ISDC for the INTEGRAL USERS GROUP

Carlo Ferrigno (ISDC)

ESTEC, 21-22 February 2018

ISDC Status

- Swiss funding for 2018: approved (with minimal direct funding (1 FTE)). Operations guaranteed.
- Funding for 2019 to be seen
- Manpower allocation: ½ operator, ½ Savchenko. Contribution from infrastructure (CDCI project, led by S. Paltani) for web mastering, DB support. Contribution from ESA for operations and legacy archive.
- The level of support for INTEGRAL is maintained bearable thanks to synergies with other projects and past savings

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 stopped at 31.12.2017
- Inform all PIs of data rights in case of problems or relevant serendipitous sources (no data rights).
- 21 ATeLs and 14 GCNs related to INTEGRAL discoveries
- We inform the PI of public programs for relevant observations.

ISDC Operations/data distribution

- NRT data are available within 3 hours. Smooth processing.
- Discussion on making a revision 4 with stable energy calibration, probably possible only for a delta
- Page to distribute data from AO13-AO15, public for serendipitous science. Handled Russian peculiarity.
- JEM-X off-line energy calibration not always used in CONS due to variable delivery time: need of OSA energy reconstruction step. NRT data for JEM-X2 are not always available due to energy reconstruction.
- SPI gain coefficients monitored. Implemented automatic checks
- Negligible gaps in NRT telemetry due to hardware failure of the University infrastructure supporting the data transfer (switch).

