ISDC status

R. Walter (ISDC) – IUG December 10, 2009

- Staff & organisation
- Operations
- OSA
- Archive revision 3 & new interface

Staff & organisation

INTEGRAL staff:

- Andrea Tramacere (Stanford, blazars) has replaced Bruce O'Neel (CH)
- Pol Bordas (UB, micro-quasars) will replace Carlo Ferrigno (IAAT)
- Adam Frankowski (Technion, shocks & stars) will replace Piotr Lubinski (CAMK)
- Lucia Pavan (magnetars & pulsars) (CH)
- PhD student: Laetitia Gibaud (CESR, AGNs)

Organisation:

- Carlo Ferrigno is the new ops coordinator
- Enrico Bozzo is the second ops coordinator

Other new high-energy staff at ISDC:

- Andrew Taylor (MPIK, particle acceleration)
- Jean-Philippe Lenain (Meudon, Blazars)
- Christian Farnier (Montpelier, Dark matter)
- PhD students: Matteo Balbo (Padova, pulsars), Ievgen Vovk (Kiev)

Operations: data

<u>Data</u>: (revolutions 801-860)
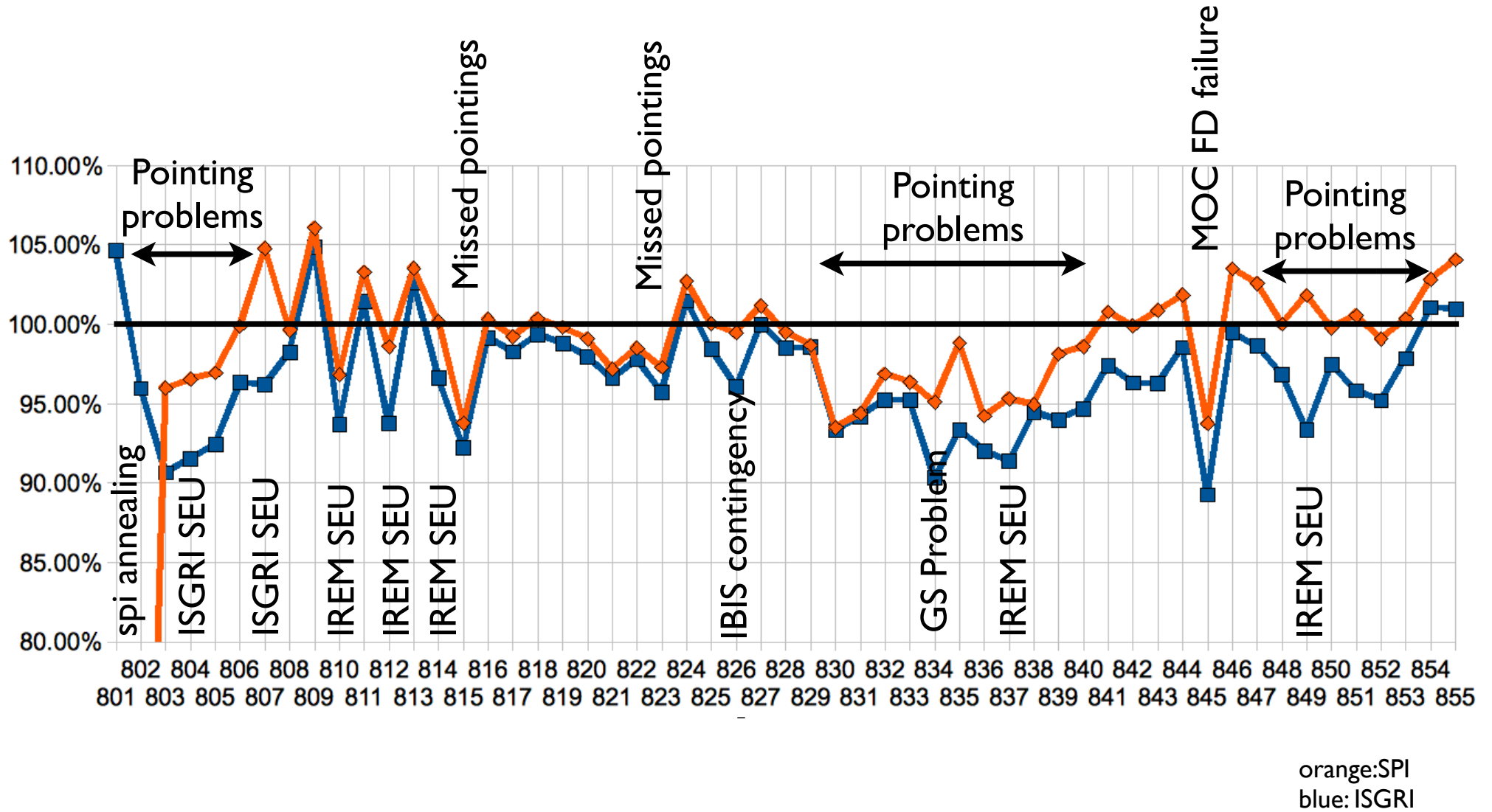
99.7% of TM processed in RT
99.9 % of consolidated TM available

