ISDC for the INTEGRAL USER GROUP

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ESTEC, 1-2 March 2017

ISDC Status

- Swiss funding for 2017: approved (with minister signature). Operations guaranteed.
- Funding for 2018 needs confirmation and later years
- Manpower allocation is stable at ISDC (share with other projects). Pavan leaves the field, Savchenko replaces. Marc Tuerler change job: web mastering replaced by infrastructure.
- The level of support for INTEGRAL is satisfactory.
- Integration stable infrastructure

Quick look analysis of INTEGRAL data

- 8 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).
- 15 ATeLs related to INTEGRAL discoveries
- 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 AO13-AO14, public for serendipitous science. Handled Russian peculiarity.
- JEM-X off-line energy calibration not always used the 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 and recently changed. Implementing automatic checks
- Negligible gaps in NRT telemetry due to hardware failure of the University infrastructure supporting the data transfer (switch).

S/W activity

- Supporting new platforms: Mac-OS (3 latest) plus 3 flavours of Linux (Ubuntu, Scientific Linux 6.8 [32 and 64 bits], CentOS 7)
- Testing with updated Root distribution
- OSA 11 foreseen in spring 2017

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 propretary 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.

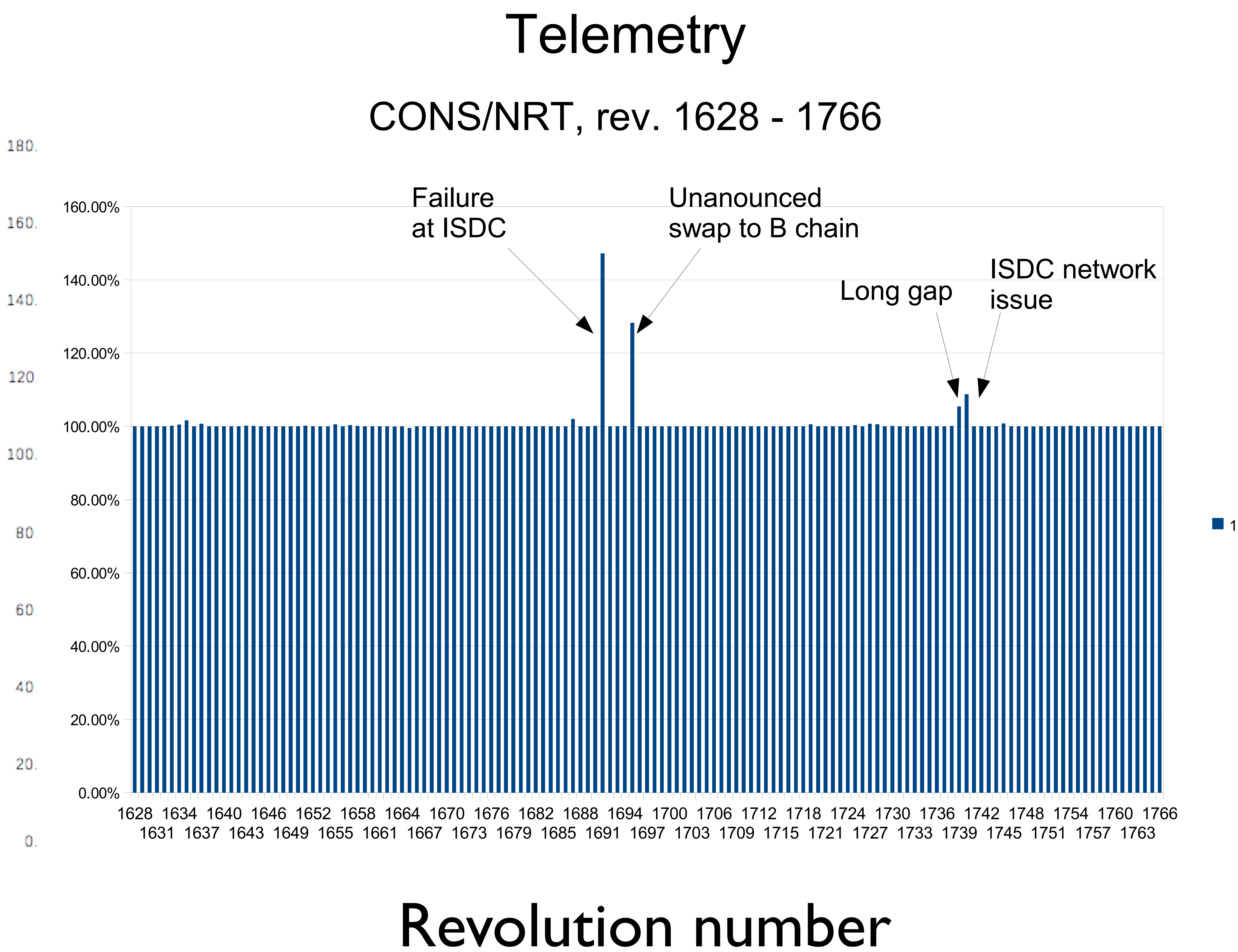
☐ I have read and agree to the Terms & Conditions of Use of the Data.