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

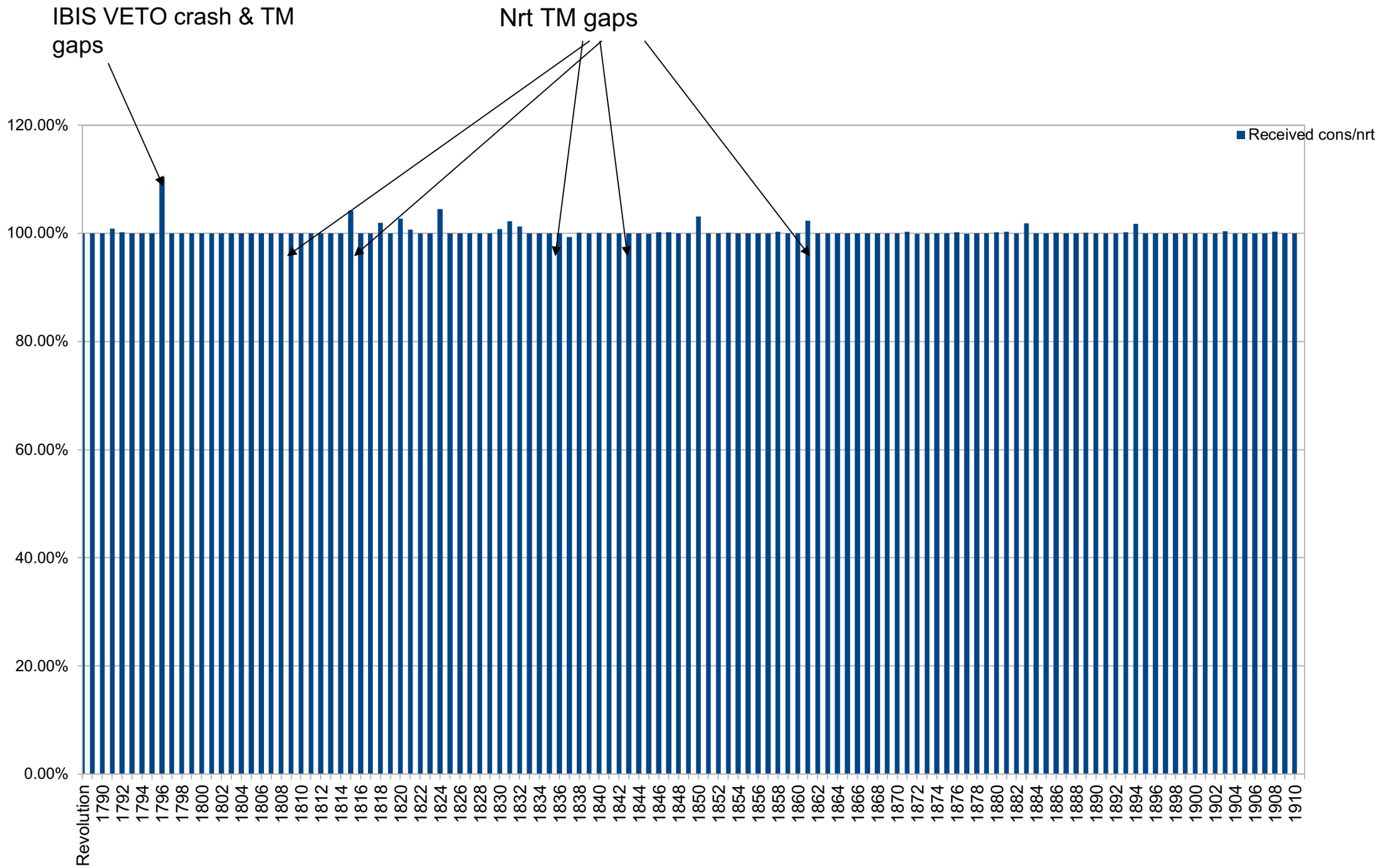
Showing 1 to 3 of 3 entries

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**