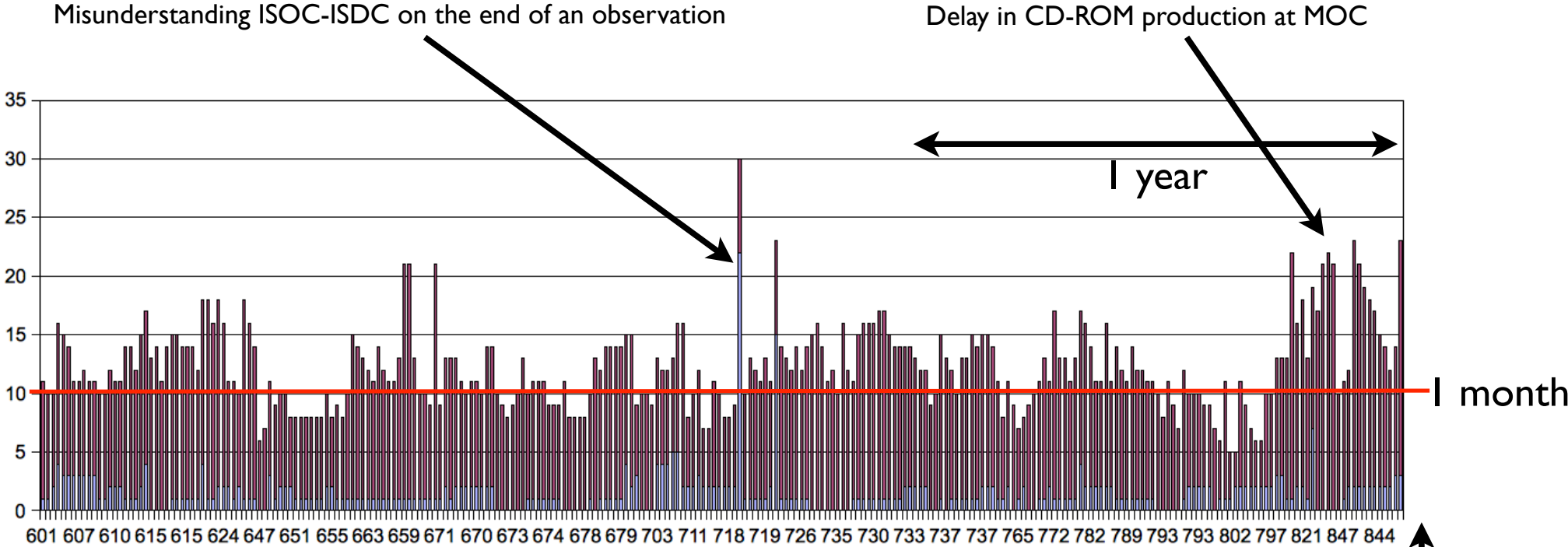Good time amounts to 96% (ISGRI) and 99% (SPI)
(IREM SEU 810,812,814,837,849; missed slews: 830-843,845,850,851; IBIS OBT wrap-around: 845; MOC failures: 834-836,845)

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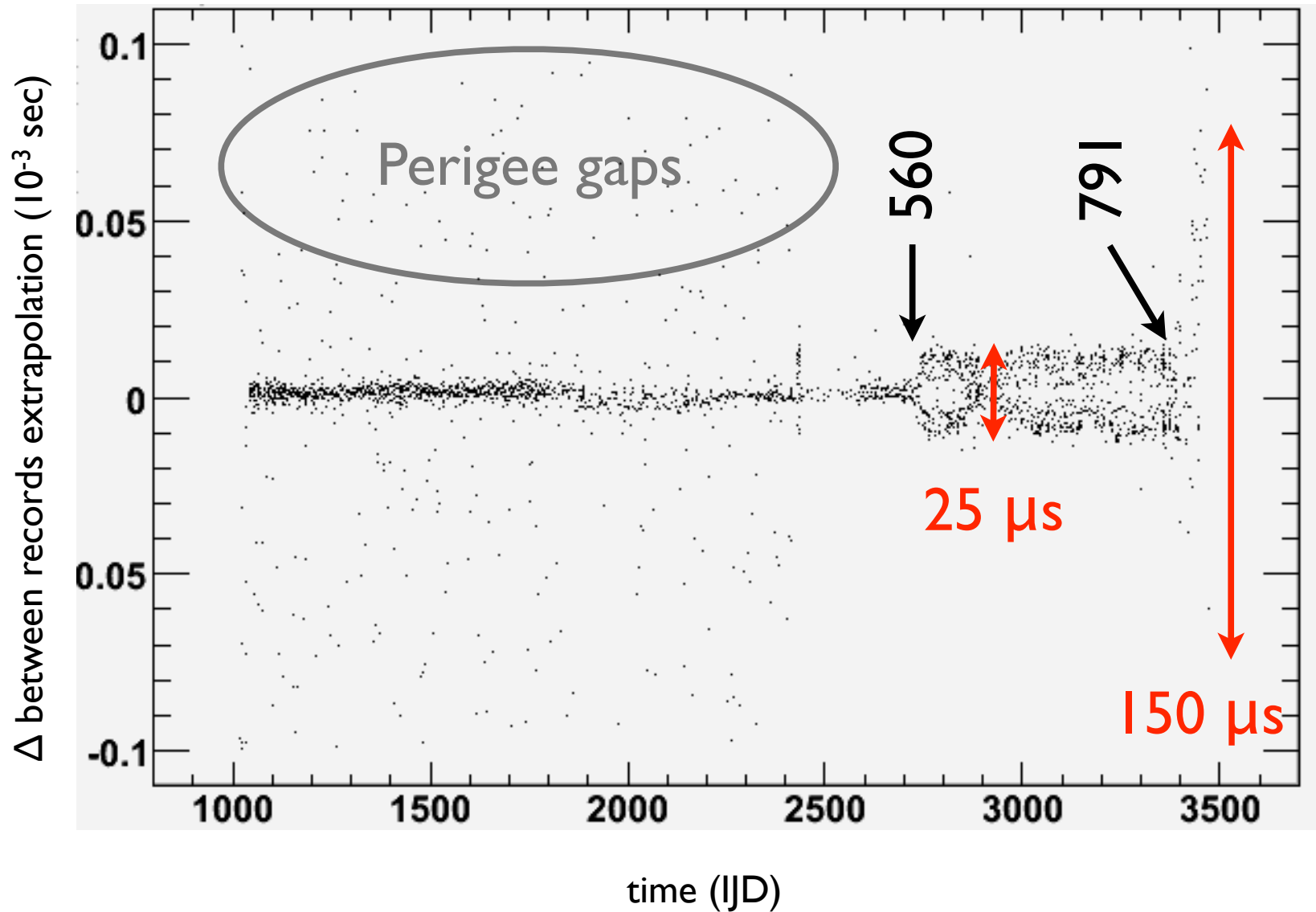(+ NRT distribution)

