

ISDC for the INTEGRAL USER GROUP

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ISDC Status

- Swiss funding for 2015-2016 approved. Operations guaranteed.
- Funding for later are linked to ESA's decisions and budget constrains.
- Manpower allocation is stable at ISDC (share with other projects).
- The level of support for INTEGRAL is satisfactory.
- Re-organization of the Operation hardware and software has been done to ease maintenance and increase performance.

Quick look analysis of INTEGRAL data

- 5 GRB in the IBIS FOV in 2016
- ~200 GRB/year in SPI ACS. Used for IPN triangulation.
- Inform PI of Open programs of the observation status.
- Inform all PIs of data rights in case of problems or relevant serendipitous sources (no data rights).
- 36 ATeLs related to INTEGRAL discoveries (V404 CyG)
- We inform the PI of public programs before using the observations.

ISDC Operations/data distribution

- NRT data are available **within 3 hours. Smooth processing.**
- The operational archive is revision 3
- Page to distribute data from AO I2-AO I3, public for serendipitous science. Handled Russian peculiarity.
- JEM-X off-line energy calibration not always used due to variable delivery time: need of OSA energy reconstruction step. Noticed that NRT data for JEM-X2 are not always available due to energy reconstruction.
- SPI gain coefficients monitored.
- Negligible gaps in NRT telemetry due to hardware failure of the University infrastructure supporting the data transfer (switch).

S/W activity

- Release of OSA 10.2 support Mac new versions (technical changes), bug fixes and improved ISGRI energy.
- OSA 11 foreseen in late spring 2016.

Data distribution

Terms and Conditions of Use of the Data

ISOC and ISDC ensure that the approved 1-year proprietary nature of the data (or science) rights of the accepted observing time proposals are respected.

The full list of target regions with proprietary rights is provided by ISOC and can be accessed by clicking [here](#).

Scientists, who will have gained knowledge on the other sources in the course of their analysis, will not attempt to publish data pertaining to other proprietary target regions during the proprietary period.

Any non-observance of this rule will be notified by the Project Scientist (PS) to the TAC and to the journal involved.

I have read and agree to the Terms & Conditions of Use of the Data.