S/W activity

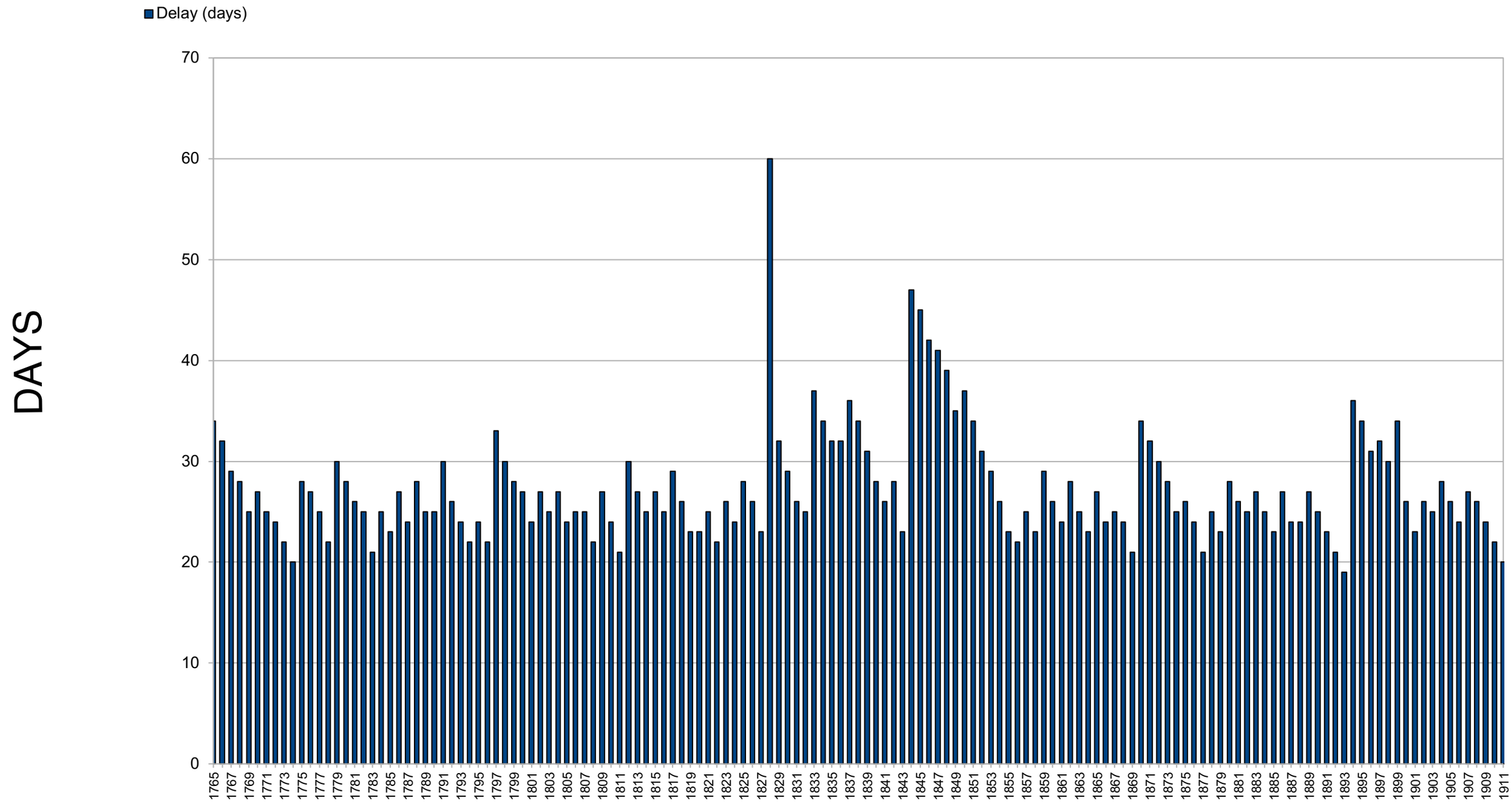
- OSA 11 foreseen in late spring 2018
- See dedicated presentation
- Online interface, see later

