ISDC status

R. Walter (ISDC) – IUG meeting April 22, 2009

- Funding & organisation
- Operations
- OSA 8 & OSA 9
- Archive revision 3 & new interface

Funding status

- CH: granted up to 2011
- US: funding has stopped
  Bruce O'Neel continues on swiss funding
- D: 1 FTE
  Carlo Ferrigno started early 2009.
- PL: 1 FTE
  Piotr Lubinski will go back in Autumn 2009, should be replaced
- GB: funding has stopped
- I: support from Milano concerning GRBs

A possibility exist to get new consortium wide support in the frame of FP7.
Call deadline: end of 2009 for funding in 2011 onwards.

1 postdoc position available (a second one in ~ September)

Organisation

Changes from January 5th

RW takes over INTEGRAL responsibility

Sub-projects:

archive revision	Mathias Beck
archive i/f upgrade	Reiner Rohlfs
osa 8	Bruce O'Neel
operations	Carlo Ferrigno/Volker Beckman
IBIS i/f	Nicolas Produit/RW
SPI i/f	Volker Beckman
JEM-X/OMC i/f	Stephane Paltani

Operations:

- 1 operator   Philippe Meynis (+ 2 sw engineers for week-ends)
- 1 scientist on duty
- sw and hw support on call

Operations

Data: (last 30 revolutions)

99.9% of TM processed in RT
100 % of consolidated TM available

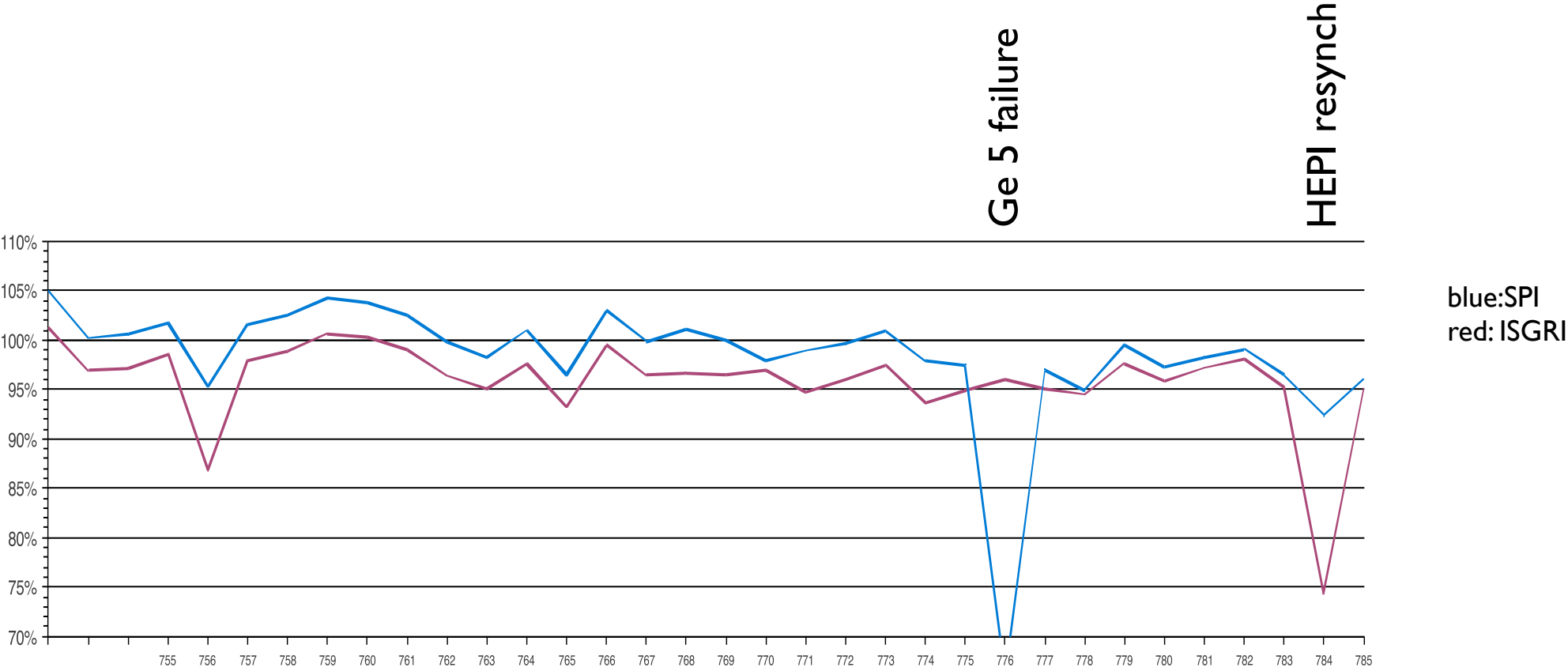Good time amounts to 98% (ISGRI) and 100% (SPI)
Excepting 776: loss of Ge 5; 784: IBIS HEPI resynch + pointings lost due to bright objects in the STR FOV