Target region	NRT or CONS	Revolution(s)
190.0 12.0	CONS	☐ All target revolutions ☐ 1492 ☐ 1493
191.0 9.0	NRT	☐ All target revolutions ☐ 1497 ☐ 1498 ☐ 1499 ☐ 1500
Scorpius-Centaurus	NRT	☐ All target revolutions ☐ 1501 ☐ 1502

Showing 1 to 3 of 3 entries

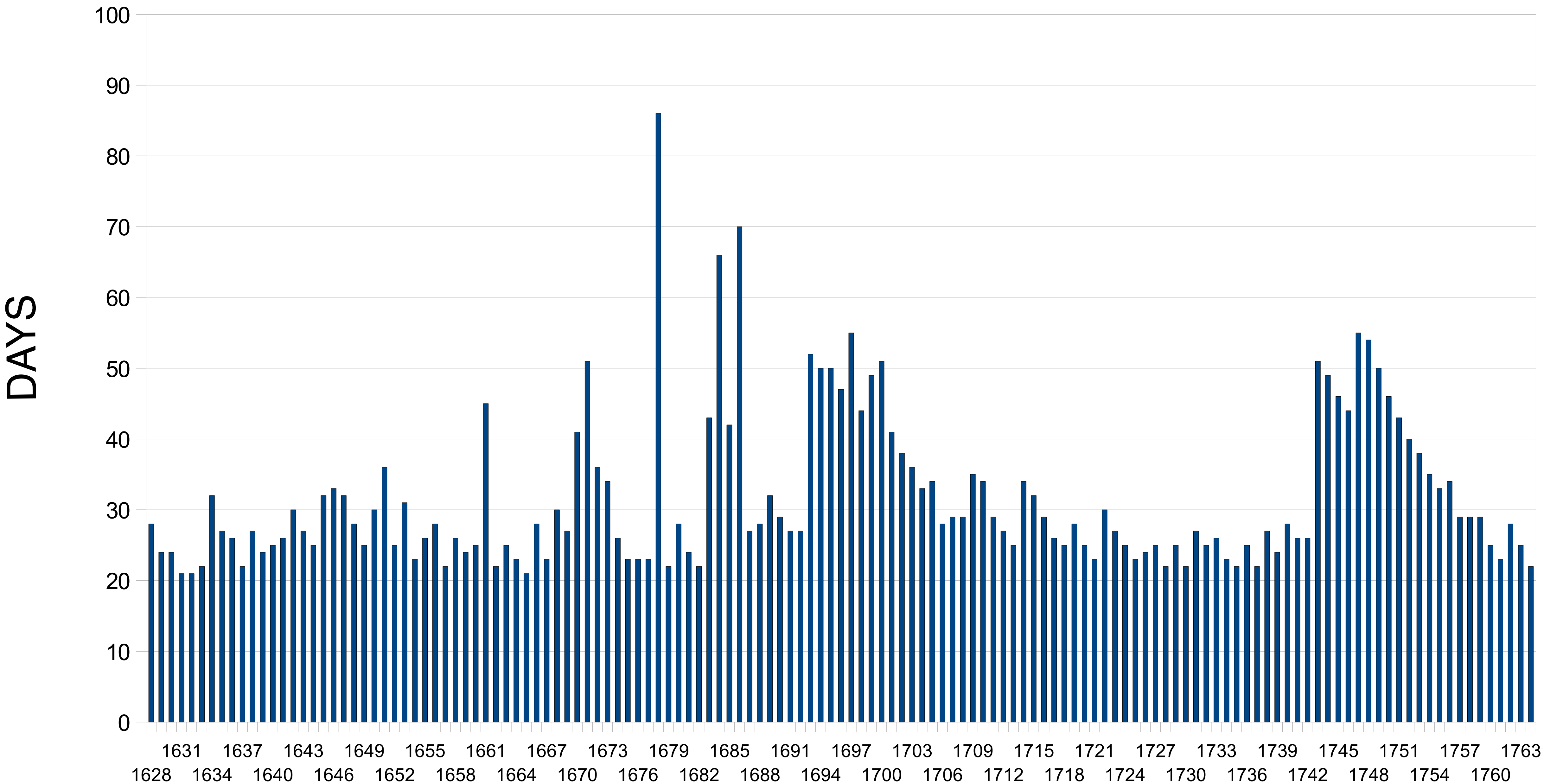
2. **Enter your first name** ______ **and last name** ______
3. **Enter your e-mail address** ______
4. **What is 8 plus 2 ? (human test to stop spam)** ______
5. Submit **your request**