Telemetry



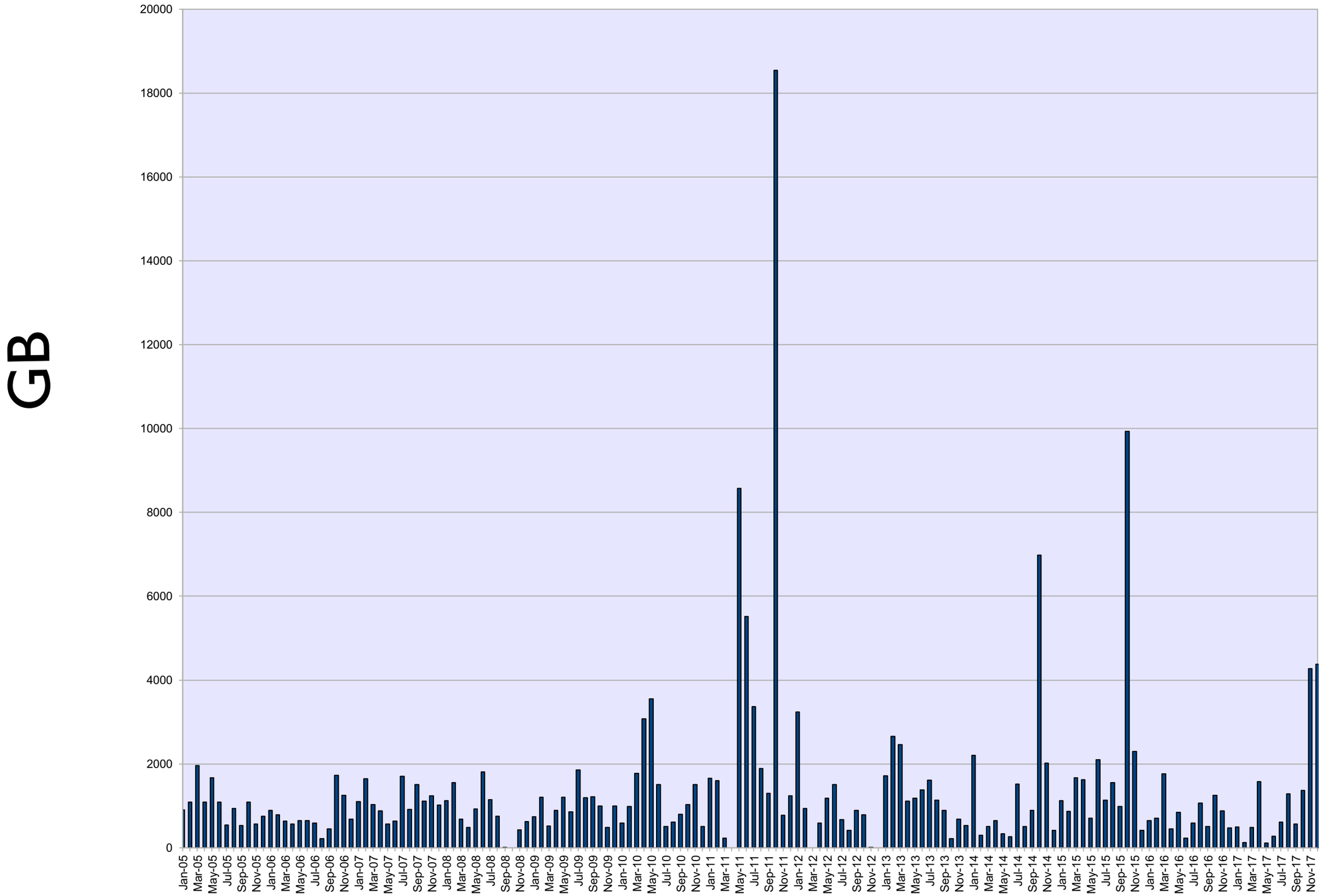
Revolution number (1789-1910)