Delay between observation and distribution: 5 weeks
(+ NRT distribution)

Circulars (mid November 2009 to mid April 2009 i.e. 6 months):
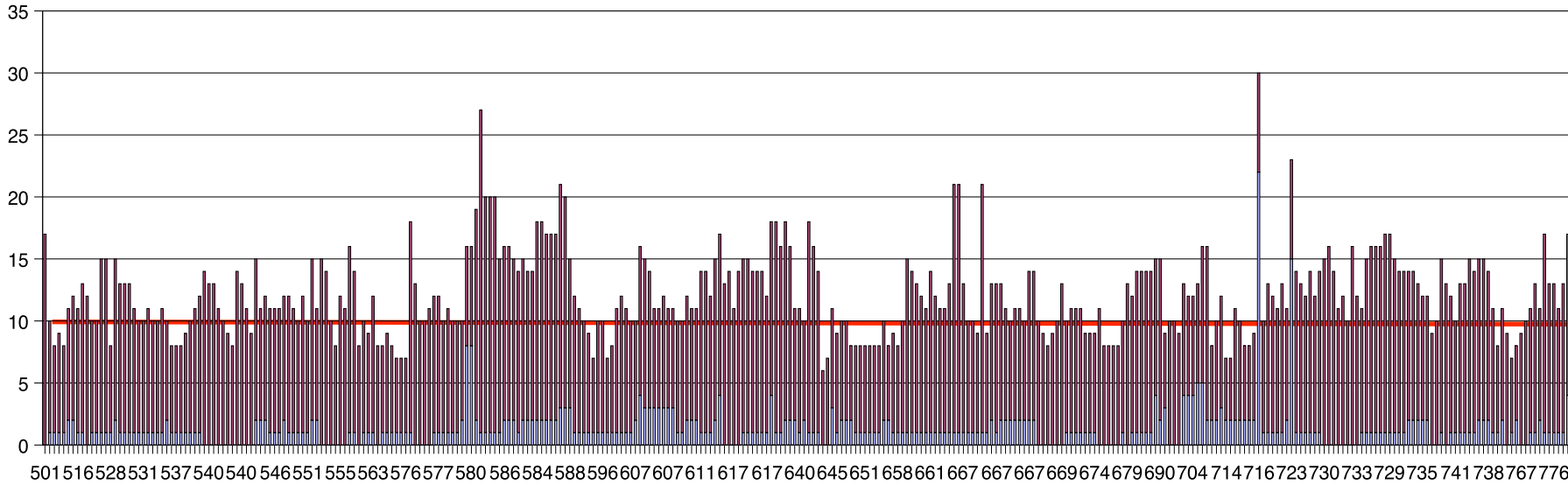
  4 GCNs   (0.7 per month)
37 ATELs   (6 per month)

