

# Science Tools Update, January 27, 2009

## Science Tools Working Group

The current release of the Science Tools remains **v9r9**. Chris reports that at the FSSC the Science Tools to be publicly released on Feb. 6 are undergoing internal testing. The FSSC distributions will support a wider variety of platforms. One [outstanding issue](#) that you may have seen in JIRA relates to segmentation faults with the optimizers in some 64-bit builds; John, Pat, Jim and Toby have worked on tracking this down.

**Data products:** Little news about the reprocessing; for FT2 reprocessing; signs of progress are appearing in [JIRAS for L1 processing](#).

## Databases and related utilities

No news

## Likelihood analysis

- Stephen Fegan made some speed improvements in the likelihood evaluation, using caching to avoid recomputing certain values. The speed-ups are up to a factor of 3 for some cases. (Likelihood v14r2).
- I (JC) finally made the changes to ensure that the same spectral models are available to **gtlike**, **gtmodel** and the pyLikelihood interface. (Likelihood v14r2p1, pyLikelihood v1r9p6)
- I've made all the necessary changes to use the phi-dependence in the IRFs. (Likelihood v14r2p1)

## GRB tools

No news.

## Pulsar tools

From Masa: "Right now we are writing a detailed description of exactly what computations pulsar tools perform, which has been desired for a long time by now. But it has been taking a longer time than I expected. It is just difficult to explain enough, but not too much."

## Observation simulation

No news

## User interface and infrastructure (& utilities)

Jim has done ground work to get the Science Tools ready for handling azimuth-dependent IRFs. (As far as I know we are first, or primarily, going to be allowing for azimuthal dependence of the effective area.) Riccardo described in C&A and Weekly Analysis meetings last week the schedule for implementation of new IRFs. From Toby "I'm working on introducing phi dependence to the exposure computation. (To go with the enhancement of the IRFS.) It is at least a week from completion, but I already know that simply computing the phi associated with each pixel doubles the computation time."

## Source Catalog

Bright Source List day and night. Jean has also done some interesting work on the dependence of source properties on the diffuse emission model.