Telemetry



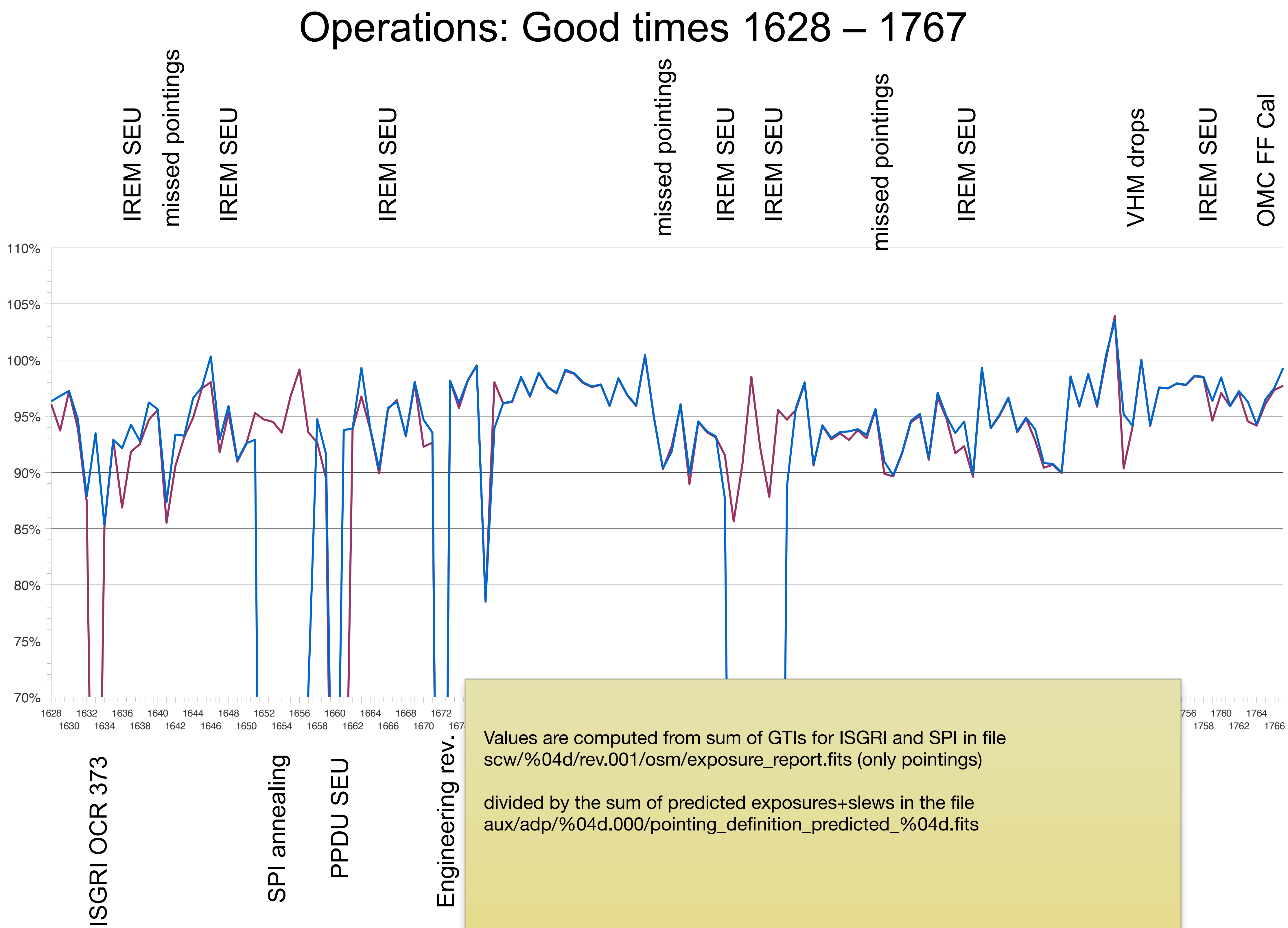
Telemetry
CONS/NRT, rev. 1628 - 1766
Failure at ISDC
Unanounced swap to B chain
Long gap
ISDC network issue
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
140.00%
160.00%
1
Revolution number