Operations: good time

TM saturation not a problem in the very recent times
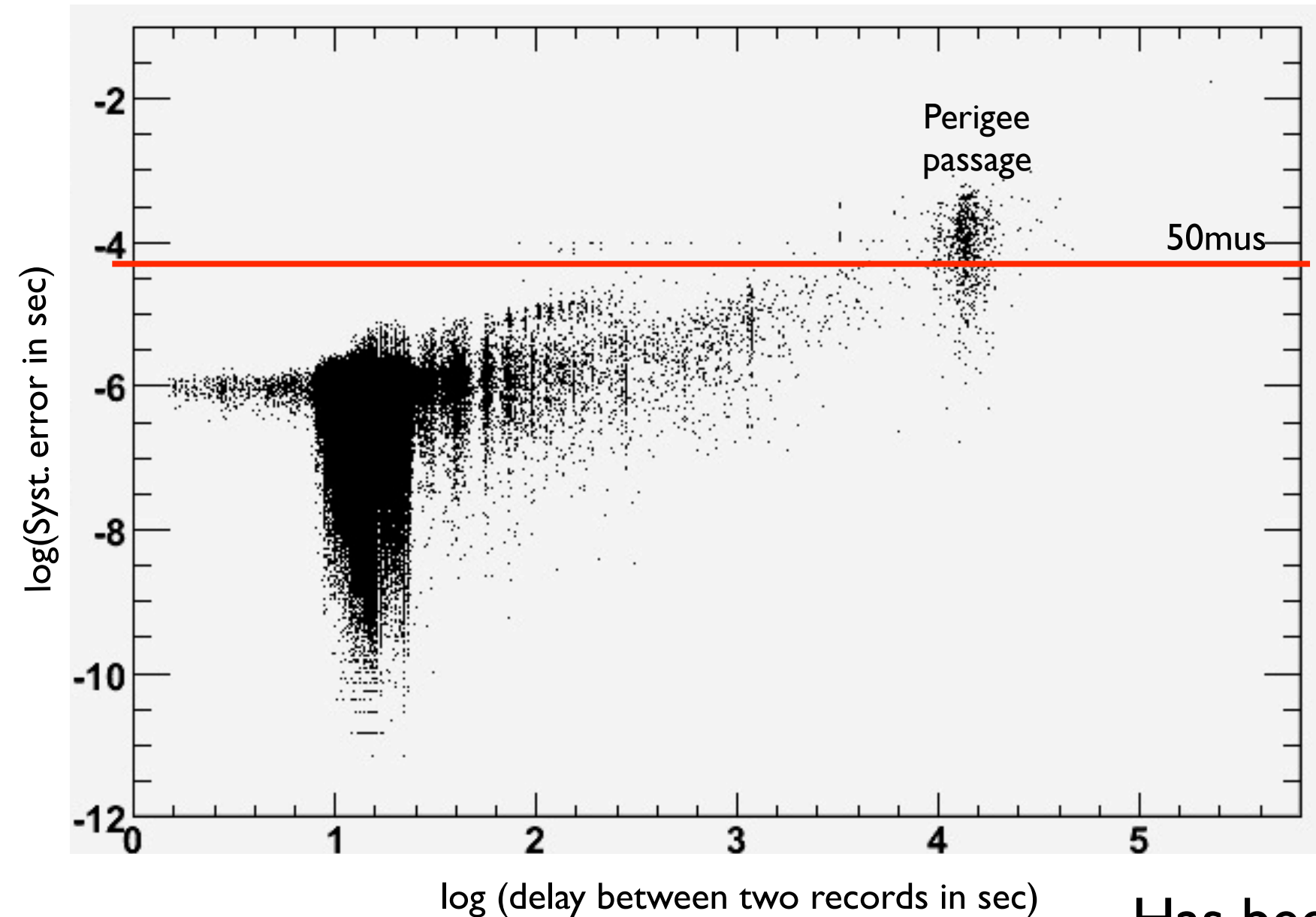
Operations: distribution delay
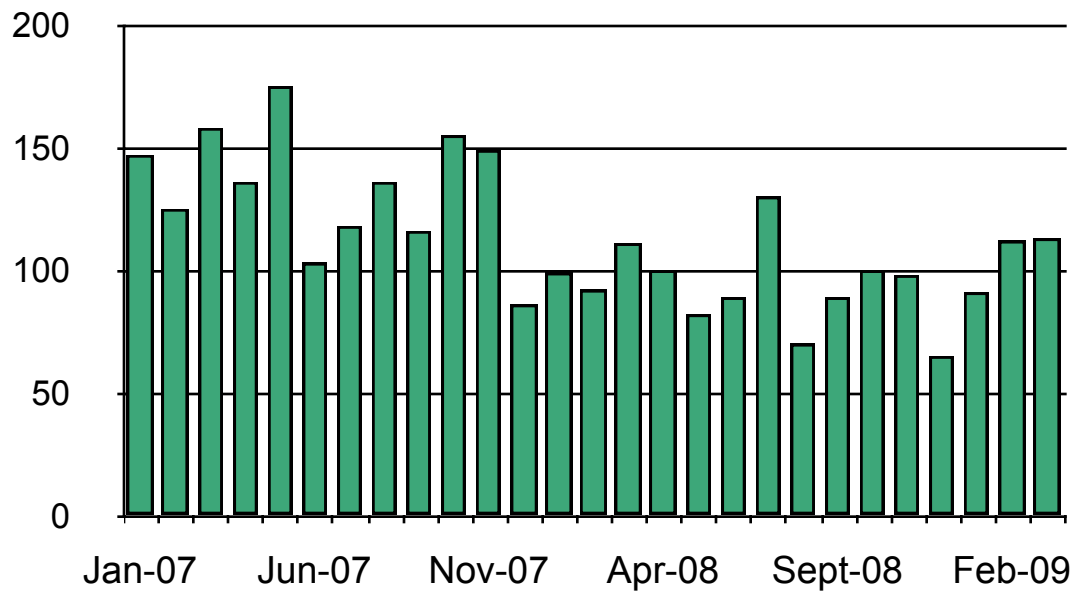
Operations: time correlation