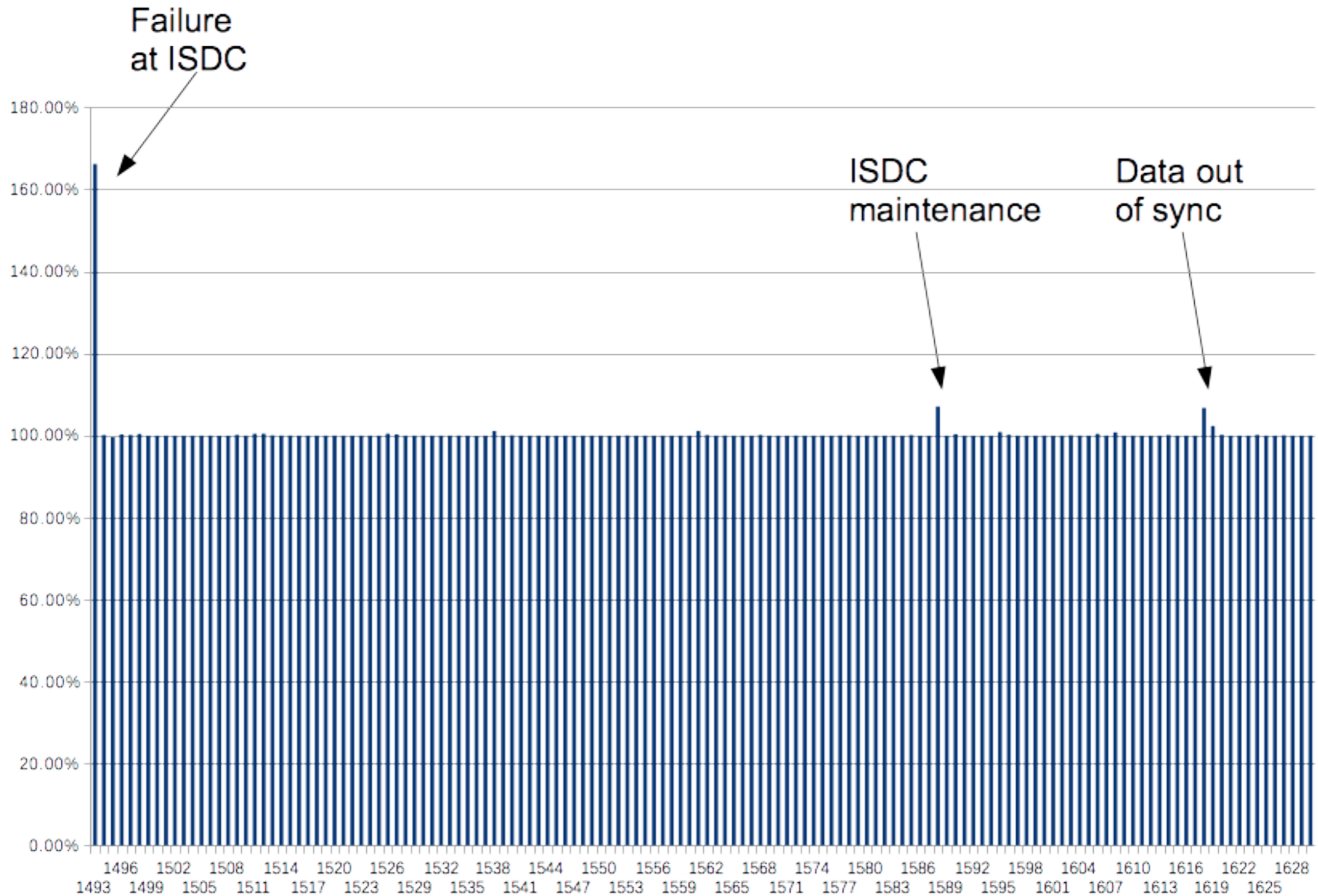
Target region ▲	NRT or CONS	Revolution(s)
190.0 12.0	CONS	<input type="checkbox"/> All target revolutions <input type="checkbox"/> 1492 ⓘ <input type="checkbox"/> 1493 ⓘ
191.0 9.0	NRT	<input type="checkbox"/> All target revolutions <input type="checkbox"/> 1497 ⓘ <input type="checkbox"/> 1498 ⓘ <input type="checkbox"/> 1499 ⓘ <input type="checkbox"/> 1500 ⓘ
Scorpius-Centaurus	NRT	<input type="checkbox"/> All target revolutions <input type="checkbox"/> 1501 ⓘ <input type="checkbox"/> 1502 ⓘ

Showing 1 to 3 of 3 entries

2. Enter your first name and last name
3. Enter your e-mail address
4. What is 8 plus 2 ? (human test to stop spam)
5. your request

