GLAST Large Area Telescope

WBS 4.1.D SAS
GSFC Monthly Review

Period Ending: Oct 2003

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Key Milestones

- Start DC1 Analysis effort – mid December 2003 (closeout Feb 2004)
  - We are planning to modify the DC1 plan to separate signal from background generation.
    - No advantage is apparent by tying them together
    - Allows us to continue background rejection analyses
    - Mitigates tight schedule to demonstrate OPUS pipeline, since the signal can easily be generated.
      - We still have a fallback position with existing scripts
    - Generate large background samples with OPUS, but decoupled from analysis of the signal with the Science Tools
  - We have been using mid-Oct to mid-Nov as float to get it all together

- SAS Subsystem Peer Review – Feb 2004
Oct Accomplishments

- Continued preparations for Data Challenge 1
  - First Onboard Filter version has been tested. Working with JJ on improvements.
  - machinery to generate day's data is ready
  - Added handling of ACD ribbons, and improved ToT analysis
  - Completion of another round of PSF, background rejection analysis is imminent
  - Compiler-optimized version of sim/recon now available - ~2.5x faster than un-opt
  - Started assembling tools at SLAC for expanded web access to DC1 data
  - L1 Database ready to go at Goddard; tweaking for performance now
  - Main SciTool – Likelihood – is essentially ready to go

- EM data has been successfully analyzed using our tools

- Continued validation of GEANT4
  - Continuing to implement E-M tests
  - First hadronic tests going in
  - Starting to look at G4 version 6.0 – just to keep an eye on them
Issues & Concerns

- No significant technical threat at this time
- Still do not have OPUS going
  - No technical show-stopper, just a matter of grinding it through
- EM Support need is unpredictable
  - New unscheduled work pops up as things are learned from the EM
  - Can’t really complain, but it requires some flexibility in manpower allocation
- Need to turn around generation of IRFs quickly for DC1
  - Being addressed now and is the top priority
Software Testing Update

• documentation and coding reviews enforce coding rules
  – Will schedule code review of L1 database shortly

• “Continuous integration”
  – Sim/recon, Science Tools nightly builds tracked at least daily

• Continuing effort with SLAC to validate GEANT4 EM physics

• Data Challenge
  – performance evaluation tested sim/recon in great detail.
  – Stress-test data production capabilities
  – Try first connections to SSC with DTS