MOC regenerated the TCOR in several iterations and many problems were corrected in that process. ISDC further kill 3080 TCOR records
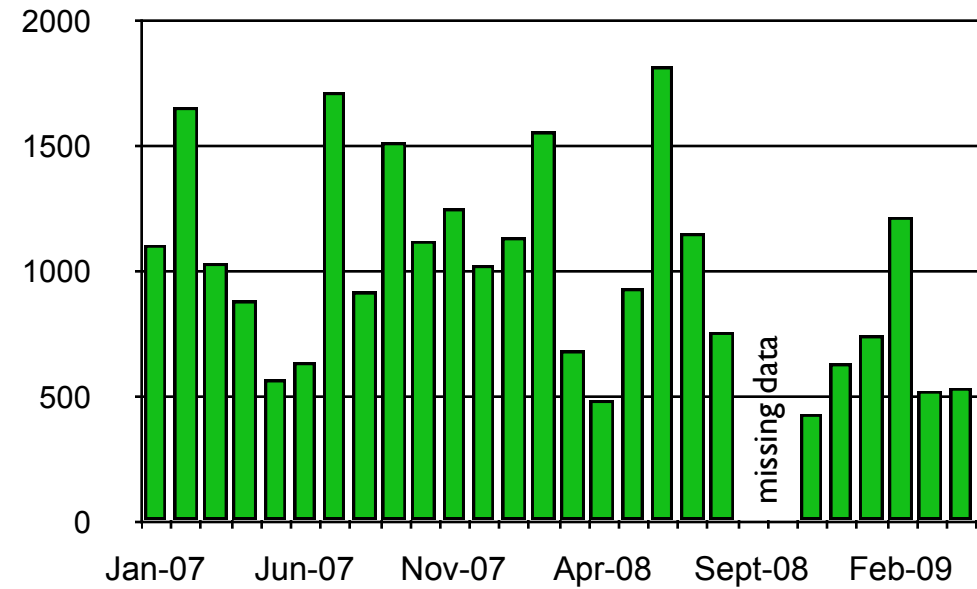

Has been released

Operations: archive usage (not incl. IT, ISOC, ...)

Request on W3Browse from different users

Archive ftp (GB/month)

OSA 7

Release: on September 26, 2007

Downloads :   202
OSA 6.0 downloads: 115
OSA 5.1 downloads: 180

Binary release for Linux (32 & 64 bits), Mac OSX (PPC & Intel), Solaris

OSA 8

- Driven by JEM-X

- 144 SCREWs and 305 SPRs.

    - 166 executables and libraries.
    - 34 executables redelivered
    - 2 new executables

- The release is planned for end of May 2009.

- The Jem-X documentation will be heavily revised as a result of the improved software and new ways of producing spectra and light curves.

- This is the last binary release for Solaris and MacOS/X PPC.

OSA 9

- OSA 9 will focus on ISGRI (October 2009 ?).

- OSA 9 will be released on Linux (32 & 64 bits) and MacOS/X Intel.

OSA 8 - JEM-X

- Many changes in imaging tool (see SB talk). Reference fluxes come now from imaging (from SRCL-RES, not the images).

- Spectral step now uses these fluxes and reformat them into PHA spectra

- Spectra from mosaics shall also be possible, although not the standard way

- Convenient rebin tool for the RMF to allow any binning (in addition to standard ones)

- Improvement in gain correction (temperature of the detector)

- Light curve tool still using old software; must be used only for short-term variations.