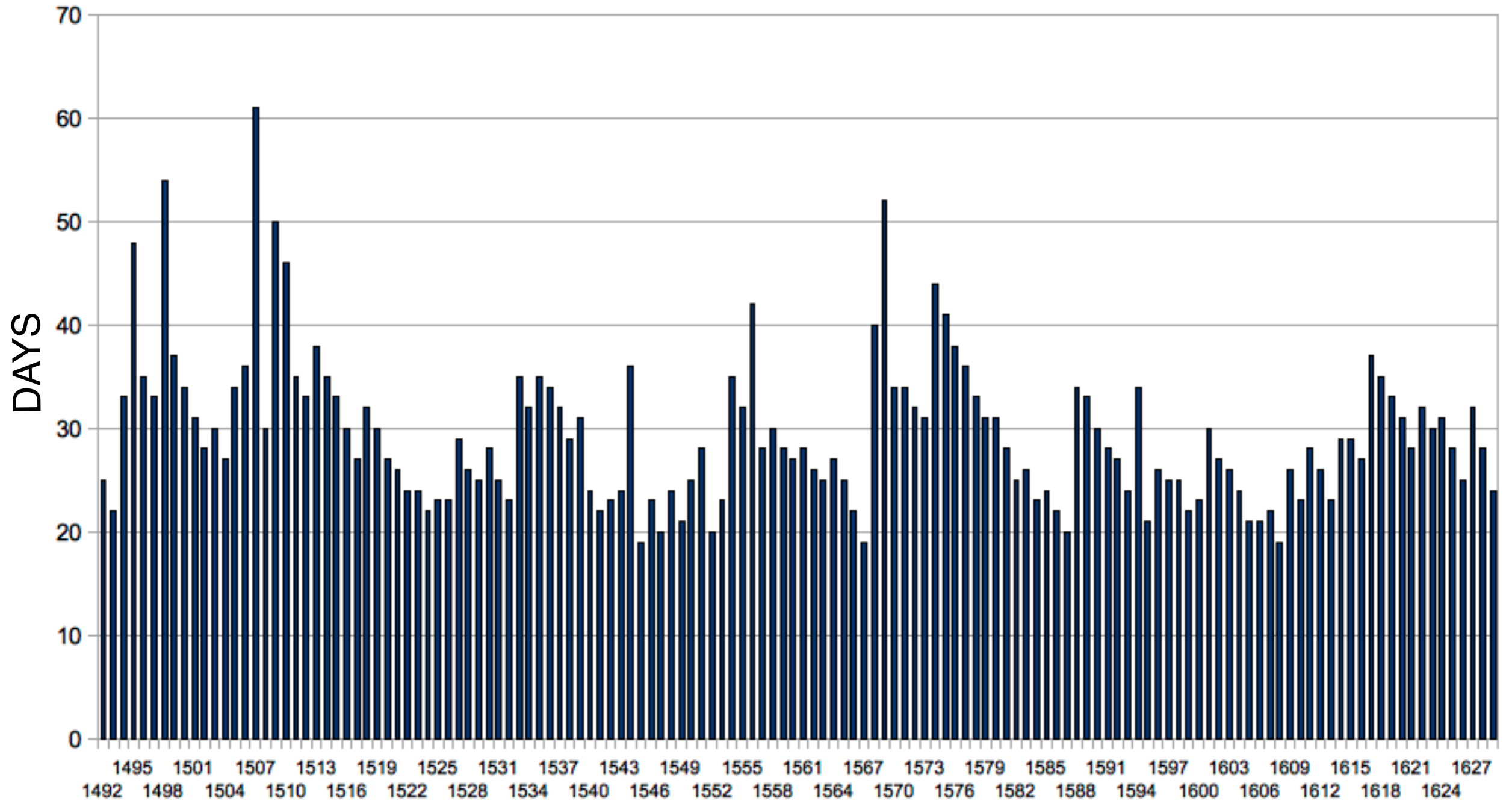
Telemetry

CONS/NRT, rev. 1492 - 1630



Revolution number