Operations: good time

orange: SPI
blue: ISGRI

Operations: distribution delay

Misunderstanding ISOC-ISDC on the end of an observation

Delay in CD-ROM production at MOC

1 year

1 month

From 853 (start of AO7), KP data are delivered by revolution
i.e. typically CD receipt at ISDC + 5 days

# Operations: time correlation

Operations: New SPI IASW

- Pre-processing has been upgraded and tested

- Loosless compression (gain 3 pckts/cycle):   ISDC is ready

- Lossy compression (gain 8 pckts/cycle):
  The meaning of Psd Data is changing
  Pipeline's are working but output have changed.
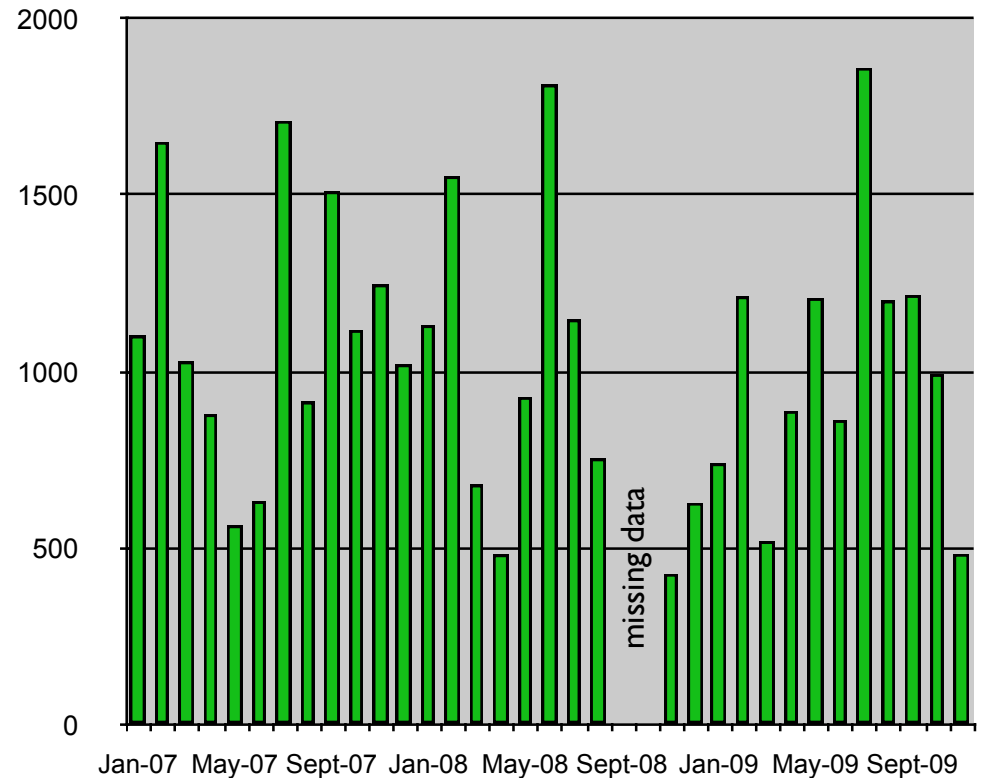 Effect not yet studied in detail.

Operations: archive usage

Only for public data
Not including IT, ISOC, HEASARC, private data distribution

Requests on W3Browse
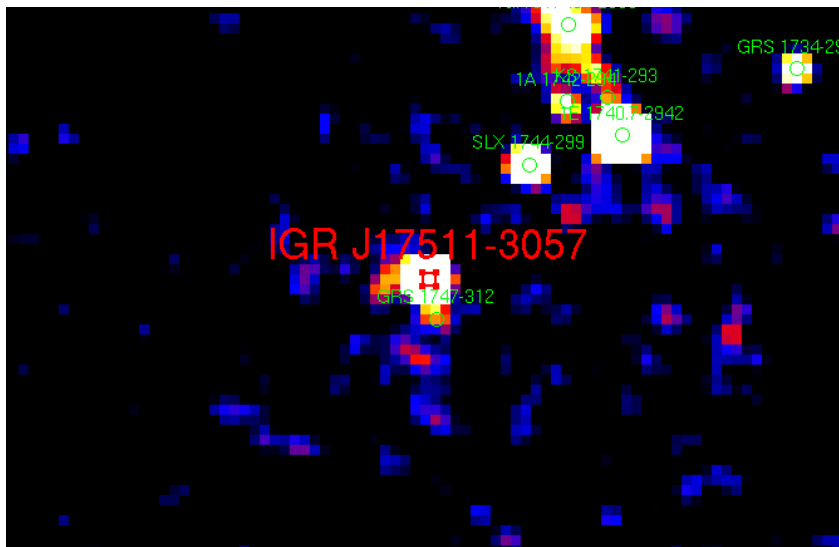(different users/month)
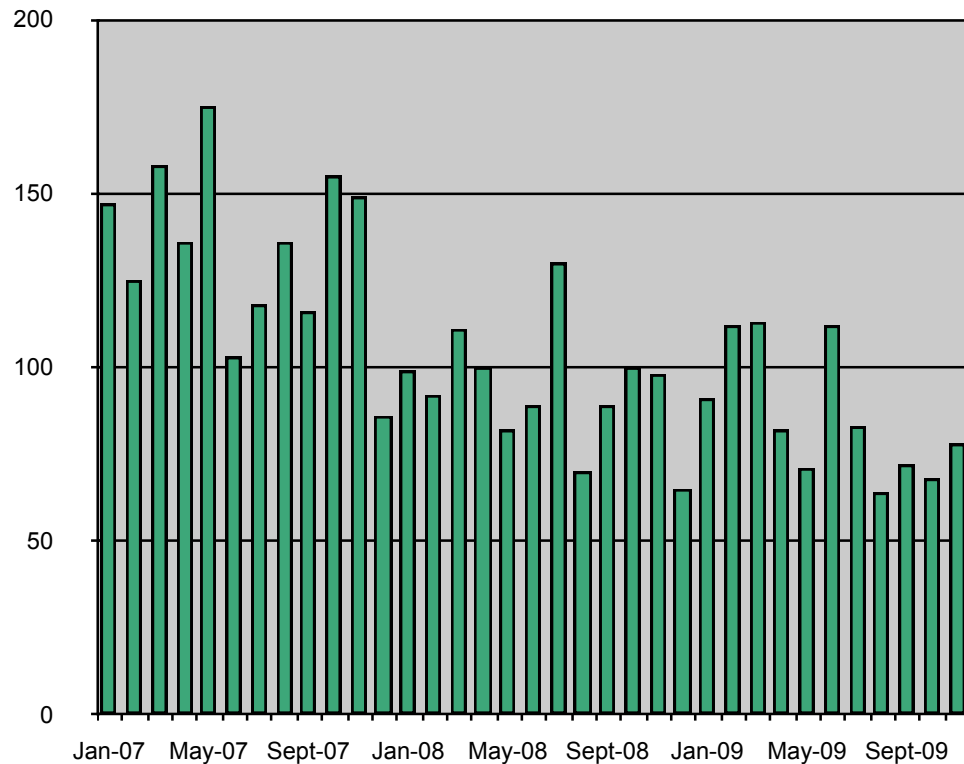
Archive ftp
(GB/month)