OSA 8 - JEM-X

OSA 8 beta

"jemx2_wms.txt" u 0:2:3
A
B

Will be corrected in the final release

OSA 7
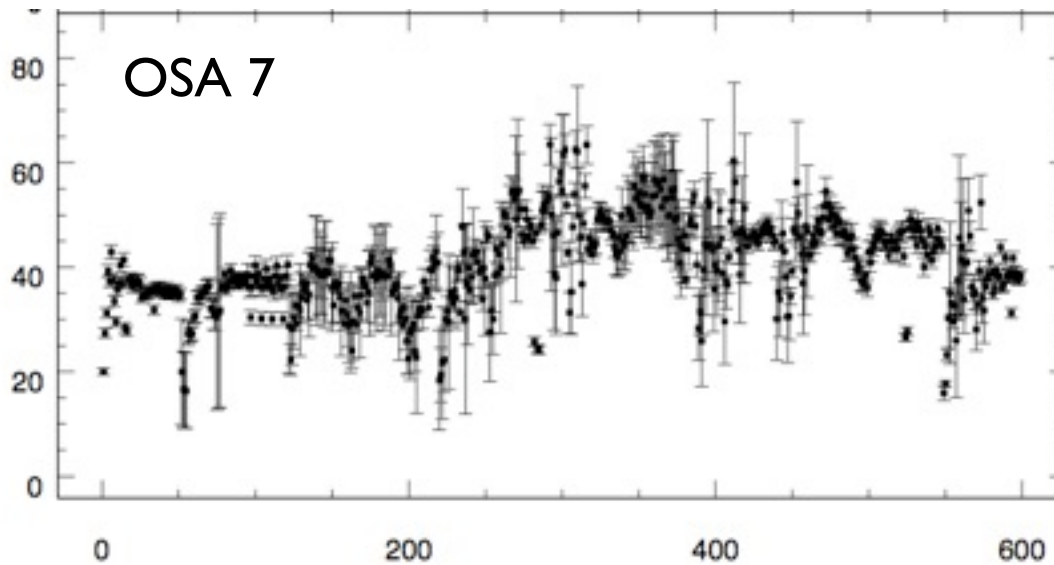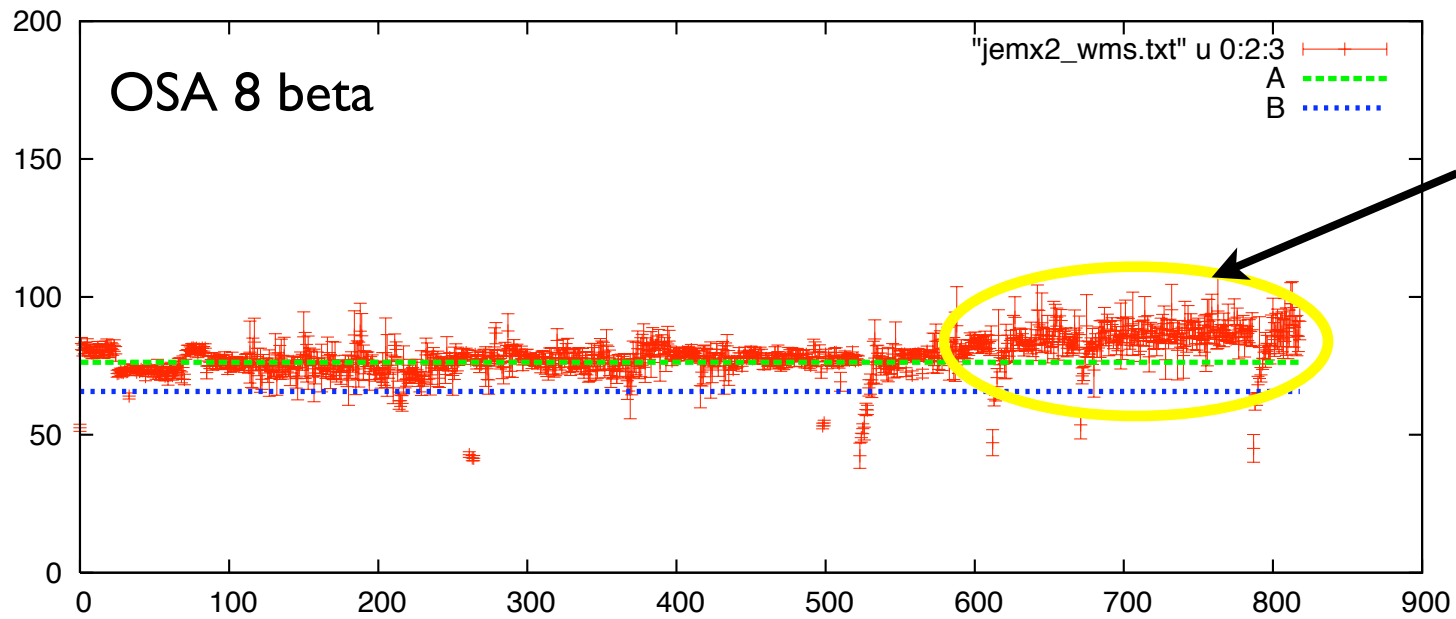
3-7 keV

OSA 8 - SPI

- New bad time intervals included (provided by CESR)

- spi_obs_hist updated in order to cope with SPI GeD#5 failure (provided by CESR)

- New response to account for dead detector is right now being tested (needs Crab calibration observation for verification), but for most analysis the existing IRF is sufficient

- New analysis tool: spimodfit
  - based on maximum entropy approach
  - developed by A. Strong, D. Petry et al. (MPE)
  alternative to SPIROS analysis

- New script spimodfit_analysis provided by ISDC for user-friendly use of spimodfit