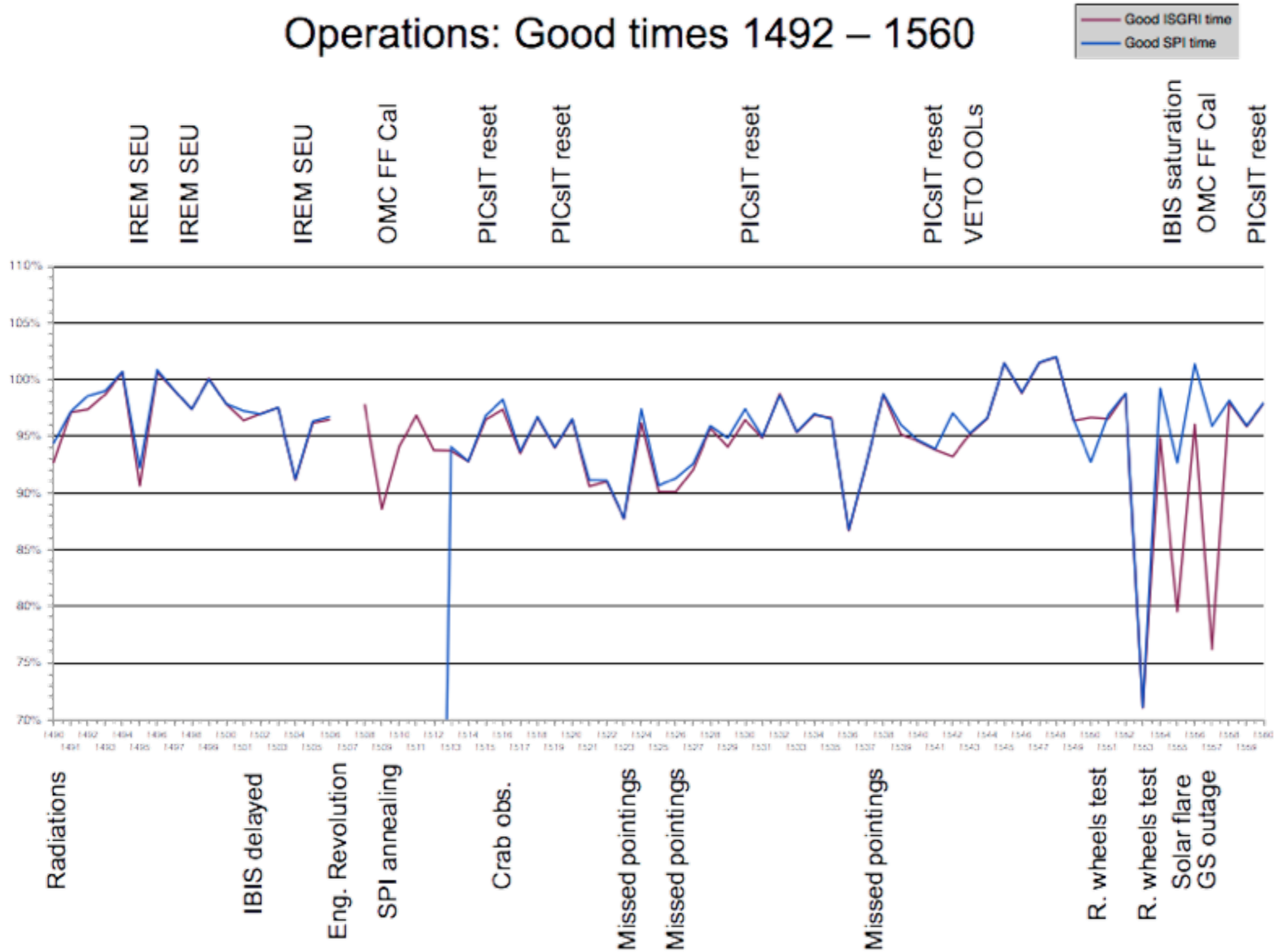
Cons distribution delay



ISDC processes in <10 days, with exceptions.