Cons distribution delay



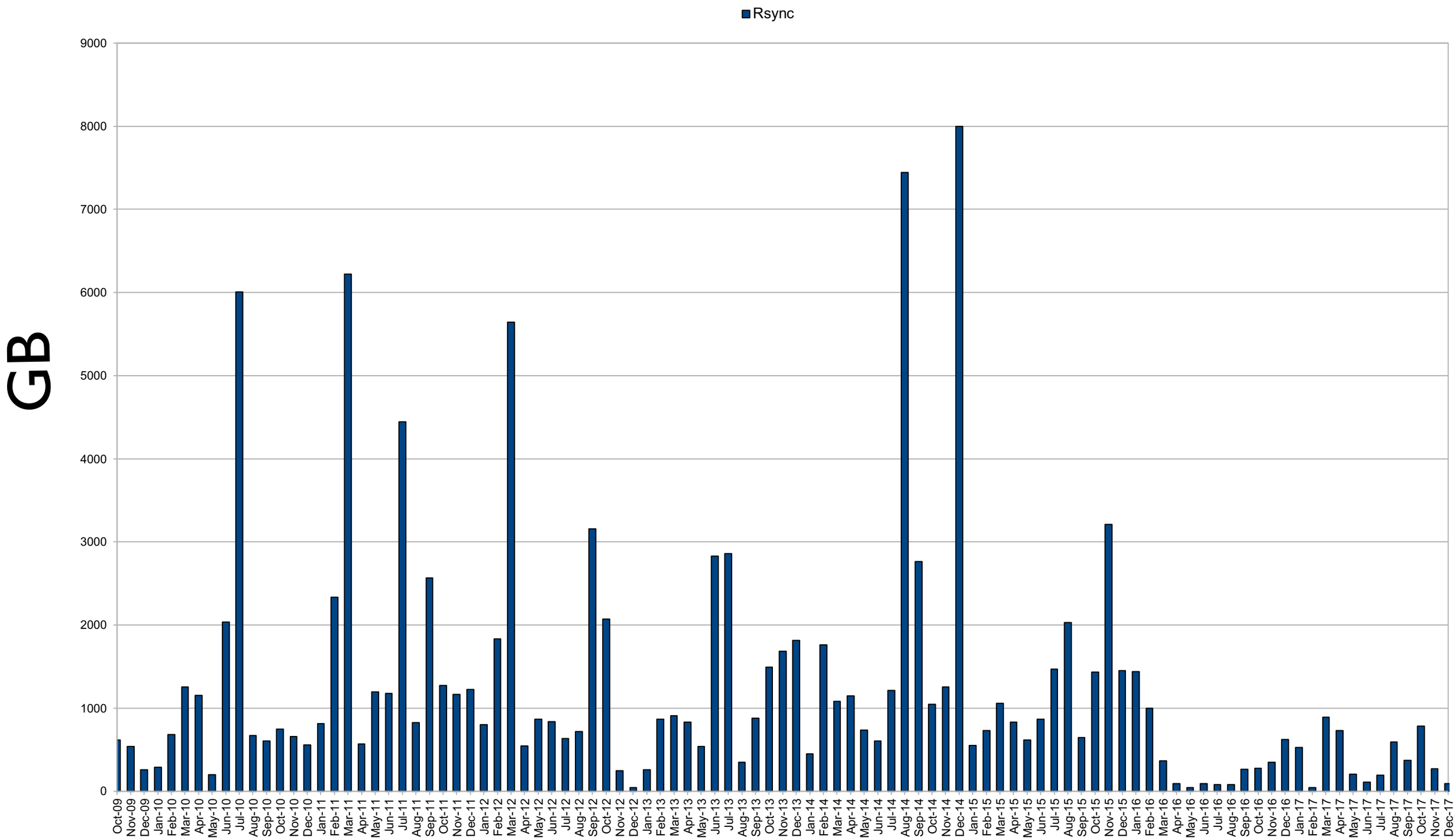
ISDC processes in <10 days, with exceptions.