- Careful when using spimodfit in crowded regions (a warning which is true also for spiros, but we have more experience with spiros)
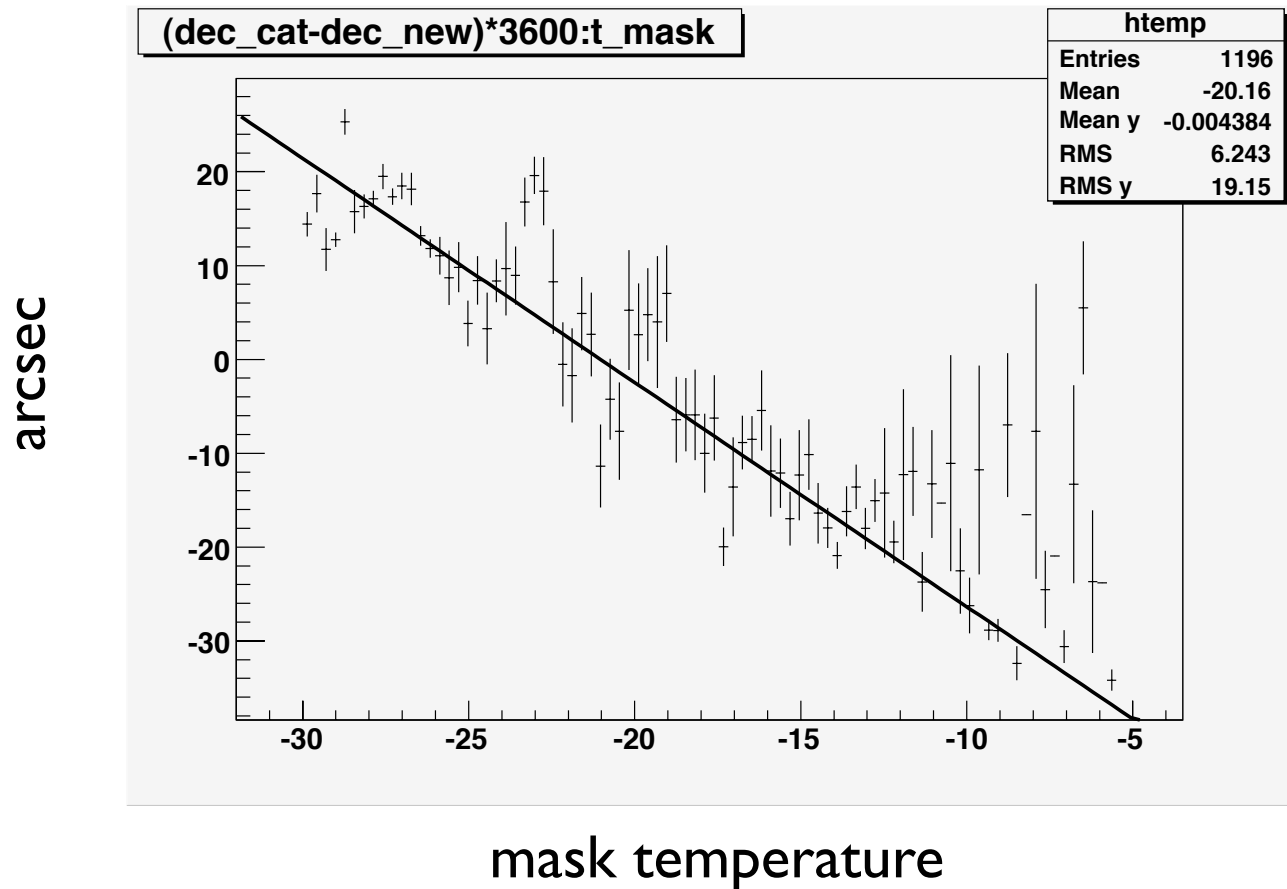
