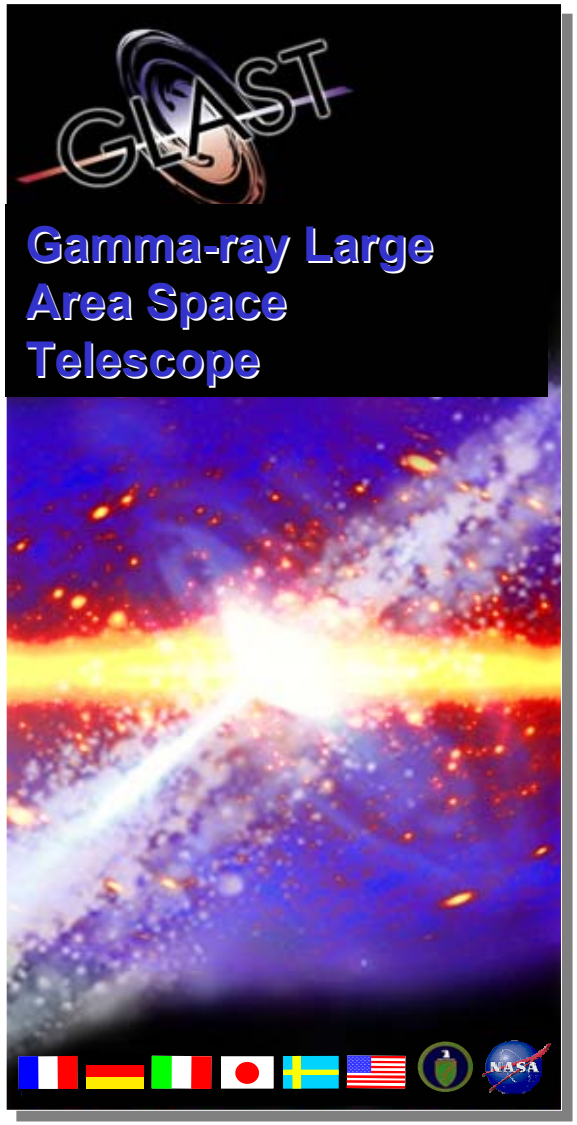

GLAST Large Area Telescope:
EM Status Report

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Calibration Plan from LAT-MD-00446

ID	Name	SAS Software	EGSE Script	Comments
C10	TKR Noisy Channels	Yes	No	Done
C11	TKR Dead Channels	Yes	Yes	Done
C12	TKR Time-Over-Threshold Signal	No	Yes	Done
C13	TKR Time-Over-Threshold Count Distribution	Yes	No	Done
C14	CAL Light Asymmetry	Yes	No	In progress
C15	CAL Light Attenuation	Yes	No	In progress
C16	CAL Light Yield	Yes	No	In progress
C18	CAL Pedestals	Yes	Yes	Done
C19	CAL Electronic Gain	No	Yes	Done
C20	CAL Integral non-linearity	No	Yes	In progress
C22	CAL Noisy Channels	Yes	Yes	To be defined from pedestal widths
C23	CAL Dead Channels	Yes	Yes	To be defined from muon peaks
C24	CAL LO Discriminator	No	Yes	Done
C25	CAL HI Discriminator	No	Yes	Not exercised with cosmic ray tests
C26	CAL Zero-Suppress Threshold	No	Yes	Done
C27	Deadtime	No	Yes	Depends on Flight Software implementation

Calibration – TO DO list

- Documentation
  - Add TKR threshold scan into LAT-MD-00446
  - Review and update description of EGSE scripts and SAS macros
  - Provide full report and discuss with Flight Software group implications for future tests (including on-orbit if applicable)
- Software Development
  - Review and update
    - Output format of calibration results
    - SAS infrastructure
    - I&T infrastructure and upload results
- Data Analysis
  - Example of calibration results (see Hiro and Jim's talks)
  - Finish calibrations now in progress (see previous slide)
  - Evaluate time history and update frequency of calibrations

Data Analysis Plan

Events	Hours	Trigger Rate (Hz)	Trigger Type	Particle source	Description	Tower Position
15,000,000	~130	~30	CAL_LO	Cosmics	CAL position resolution	vertical
~10,000 x 10	0.3 x 10	10	TKR	Cosmics	Threshold scan	vertical
~10,000 x 10	0.3 x 10	10	TKR	Cosmics	Bias Voltage scan	vertical
~30,000	3	~3	TKR	Cosmics	Background reference for VDG test	horizontal
180,000	6	~5	TKR	Photons	TKR characterization using VDG	horizontal
15,000	1	~50	CAL_LO	Photons	CAL Energy Spectrum using VDG	horizontal

Rates for VDG and data taking in horizontal position are estimates based on the previous minitower test