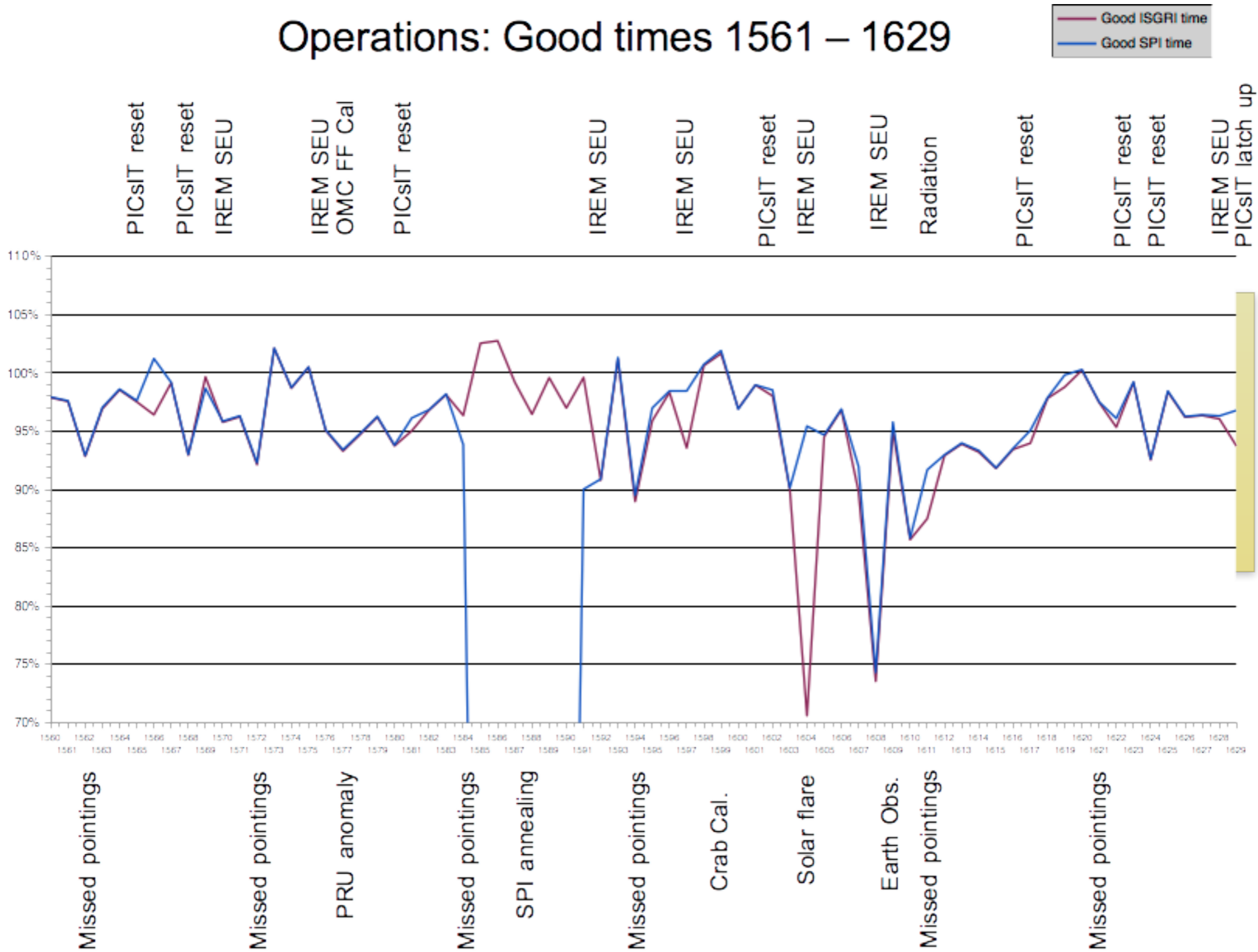
Sum of Good time intervals wrt to planned time