Operations: science
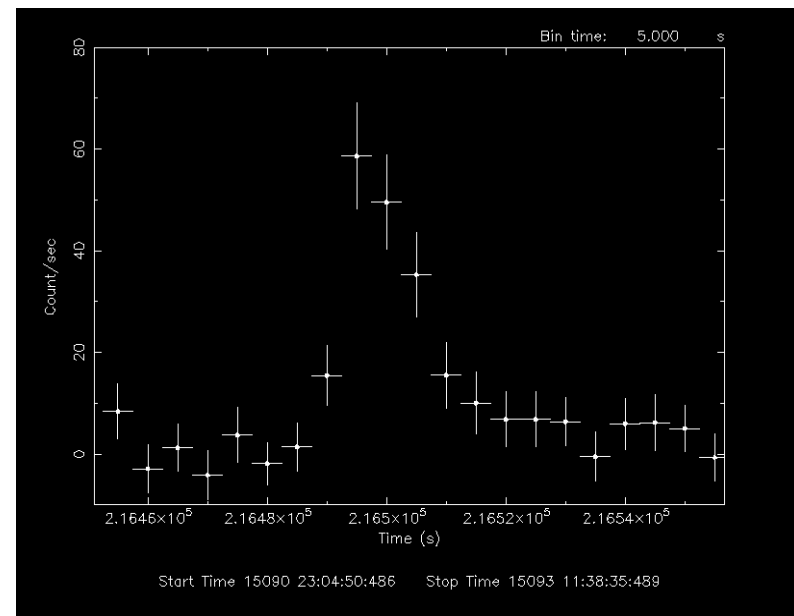
Circulars (1 June 2009 to 1 December 2009 i.e. 6 months):

8 GCNs	(1.3 per month)	2 during one night
32 ATELs	(5 per month)	11 from INTEGRAL (3 new sources)
		21 from other experiments

IGRJ17511-3057: the 12th ms X-ray pulsar

4 10^{-10} erg/s/cm^2
245 Hz ; 3.5 h orbit

M. Falanga's TOO: *unfortunately* using 5x5 pattern
Only 80 ksec on-axis. 4 type 1 X-ray bursts detected.

OSA 7

Downloads :   205

Binary release for Linux, Mac OSX, Solaris

OSA 8

Release: on August 31, 2009

Downloads :   58

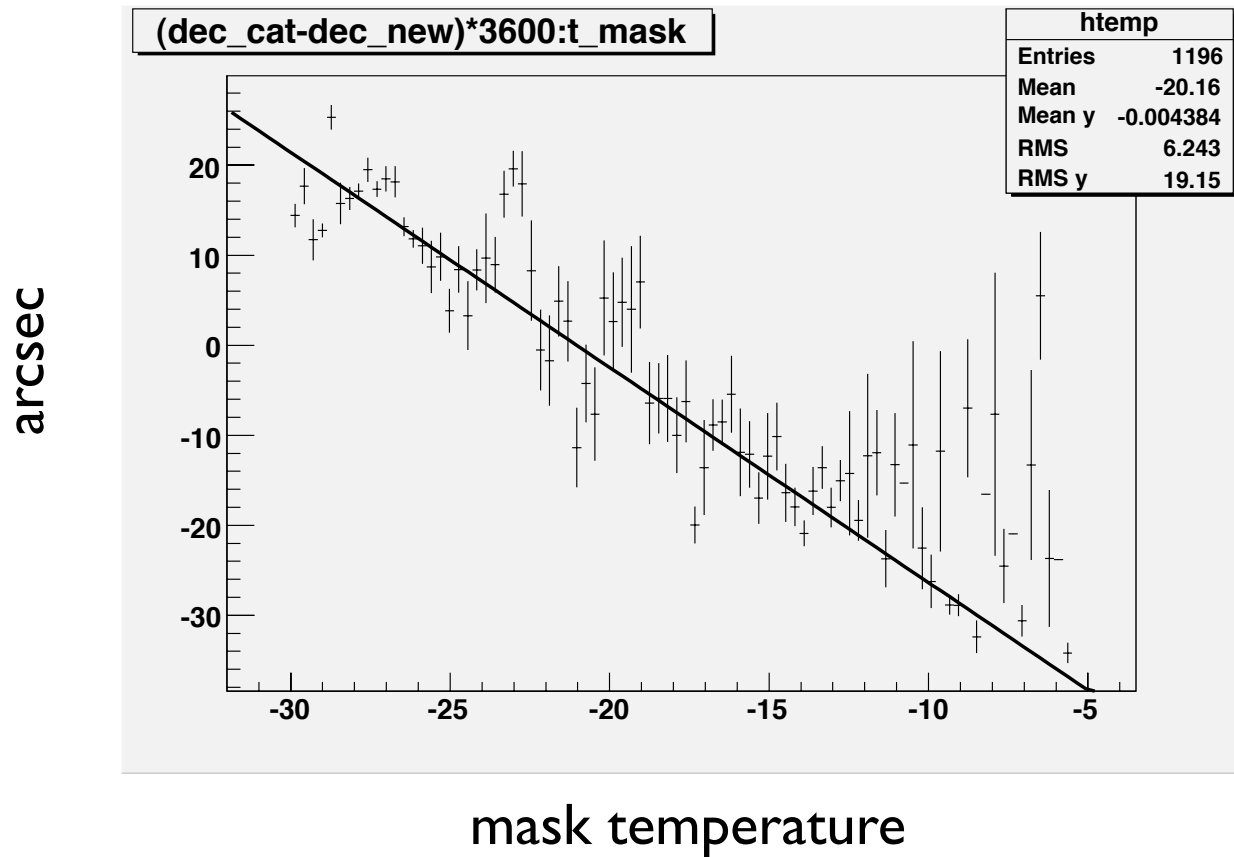ISGRI users not keen to upgrade (wait for OSA 9)