FTP bandwidth

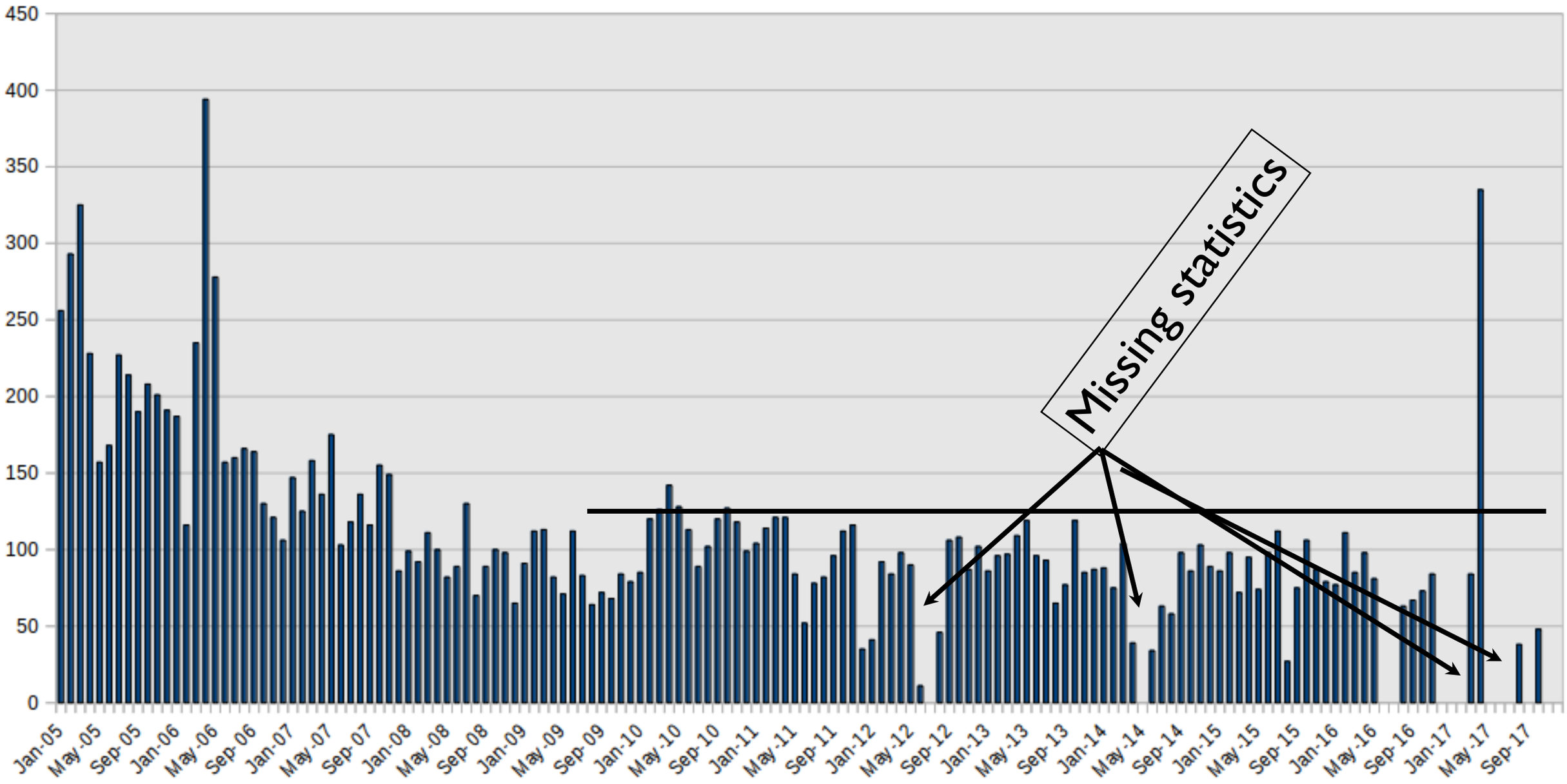


Added Rsync since 2009

Rsync bandwidth



Browse unique visitors



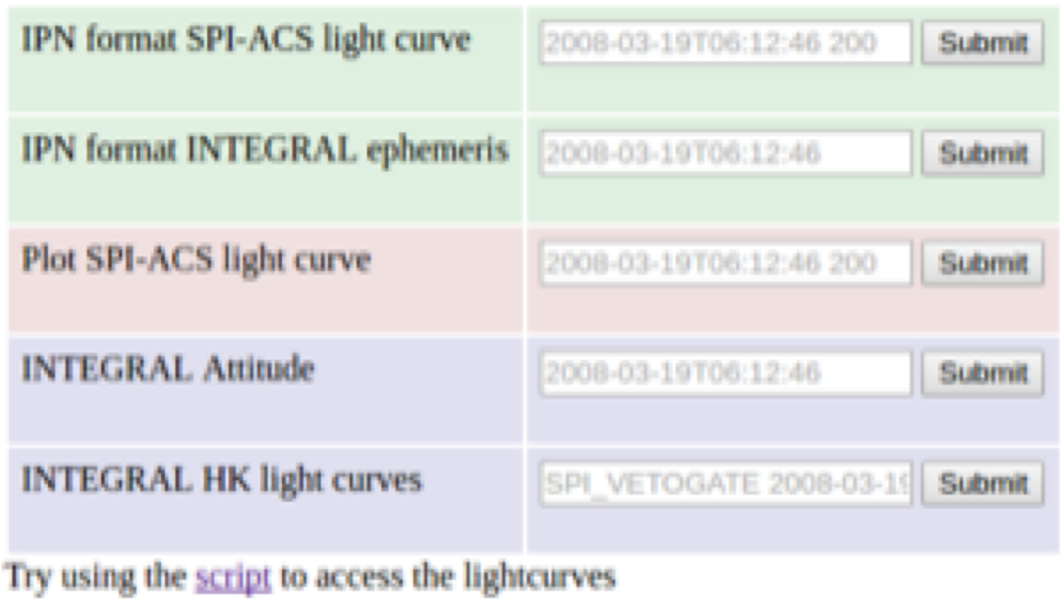
INTEGRAL SPI-ACS public data service

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

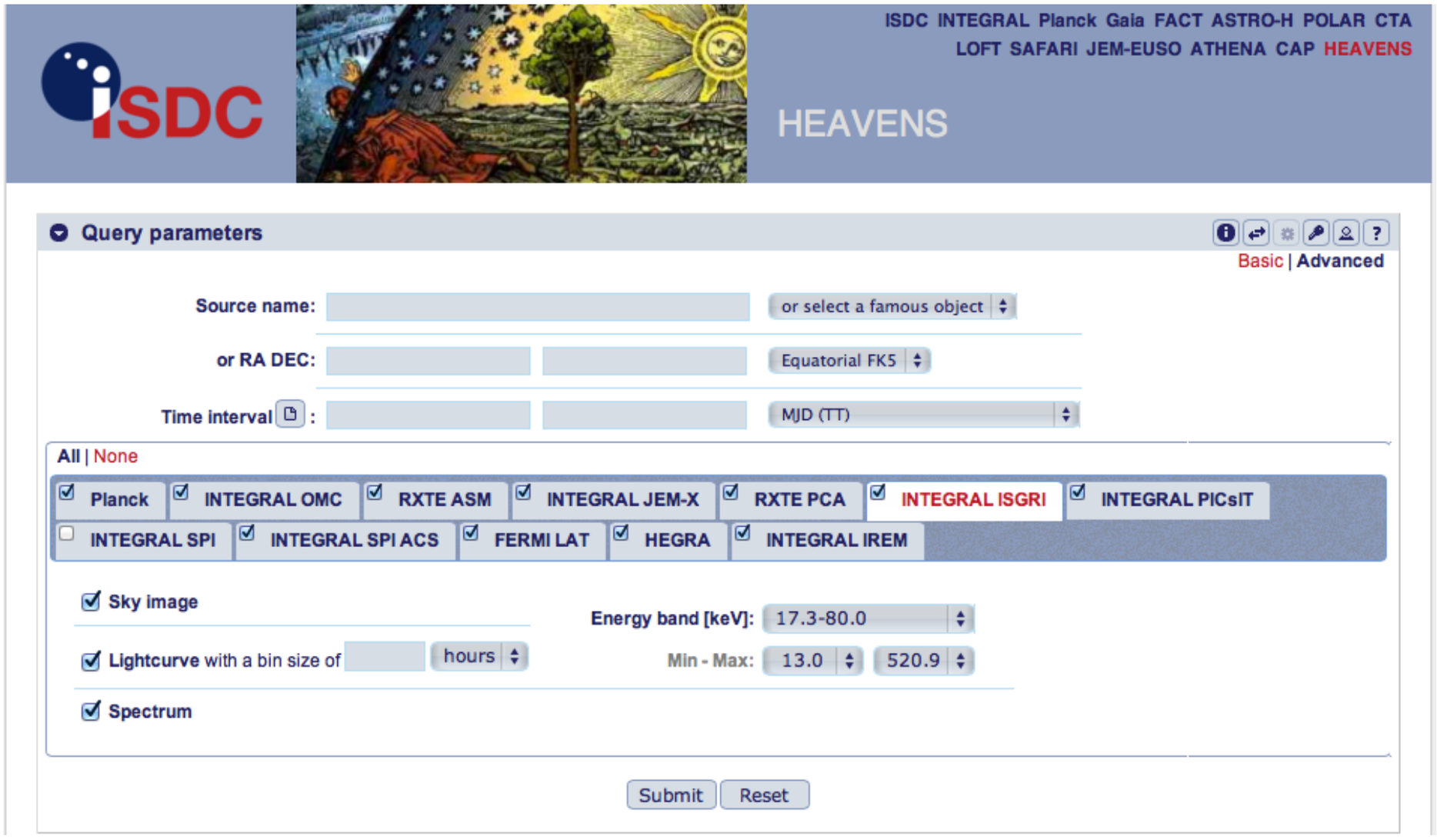
Since 2015, Fermi/GBM team used the service to verify their detections and challenge SPI-ACS

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



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

High level archive, HEAVENS



- Development on hold for funding shortage

~80 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 11 release (6.0).

On the way

- 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.

Transient follow-up activity

- MoU with Antares
- MoU with IceCube for non-public alerts
- Waiting for public and private policies of LVC

Long term preservation

- Raw data are not enough, we need to have the ability to have pre-canned results and ability to run a stramlined analysis.