Cons distribution delay



ISDC processes in <10 days, with exceptions.

Sum of Good time intervals wrt to planned time



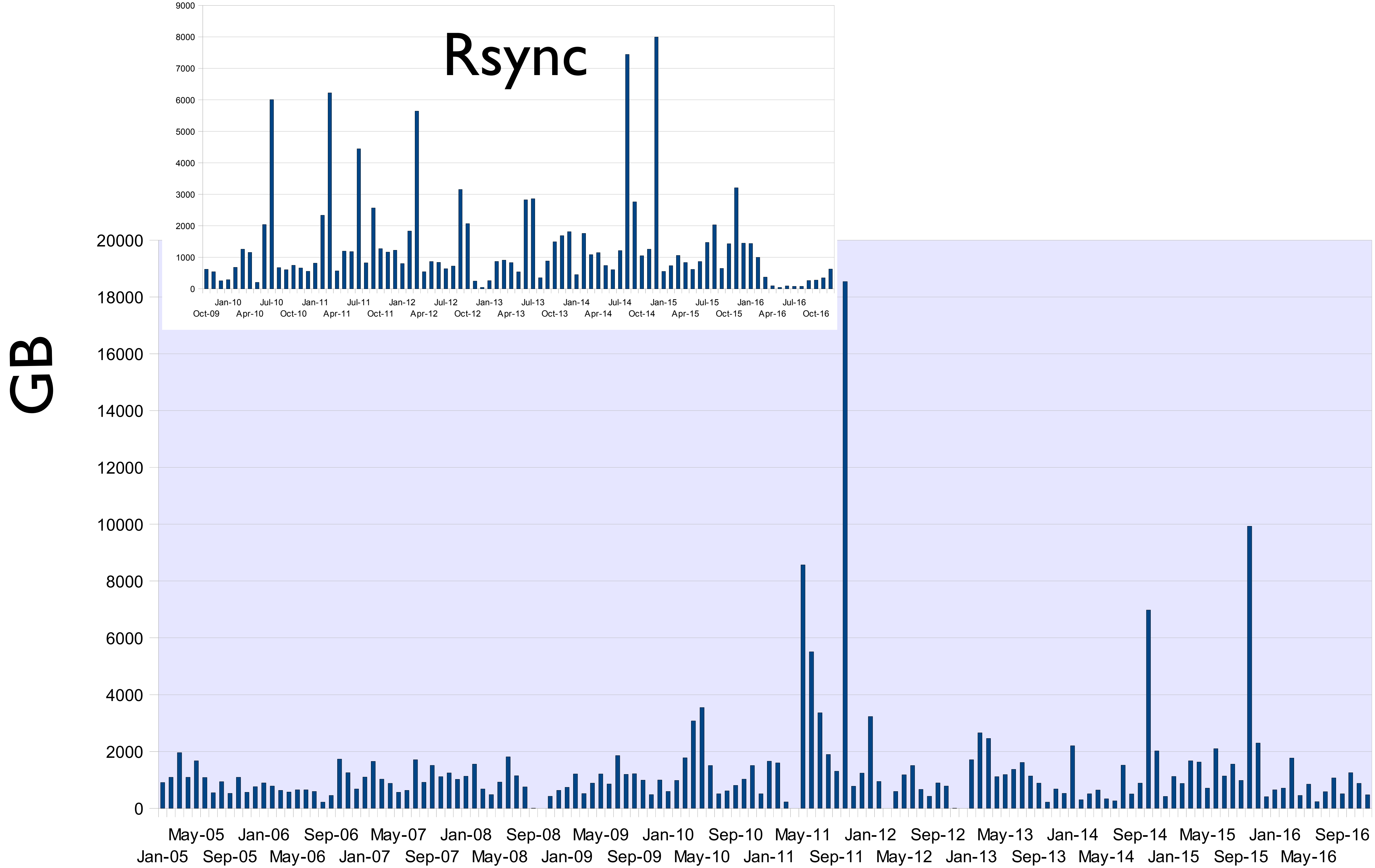
Values are computed from sum of GTIs for ISGRI and SPI in file
scw/%04d/rev.001/osm/exposure_report.fits (only pointings)