Linux (31), Source (20), OSX (18), Solaris (2)

OSA 9

- OSA 9 will focus on ISGRI (next slides)

- Some improvements (source detection) for JEM-X

- OSA 9 binaries will be released on Linux (32 & 64 bits) and MacOS/X Intel (no Solaris anymore)

ISGRI improvements   Included in OSA 8

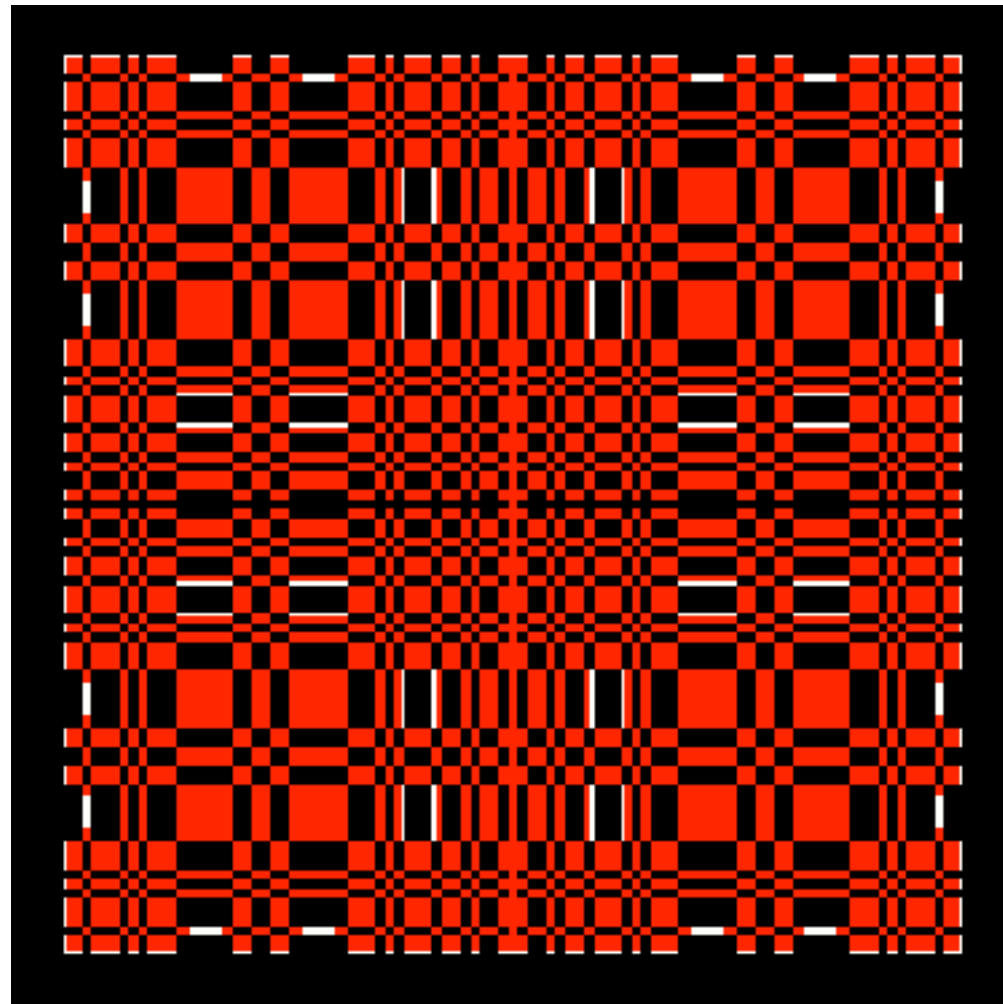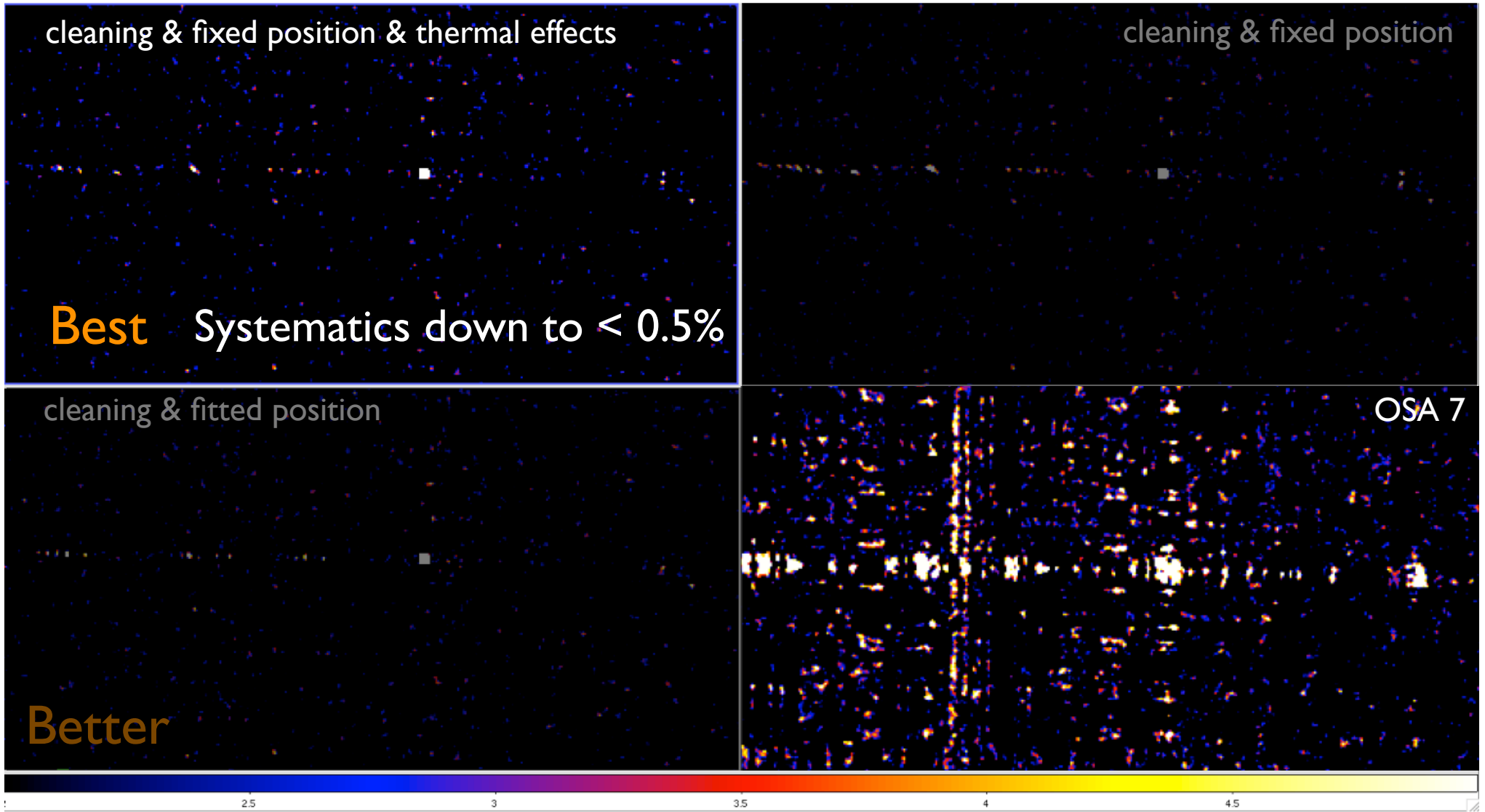## Variable misalignment matrix:

ISGRI improvements   to be included in OSA 9
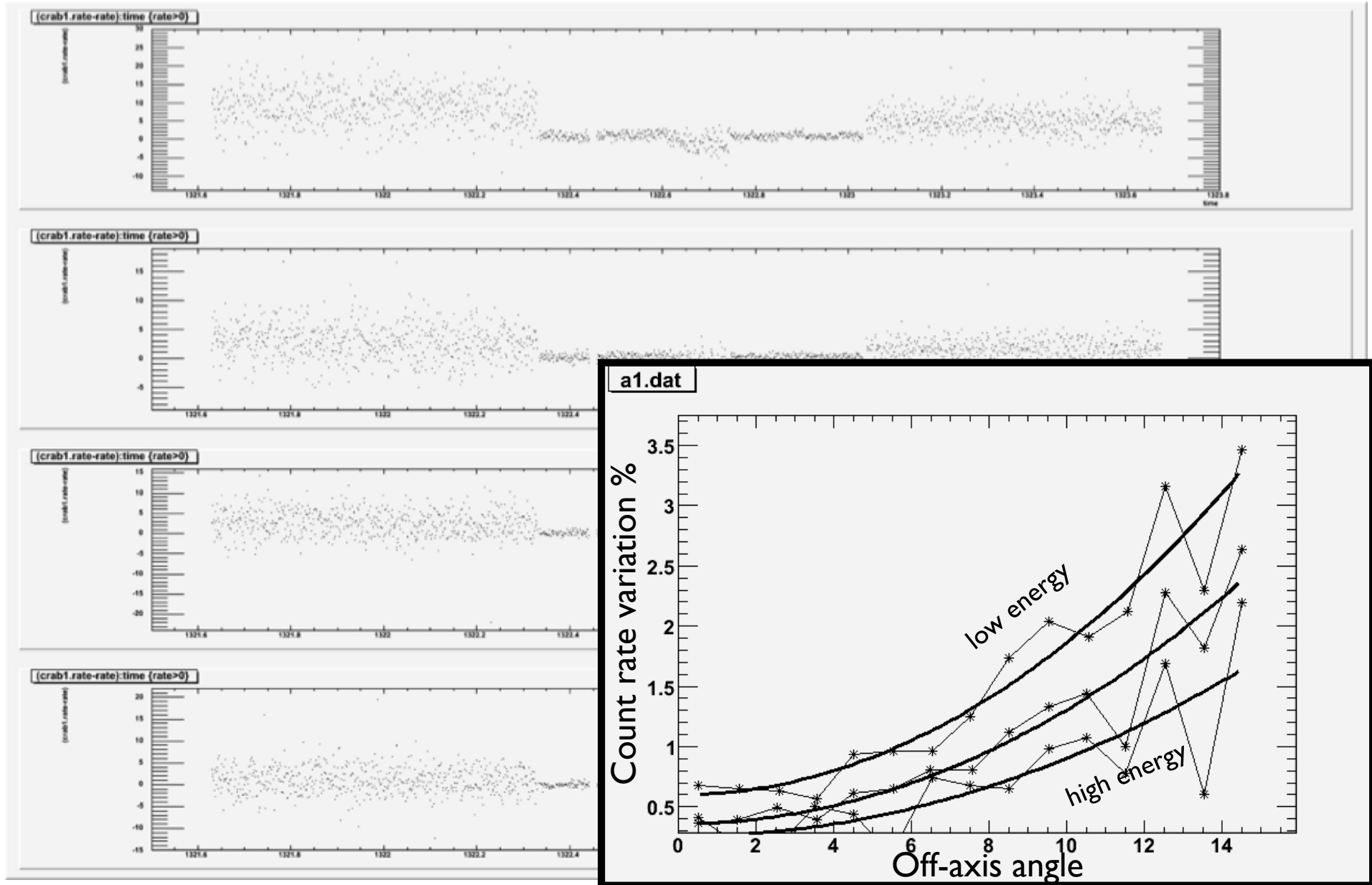
ghost_buster
(filters out regions illuminated by strong
sources and affected by dirty mask holes)

