

Science Tools Update, June 2, 2009

Science Tools Working Group

The current release of the Science Tools is now **v9r14**. Here are the package [differences](#) from v9r13. The major difference from v9r13 is inclusion of the preliminary **Pass 7 IRFs** (P7_V1_S3, P7_V1_TRANSIENT, P7_V1_SOURCE, P7_V1_DIFFUSE).

Eric W. reports that he is starting work on a port of **v9r14** to the FSSC build environment, and that it should be done in a few days. The freeze and test phase for the release to accompany the year 1 data will start ~June 15.

Data products: The full Pass 7 reprocessing is complete, or nearly so, at the Merit level. FT1 generation is starting from the reprocessed Merit files.

Databases and related utilities

No news

Likelihood analysis

Jim implemented a fix for the case where a phi-dependent IRF (like P6_V5) is specified but a livetime cube that does not have the variations with phi tabulated. The fix has likelihood ignore the phi dependence of the effective area, so the user at least gets a result that is not wrong.

Jim also reports that he is working on handling the trigger rate-dependent inefficiency in exposure calculations and likelihood analysis.

Jean has reported a possible bug in how **gtscrmaps** handles diffuse sources, or possibly in how diffuse sources are convolved with the PSF. Jim will be looking into it.

GRB tools

No direct news. James Peachey has resolved and/or closed a number of GRB-related JIRA issues: [GRB-5](#), [GRB-13](#), [GRB-15](#), and [GRB-18](#). These are not in the **v9r14** release.

Pulsar tools

From Masa: "The improvements of the unit tests are done, and the pulsar tools packages were tagged for new versions. Now, I am introducing the new mission name (FERMI) in their interface like TELESCOP keyword values, timeformat/userformat parameter values, and error messages."

The mismatch between what kinds of timing solutions the D4 format and the pulsar tools can support vs. the kinds of timing solutions that are coming from the pulsar timing consortium has been clear to LAT pulsar people, including Masa, for some time. For example, the D4 format and tools can handle up to 2nd order timing solutions, but the as-received ephemerides sometimes have much higher order. The LAT pulsar people have workarounds using the TEMPO2 radio timing tool. Discussions about what to do regarding delivery to the FSSC and FSSC support for pulsar tools are ongoing.

Observation simulation

Toby is working on the [OBS-14 JIRA issue](#) on assignment of the DATE-OBS keyword for simulations.

User interface and infrastructure (& utilities)

James also closed a number of ST-GEN JIRA issues: [STGEN-58](#), [STGEN-13](#), [STGEN-18](#), [STGEN-19](#), [STGEN-24](#), [STGEN-28](#), [STGEN-58](#), and [STGEN-59](#)

Source Catalog

Last week the primary topic was the P6v3 9-month source list.