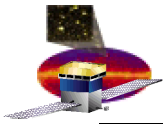


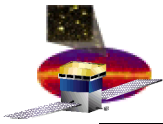
Data Monitoring: System Tests?

- **Currently:**
 - **SVAC Data reports:**
 - Made for each run:
 - » Separate Digi and Recon reports
 - Static html pages with histograms and written text:
 - » No reference histograms
 - » No drill-down capability for additional detailed information
 - » No user interaction
 - Purpose is to catch big problems!
 - » Not for detailed diagnostics!
- **Use System tests?**
 - **Build on the Software release system tests**
 - **More dynamic system:**
 - Histograms stored in database
 - Reference releases (histograms)
 - Some user interaction (choose ref. release, log scale)



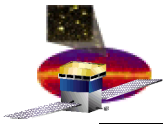
Data Monitoring: Requirements I

- **Requirements:**
 - **Automatically updated for each run**
 - **Results linked from eLog**
 - **Separate web page with links to runs:**
 - **Search capability:**
 - » **Want to look at plots for all Science runs from today ...**
- **Pass/Fail criteria:**
 - **Reference runs:**
 - **Default reference run depending on the run type**
 - **Allow user choice of reference run**
 - **Automatic spike/dead channel search:**
 - **Flag if one bin is N% higher/lower than neighbouring bin**
 - **Hard coded flagging:**
 - **Flag histogram if some arbitrary condition is (not) fulfilled**
 - **Pass/Fail will be based on a subset of all histograms!**



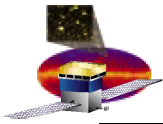
Data Monitoring: Requirements II

- **Drill down capabilities:**
 - **Multiple levels of histograms:**
 - Level 1: Simple monitoring - Summary plots
 - Level 2: More detailed plots
 -
 - Level N: Expert histograms for debugging
 - **Multiple ways of navigation:**
 - User level based:
 - » Summary plots, experts plots
 - Subsystem based:
 - » CAL --> CalDigi --> CalAdc
- **User interaction:**
 - **Compare histograms:**
 - Choose reference run
 - **Correlate histograms:**
 - Plot Hist1 vs Hist2



Data Monitoring: Requirements III

- Will need to interact with:
 - eLog
 - Runs database
 - MOOD/MOOT:
 - Link to and extract relevant configuration information
 - » If looking at CalAdc: Link to CAL thresholds
 - Calibrations database:
 - Link to and extract relevant calibration constants
 - Housekeeping:
 - Queries automatically based on time of run
 - Data products:
 - Ntuples and root files
 - » In case further investigations necessary
- Will be run based!
- Flexible design:
 - Must be easy to add new features as we go along



Data Monitoring Web Page: List Of Runs

Run Number	Run Type	Start time	Configuration
------------	----------	------------	---------------

<u>0001</u>	Science	<u>18:00:00 Dec 24 2005</u>	<u>Key1</u>
-----------------------------	---------	---	-----------------------------

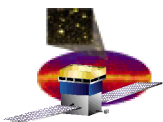
<u>0002</u>	CI	<u>20:00:00 Dec 24 2005</u>	<u>Key2</u>
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Link to system tests
for this particular run

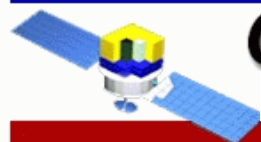
Links to eLog

Links to
MOOD/
MOOT

The page should contain a list of the N most recent runs.
In addition, need **search capabilities**.



Eduardo's Data Monitoring GUI



GLAST

orbit

ISOC Monitoring

Master Control

Activities

Alerts

Monitoring

Calibrations

Shift log

Housekeeping

Configuration

RunID 12345 Ref: Default Update

[Histograms](#) [Definitions](#)[Jira Release 0.7.8](#) [Log in](#)

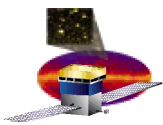
Monitoring Distributions for run [12345](#)

Default reference for this release is v7r3p2 . [Commentary](#) [RM Summary](#)

	Subsystem	Configuration	Summary Plots	Details	Pass/Fail	Comments	Data Files	Alerts
✗	LAT	431243	43	443	443/0	Dec 1 2005	digi recon merit svac	10
✗	Trigger	-	34	443	443/0	Dec 4 2005	-	
✓	FSW	-	12	443	443/0	Dec 14 2005	-	
✓	ACD	-	23	443	443/0	Dec 22 2005	acd	
✗	CAL	-	13	443	443/0	Dec 2 2005	cal	
✓	TKR	-	23	443	443/0	Dec 22 2005	tkr	
✓	SAS	-	43	443	443/0	Dec 1 2005	-	

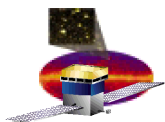
Not sure what
the criteria will beNo reference
plots neededReference
plots
(tabs needed to)Linked from
Shift log
(date of last comment
related to this run)to be connected
to photon lists at some pointto be connected
to alerts page
contain mostly transients
and
things such as HV out of
rangeID of config from MOOT
Link to a page with tables with
values of config used
(need tabs to handle 16 modules etc)

Anders W. Borgland



Data Monitoring: Run Information

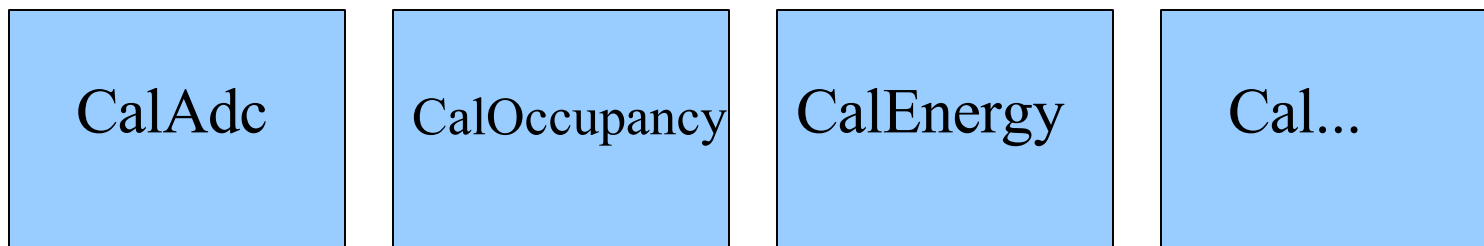
Run Number	Subsystem	Configuration
0001	Summary plots LAT Detailed plots LAT	Key1 Key1
	Subsystem plots: TRG TKR CAL ACD FSW DIAG	TRG related config info TKR related config info CAL related config info ACD related config info FSW related config info
Links to histograms for individual subsystems		Links to (subsystem) configuration information



Data Monitoring: Summary/Detailed Plots

Run: 0001

<< TRG TKR CAL ACD FSW DIAG >>



<< Previous

Next >>

CAL: Summary plots

CalRecon: - CalXtalEnergy
- CalXtalOccupancy
- CalTkrAlignment
-

CalCalibCts

```
graph LR; CR[CalRecon] --> CC[CalCalibCts];
```

Anders W. Borgland