Crab 40-100 keV σ~1300

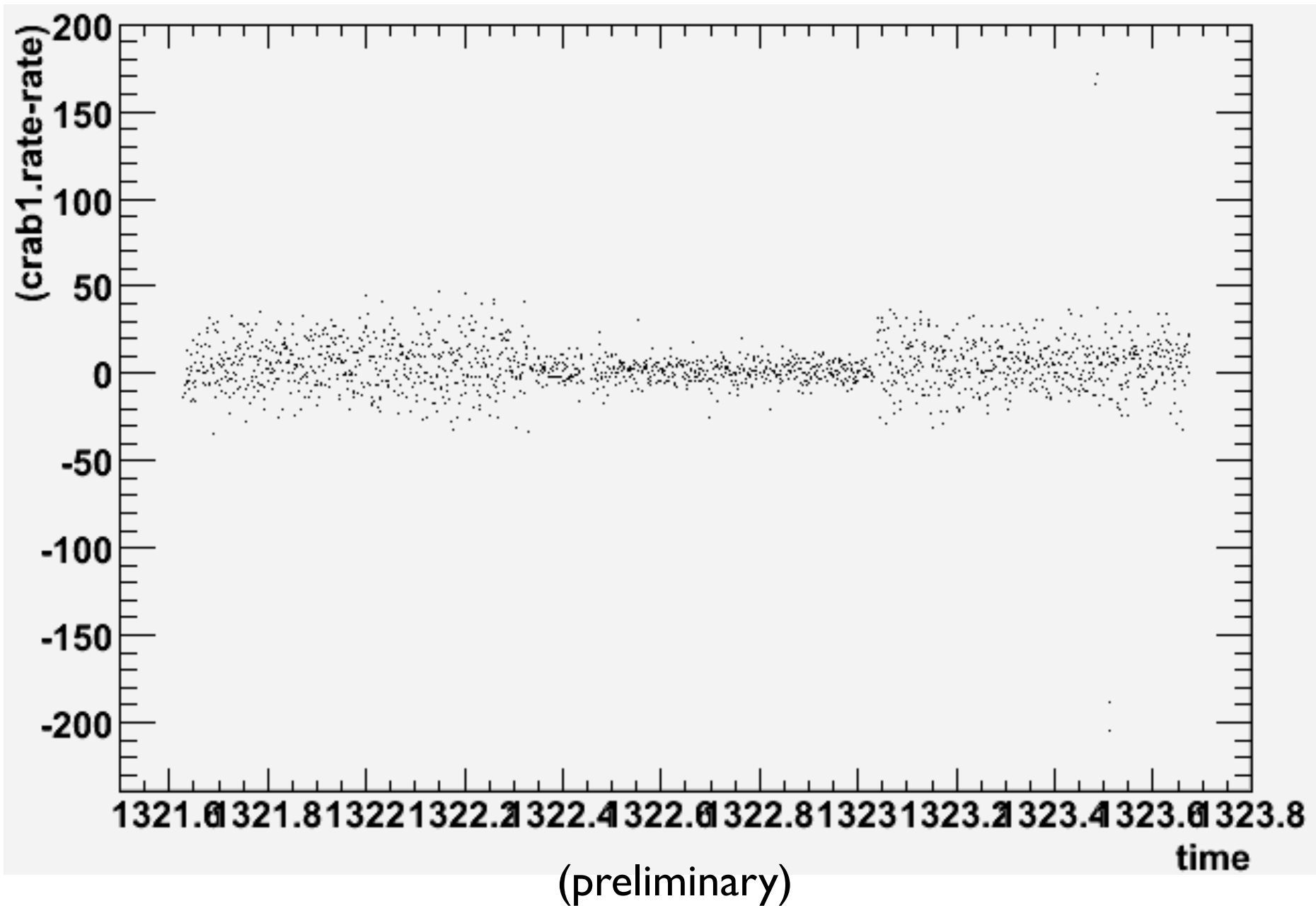cleaning & fixed position & thermal effects

cleaning & fixed position

Best Systematics down to < 0.5%

cleaning & fitted position

OSA 7

Better

Side effects

NOMEX was mis-calibrated off-axis because of the dirty mask holes

Results with a «corrected» NOMEX

(preliminary)

Software is basically ready

• Decide if the corrected NOMEX is good enough

• Update of the ISGRI energy calibration ?