divided by the sum of predicted exposures+slews in the file
aux/adp/%04d.000/pointing_definition_predicted_%04d.fits

Data downloads

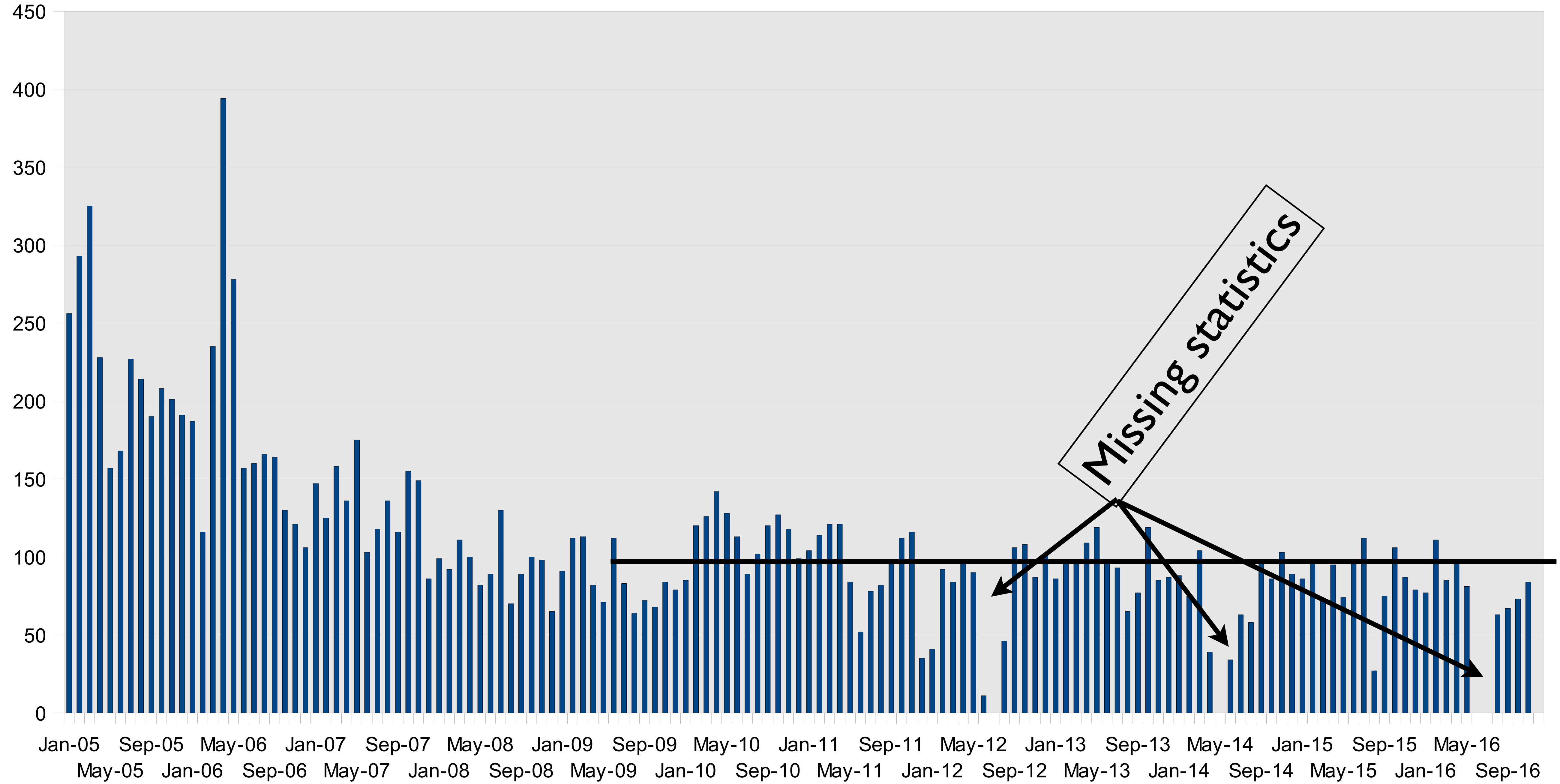
Month 2016	FTP		Browse		Rsync		Total	Total unique visits
	GBytes	accesses	MBytes	accesses	GBytes	accesses	GBytes	
January	652.35	370	561.97	77	1437.40	12	2090	459
February	709.36	179	380.84	111	999.91	13	1710	303
March	1764.87	256	976.79	85	369.44	5	2135	346
April	451.10	235	307.88	98	94.76	10	546	343
May	849.15	192	187.36	81	43.62	5	893	278
June	230.28	192	0	0	92.34	7	323	199
July	588.50	208	0	0	78.67	4	667	212
August	1071.06	207	615.65	63	79.15	8	1151	278
September	512.48	224	266.69	67	262.80	11	776	302
October	1254.93	161	386.68	73	277.23	15	1533	249
November	880.67	153	612.48	84	347.18	17	1228	254
December	473.05	109	0	0	625.50	14	1099	123
Averages	786	207	358	62	392	10	1179	279