Operations: Good times 1492 – 1560

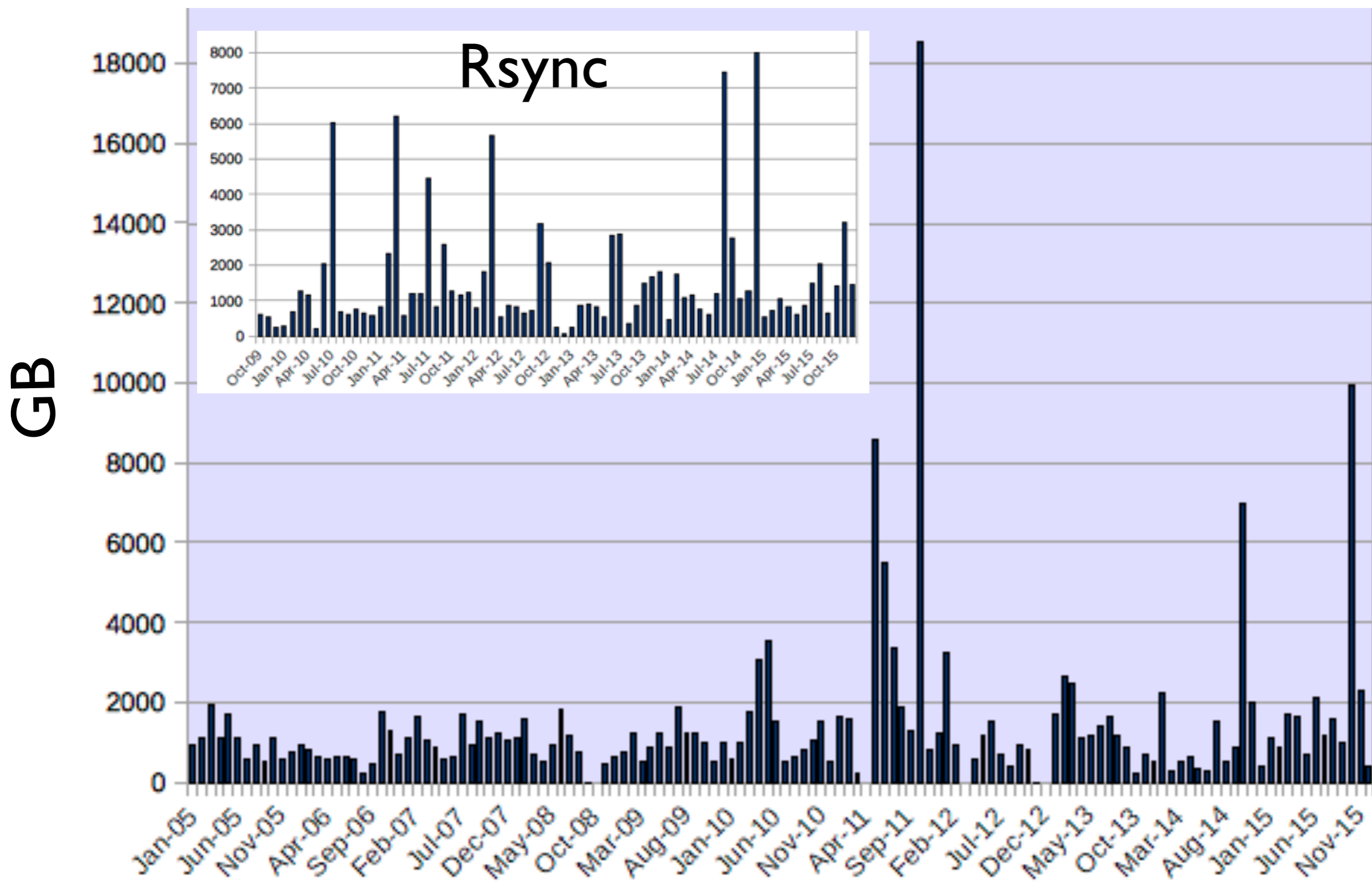


Sum of Good time intervals wrt to planned time

Operations: Good times 1561 – 1629

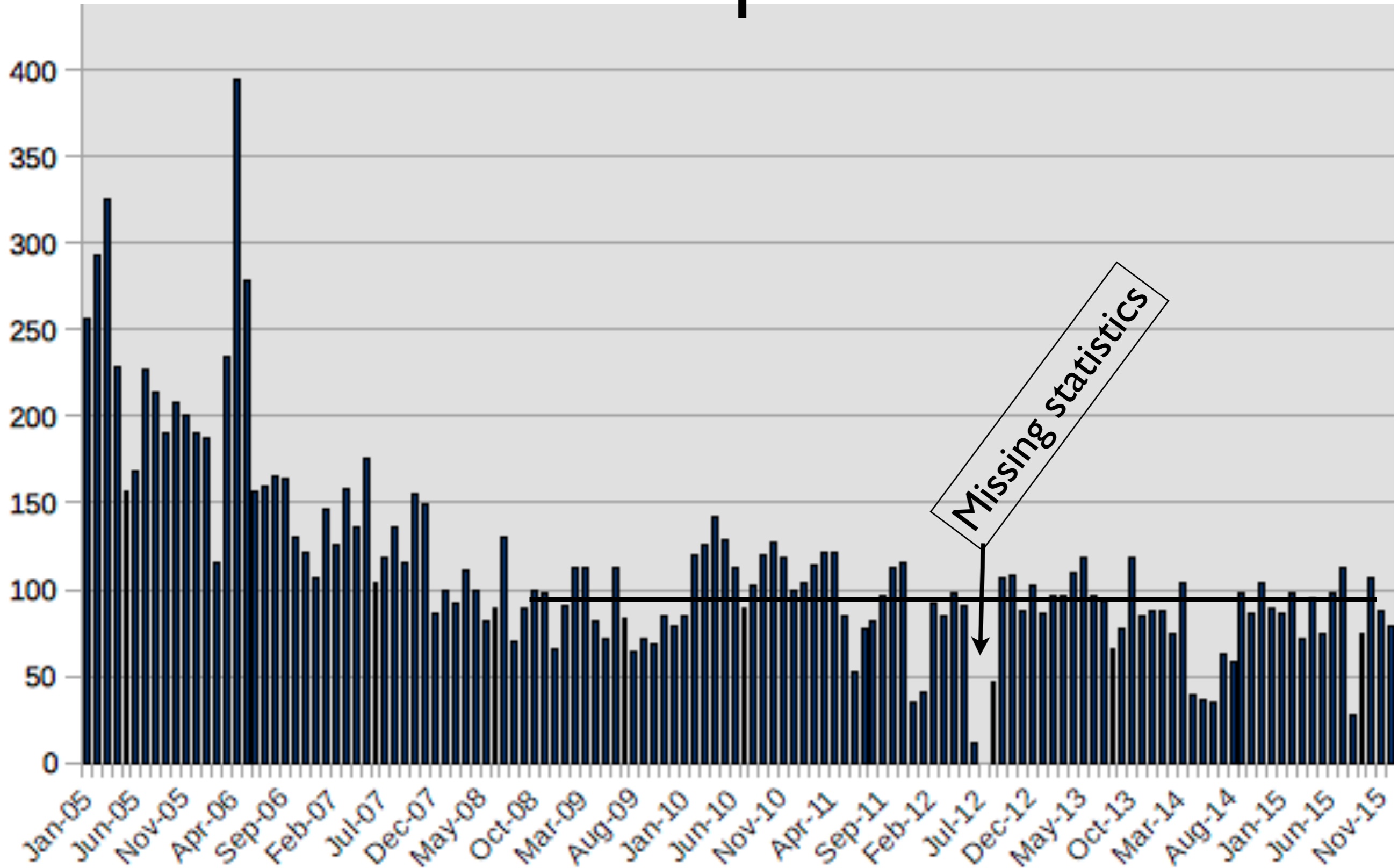


FTP bandwidth



Added Rsync since 2009

Browse unique visitors



OSA downloads

- OSA 10.2 (10.1) software was downloaded 155 (41) in 2015 (plus Jan 2016)
- OSA 10.1: 92 linux, 26 Mac, 37 source, 82 testdata
- OSA 10.2: 14 linux, 19 Mac, 8 source, 3 testdata
- Continuous interest !

