DC2

Goal: Simulated one month dataset. Test sim, recon and analysis software.

Scope: Longer version of DC1 +
- produce catalog
- some simple hardware failures
- quicklook analysis/monitoring (both for source variability and data qual.
- include simulated GBM data
- More realistic sky/data
  - include cosmic-ray background
  - deadtime
  - periodic/variable sources
  - Diffuse sources
  - realistic source locations
  - etc...
General Topics

- Sim/recon improvements
- Background rejection
- IRFs
- Data servers
- Science Tools
- Higher level analyses
- Source Generation
- General tools
Sim/Recon Improvements

Upgrade of TkrRecon and CalRecon.
Need to update schedule.
Background Rejection

Revisit the background rejection analysis.
Could in principle be started before the TkrRecon/CalRecon revamp is completed.
Difficult and may take a long time.
Holds up the final versions of IRFs
Schedule, testing?
Instrument Response Functions

Regenerate for new background and analysis cuts.
Consider smoother parameterisations (i.e. look out for large discontinuities between energy, theta bins)
Consider more detailed parameterisations. i.e. in addition to psf vs energy inclination and front/back maybe also look at layer (Jim) or fit quality.
  - this could be an endless task.
  - could have the advantage of improving the performance of the likelihood analysis.
Implement in caldb.
Data Servers

Need to define who serves what:

SSC
Should it serve 300hz, 30Hz or just the events after all cuts?
Also needs to provide access to the GBM data.
What about the event database (i.e. events with more than just the FT1 variables?).

SLAC
Provide access to the lower-level data.
Should it also provide access to level 1 data?
Provide access to the bulk datasets for background rejection and IRF analyses.

How are the groups doing catalog analysis, quicklook and data monitoring going to get their data?
Science Tools

Has anyone every tried a joint analysis between simulated GBM and LAT data?
Higher Level Analyses

- PVO, monitoring data quality (are we going to be applying calibrations?)
- quicklook source monitoring, transient source search.
- Catalog analysis
- burst and transient alerts, do we want to produce simulated on-board and ground alerts/localisations?
- There is overlap between some of these areas.
Source generation

Need to come up with realistic distributions of source fluxes and positions. Variable and periodic sources – how will we produce the lightcurves? More realistic orbit/pointing simulations (needed by both LAT and GBM)
  - we could try out one generated using Eric Stonekings code.
  - do we want to slew/repoint for a burst?
GRBs will be more complicated than before since we will be producing data from two instruments.
General tools

Installer – It would be nice to find out how the windows installer will work.
pipeline – Are we on-track for being able to generate large MC datasets?
Event viewers/servers – FRED.
Documentation
etc.
How to proceed from here?

Weekly meetings at 9am on Tuesdays (after the core meeting). Should we set up a webpage to describe the agenda, archive presentations?

Revise the project file, discuss/iterate next week.