FTP bandwidth



Added Rsync since 2009

Browse unique visitors



OSA downloads

- OSA 10.2 software was downloaded 8 in 2016, test data 5 times (excluding ISDC)
- SPI coefficients 5 times
- Colleagues are waiting for OSA 11

INTEGRAL SPI-ACS public data service

In 2011, a public service was set up to promptly provide SPI-ACS data with the best timing accuracy

It was extensively used for years by IPN and Konus colleagues

Since 2015, Fermi/GBM team used the service to verify their detections and challenge SPI-ACS

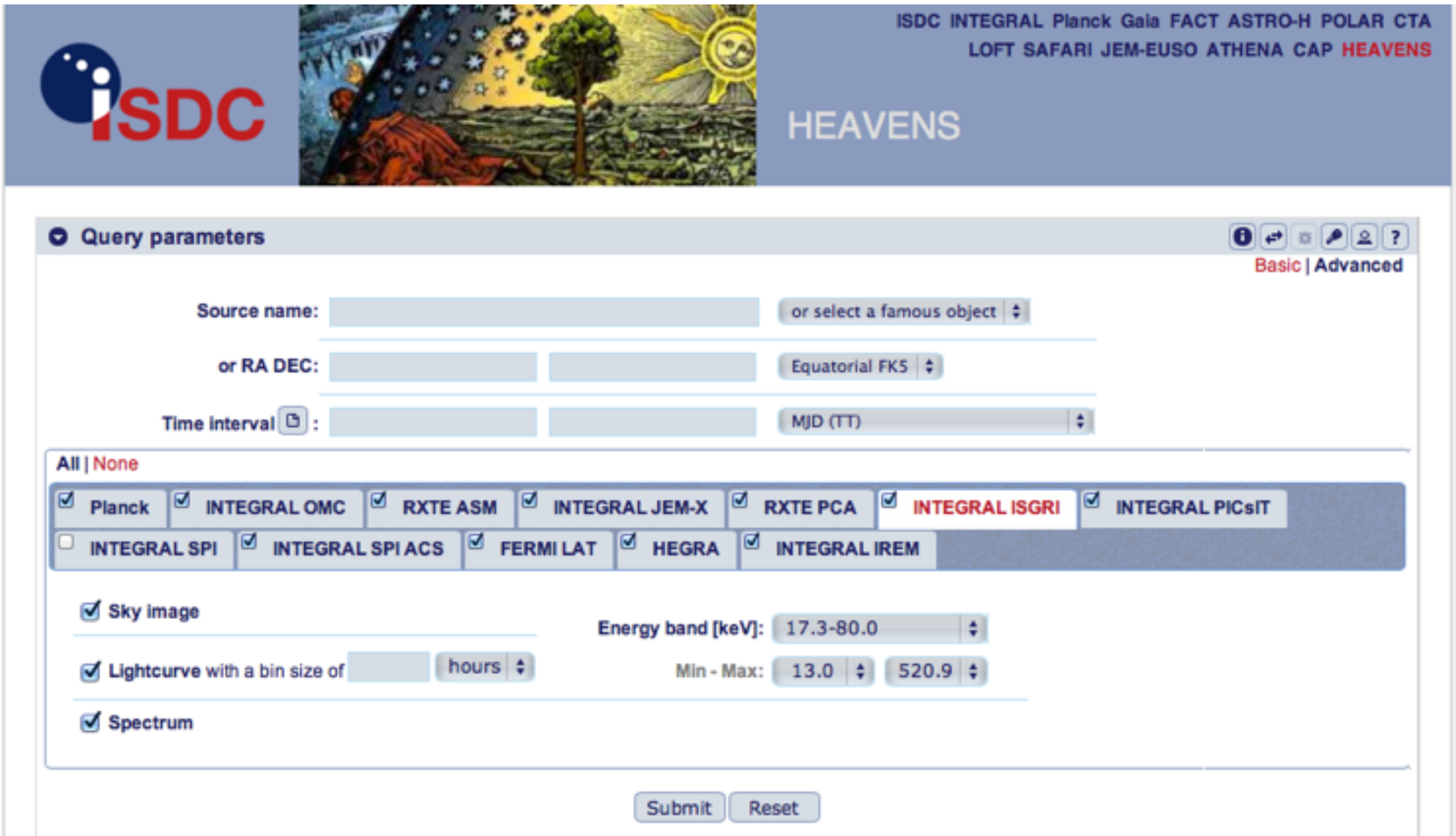
Several other groups started to use it. In total >100 Gb has been served.

IPN format SPI-ACS light curve	2008-03-19T06:12:46 200	Submit
IPN format INTEGRAL ephemeris	2008-03-19T06:12:46	Submit
Plot SPI-ACS light curve	2008-03-19T06:12:46 200	Submit
INTEGRAL Attitude	2008-03-19T06:12:46	Submit
INTEGRAL HK light curves	SPI_VETOGATE 2008-03-19	Submit

Try using the script to access the lightcurves

RESTful service, providing various public INTEGRAL data as well as auxiliary information

High level archive, HEAVENS



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

XX single accesses per month

Near future activity

- Routine update of IC files (monitoring of SPI gain at each revolution)
- Catalog release with most recent updates
- Guarantee smooth operations
- Release of OSA 11: ISGRI energy, JEM-X light curve S/W, SPI enabling of PSD filtering.
- Discussion on integration of 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.
- See Savchenko's talk

OSA prospectives

- Compton Imaging (PL)
- PiCSIT - Rome 2018
- Polarimetry - NO

OSA11

- ISGRI energy calibration: moved to DAL libraries, based on 4 files per revolution (LUT2, revolution drift, Efficiency, MDU rise-time pulse height correction)

- ISGRI: response: RMF per revolution with 256 channels , ARF (To Be Defined)

- IBIS: define energy channels and bin response from the interface

- SPI: possible to use the PSD events above E_threshold (user defined) -> produced background flat field.

- JEM-X new J_IMA_IROS for spectra and light curves.

- Beta release in March, final release after testing by instrument teams and various partners