High level archive, HEAVENS

The screenshot displays the HEAVENS web interface. At the top left is the ISDC logo. The header lists various astronomical instruments: ISDC, INTEGRAL, Planck, Gaia, FACT, ASTRO-H, POLAR, CTA, LOFT, SAFARI, JEM-EUSO, ATHENA, CAP, and HEAVENS. The main content area is titled 'HEAVENS' and contains a 'Query parameters' section. This section includes input fields for 'Source name' (with a dropdown for 'or select a famous object'), 'or RA DEC' (with a dropdown for 'Equatorial FKS'), and 'Time interval' (with a dropdown for 'MJD (TT)'). Below these are checkboxes for instrument selection, including Planck, INTEGRAL OMC, RXTE ASM, INTEGRAL JEM-X, RXTE PCA, INTEGRAL ISGRI, INTEGRAL PICsIT, INTEGRAL SPI, INTEGRAL SPI ACS, FERMI LAT, HEGRA, and INTEGRAL IREM. There are also checkboxes for 'Sky image', 'Lightcurve with a bin size of [] hours', and 'Spectrum'. The 'Energy band [keV]' is set to '17.3-80.0', with 'Min - Max' values of '13.0' and '520.9'. At the bottom are 'Submit' and 'Reset' buttons.

- Included FERMI/LAT, Planck, SPI, RXTE, and XMM-Newton.
- Development on hold for funding shortage

86 single accesses per month

JEM-X

- NRT data: because of the strong dimming of Cd sources, only JEMX-1 is used (J2 can be used only for source positions)
- CONSolidated data: spectral infos recovered for both units (once we receive the calibration tables from the JEM-X team)
- The ingestion of IC files is running smoothly between the two groups (JEMX / ISDC). Ingestions of calibration files are done approximately twice/month and immediately available to the users.
- current lc tool is not taking into account detailed knowledge of the instrument. A new `j_ima_iros` feature for LC extraction will be included in the next OSA release (LP already met with JEMX team to work on the interface. `jemx_science_analysis` is now upgraded and deliverable. There are still some issues with the working version of `j_ima_iros`. We are waiting for the bug fixes and for next delivery from the JEMX team.)

JEM-X

- spectral extraction of dim sources (not/hardly detected at single scw level) cannot be performed with `j_ima_iros` (SPE level). If the issue will not be solved in the software, warn the user to use `mosaic_spec` (from mosaics)
- the current IMOD files (v.25) recover the 3-5 keV band, but data are not usable above 20 keV. More refined tables are expected from the JEMX team in the near future.
- Using slews is enabled in `jemx_science_analysis`, but this analysis is meaningful only for peculiar observations.
- RATEs have (always) been integrated over 100 cm² effective detector area (as discussed and agreed with the JEM-X team also at the previous meeting 2012). The recent (Feb 2016) discussion in Copenhagen revealed that the correct scaling should be 67 cm² (effective on-axis active detector area). Change? (To be seen)

Future activity

- Routine update of IC files
- Guarantee smooth operations
- Release of OSA 11: ISGRI energy, JEM-X light curve S/W, SPI enabling of PSD filtering (late spring 2016).
- Integrate high-level products in ESA Sky or other platforms, as HEAVENS is not actively supported at ISDC.

MoU with LIGO Virgo

- The INTEGRAL collaboration has signed a memorandum of understanding with the LIGO-Virgo consortium to follow-up gravitational wave (GW) triggers.
- Started in September 2015 and will end in June 2017, maybe renewal.
- We were notified of GW150914 two days after and did not find any signal. ApJ Letter prepared in advance and finalised after publication of the GW event.

SPI-ACS vs Fermi-GBM

- Fermi-GBM has found a very weak counterpart at 3 sigma c.l. to be due to chance fluctuation.
- We say that if the signal were real, we would have detected it. Paper accepted.
- We started a comparative study of the instrument capabilities and limitations with members of the GBM team (Savchenko, Beckman, Ferrigno, Mereghetti for INTEGRAL).