OSA 8 - SPI
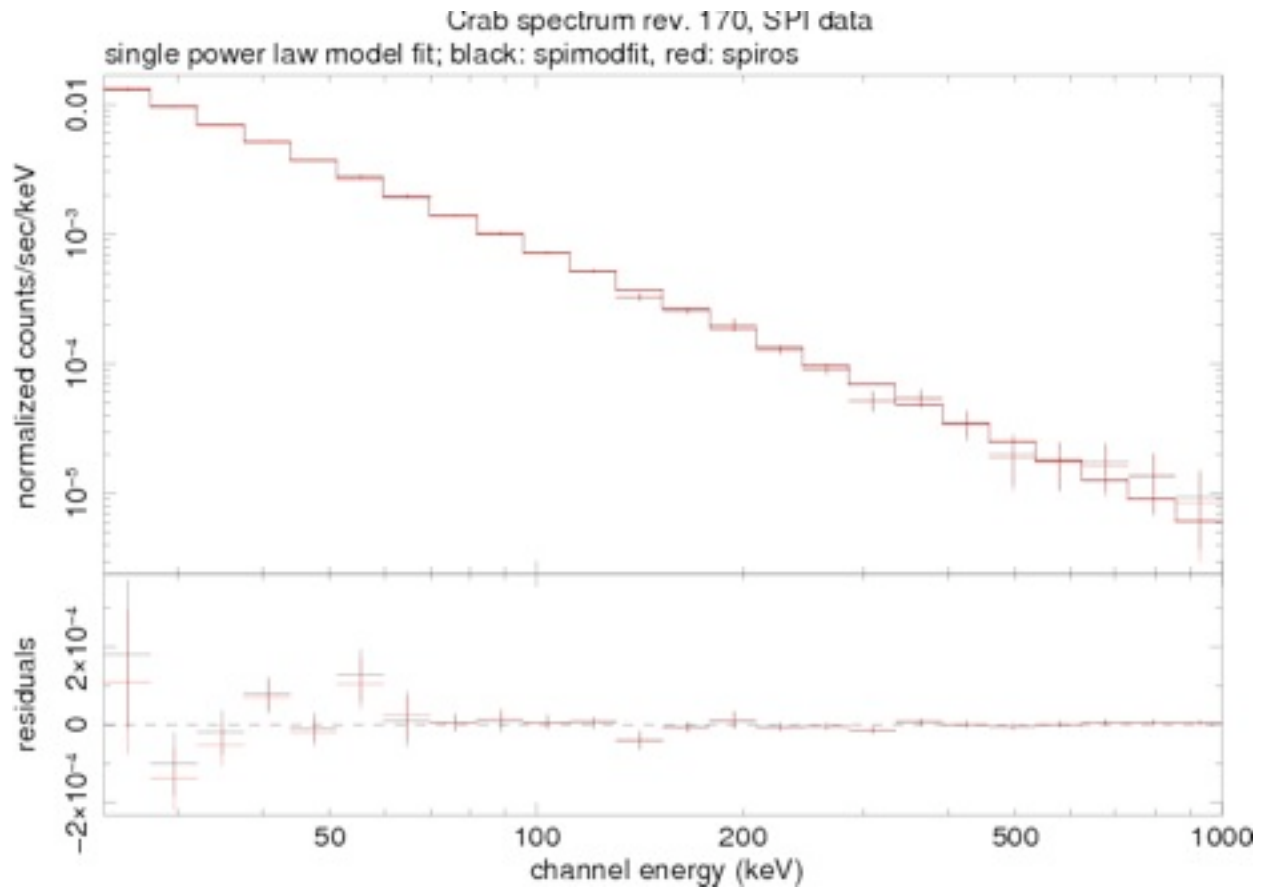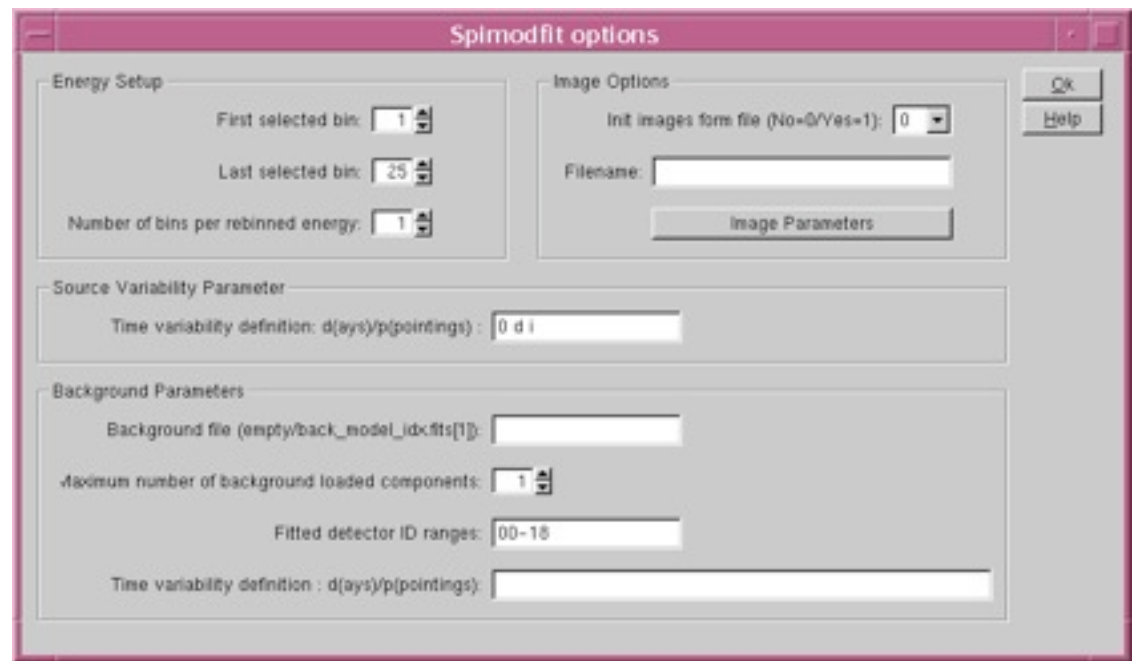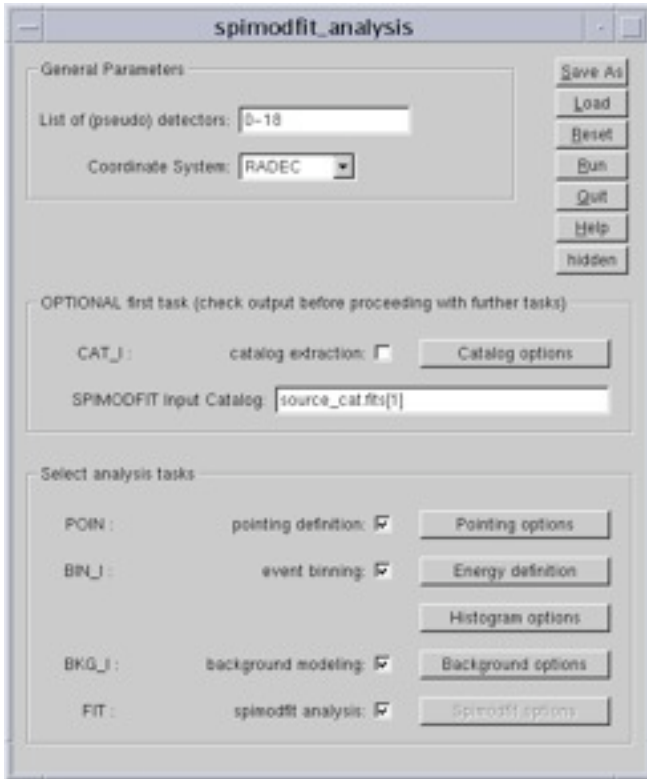
OSA 8 - ISGRI

