <http://glast-ground.slac.stanford.edu/DataCatalog/folder.jsp>
 - Lists of and pointers to all output data files
 - Meta data associated with each output data product

P118-FT1

(This task is, in configuration, equivalent to the [P116-FT1](#) task, bypassing all but the gtdiffrsp step.)

Status chronology

5/25/2011 - Begin and complete reprocessing block3, 552 runs (324855475 through 327999656)
start 09:30, complete 11:40
4/20/2011 - Begin and complete reprocessing block2, 908 runs (319658690 through 324849509)
start 11:30, complete 14:00
3/24/2011 - Eight runs re-reprocessed due to updated FT1 files from Level 1:

316703389
316739248
316744661
316761944
316767672
316773400
316776949
318795366

2/23/2011 - Block 1 complete
2/22/2011 - Begin trickleStream of block1
2/15/2011 - Begin configuration for this task

Configuration

Task Location	/nfs/farm/g/glast/u38/Reprocess-tasks/P118-FT1
Task Status	P118-FT1
Input Data Selection	FT1
Input Run List	http://glast-ground.slac.stanford.edu/Decorator/Decorate/u38/Reprocess-tasks/P118-FT1/config/runFile.txt
Reprocessing Mode	doDiffRsp

evtClassDefs	n/a (see P116)
photon cut	n/a (see P116)
eventClassifier	n/a (see P116)
s/c data	FT2 from P105 (runs 239557414 - 271844560), then from current Level 1 production
ScienceTools	09-21-00 (SCons build)
Allowed Code Variants	redhat4-i686-32bit-gcc34, redhat4-x86_64-64bit-gcc34, redhat5-i686-32bit-gcc41, redhat5-x86_64-64bit-gcc41 (Optimized)
Diffuse Model	/afs/slac/g/glast/groups/diffuse/mapcubes/source_model_v02_P6_V11_DIFFUSE.xml (https://confluence.slac.stanford.edu/display/SCIGRPS/Diffuse+Model+for+Analysis+of+LAT+Data)
Diffuse Response IRFs	P6_V11_DIFFUSE
Output Data Products	FT1

Processing chain for FITS data products

Data Product	makeFT1	gtdiffrsp	gtmktime	gttcube
FT1	false	true for evclsmin==3	false	false

Note on 'Code Variant': The SLAC batch farm contains a mixture of architectures , both hardware (Intel/AMD 64-bit) and software (RedHat Enterprise Linux 4, and 5, gcc 3.4, 4.1, etc.). Currently, all batch machines have 64-bit hardware and (most, if not all) run with the 64-bit operating systems.

Timing

The execution of gtdiffrsp happens in the mergeClumps step and takes ~5 hequ-minutes per run (on average) to complete. Some individual runs (few percent) take considerably longer...up to 2 hours.

(update 5/25/2011) Statistics for mergeClump now show mean time of 14.4 CPU minutes (averaged across all CPU types, but mostly hequ and boer)