• Generate new ARFs for recent calibration periods

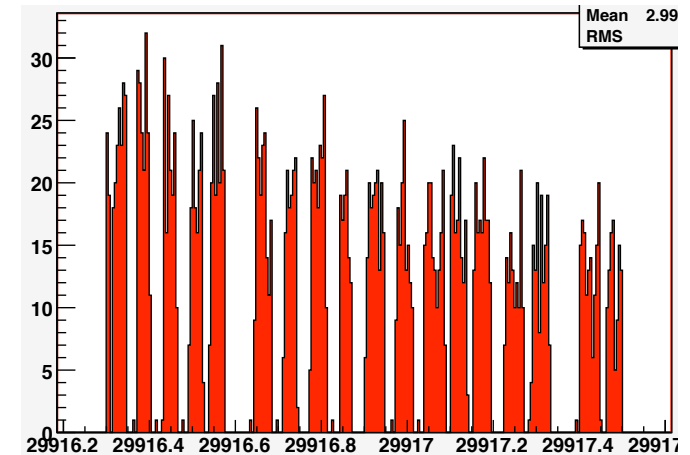Target date: ?

Archive revision 3

- Reprocessing from TM to science products

- The problem with IBIS timing in case of very bright flares was not solved (1E1547.0-5408)

- Linux is the reference platform

- Pre-processing completed
  Pipeline processing on-going
  All public data will be made available in the archive, February-March 2010.

New Archive Interface

Will be based on OSA 9.

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

Images, spectra and light-curves can be extracted from any position in < 1 minute for any time period/energy band.

3 incarnations:

1. Source results:
   • Images, spectra and light-curves 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/light-curves for ISGRI and JEM-X, generated on-the-fly < 1 minute
   • 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 & light-curves
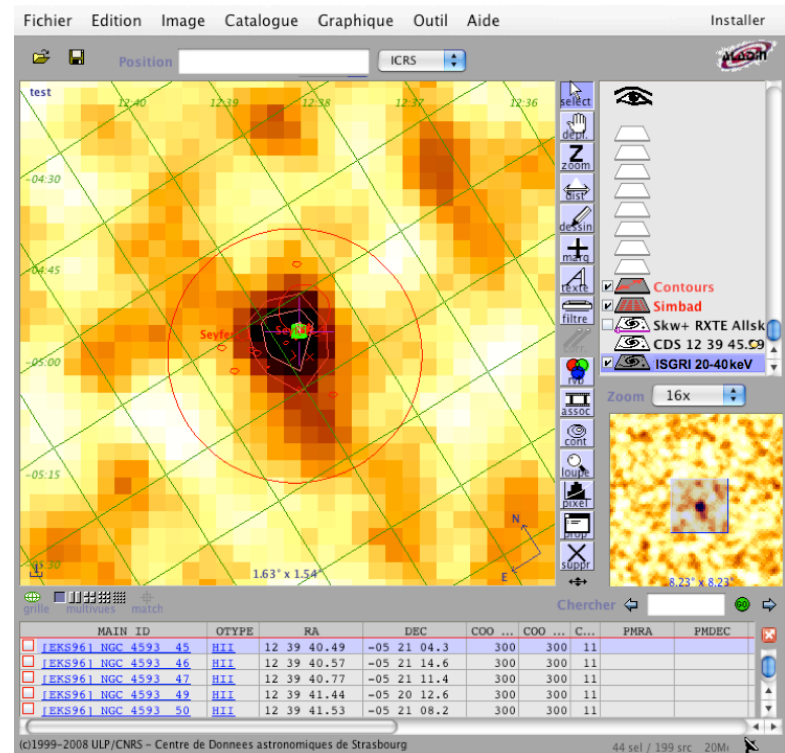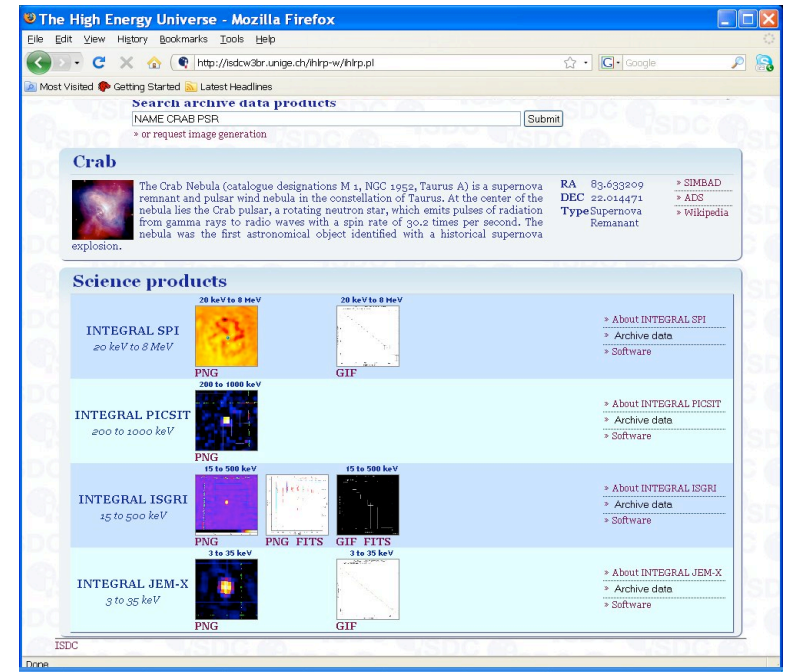
Key Programme data distribution

AO7 mostly made of key programmes:

KP data are distributed
- in real time
- 5 days after consolidated TM receipt, revolution by revolution

When should the data become public:

A) **1 year after consolidated distribution, revolution by revolution**
   (effective delay of 12 months)

B) **1 year after the end of each visibility period**
   (effective delay of about 14 months)

C) **1 year after the distribution of the last data set of each KP**
   (effective delay: between 12 and 23 months depending on the revolution)