- Number of minor (but important) fixes that have no big impact on science results
- Progress made on image quality and energy calibration require new ARFs which could not be generated for OSA 8 i.e. this is postponed for OSA 9.

Variable misalignment matrix:

arcsec (y-axis)

mask temperature (x-axis)

(dec_cat-dec_new)*3600:t_mask

htemp	
Entries	1196
Mean	-20.16
Mean y	-0.004384
RMS	6.243
RMS y	19.15

Crab 40-100 keV σ~1300

cleaning & fixed position & thermal effects

cleaning & fixed position

Best

cleaning & fitted position

OSA 7

Better

Archive

	Scope/Status	Target date
Revision 3	Processing has started	Summer
New interface JEM-X	Real-time images, light-curves, spectra for any position, time period and selected energy bands. VO. High level products for bright sources. **Based on OSA 8**.	October
New interface ISGRI	Real-time images, light-curves, spectra for any position, time period and selected energy bands. VO. High level products for bright sources. **Based on OSA 9**.	December
PR web pages	Presenting main INTEGRAL results to colleagues and the public.	

Archive revision 3

- Reprocessing from TM to science products

- Uses latest time correlation plus couple of other problems (e.g. SPI ACS delay).

- We have an open problem with IBIS timing in case of very bright flares (1E1547.0-5408).
  Open action on G. Larosa
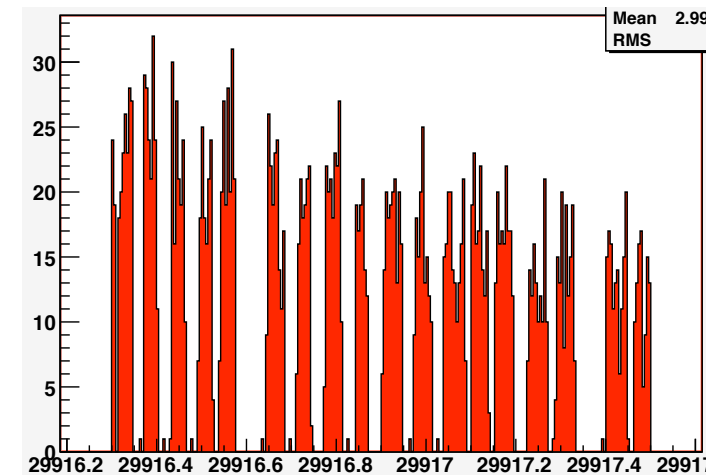
- Switch to Linux as reference platform (all pipeline software ported).

- Few executables used e.g. to derive monitoring products are now obsolete.

- Processing has started with 4 streams in parallel.

- All public data will be re-processed and available in the archive in the summer 2009.

New Archive Interface

For all sky surveys

Contains all measurements of all sky positions in series of energy bands (time resolution: 1 pointing).

Images, spectra and lightcurve can be extracted from any position in <5 sec for any time period/energy band.

3 incarnations:

1. Source results:
   - Images, spectra and lightcurve of all detected sources
   - Data of all instruments, averaged over the mission
   - Links available to images, FITS files and data.

2. User defined images/spectra/lightcurves for ISGRI and JEM-X, generated on-line in few seconds
   - for any sky position (incl. upper limits)
   - for user selected energy ranges
   - for any time period

3. Data available on the Virtual Observatory
   - Image cut-out service (compatible with Aladin)
   - Future: spectra & lightcurves

Can be extended to other missions.