- Unige has obtained financial support for a common data center infrastructure (CDCI)
- As part of this, we are making a pilot study for an online tool for INTEGRAL data analysis and data preservation
- It will be extended to other missions at UNIGE
- Discussion with ESA for post-mission phase
- Issues with hardware availability

A page with all transients

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Home Data

INTEGRAL Transients

Time: Is not empty (NOT NULL)

Class: Is one of — FRB, GW, Neutrino

Instrument: Is one of — INTEGRAL ISGRI, INTEGRAL JEMX, INTEGRAL SPI-ACS

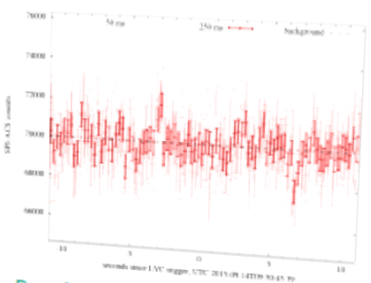
Apply

Name	Instrument	Class	Time
GW150914	INTEGRAL ISGRI	GW	2015-09-14T09:50:45.000000
GW151226	INTEGRAL ISGRI	GW	2015-12-26T03:38:53.000000
GW170104	INTEGRAL ISGRI	GW	2017-01-04T10:11:58.000000
GW170608	INTEGRAL ISGRI	GW	2017-06-08T02:01:16.000000
GW170814	INTEGRAL ISGRI	GW	2017-08-14T10:30:43.000000
GW170817	INTEGRAL ISGRI	GW	2017-08-17T12:41:04.000000
LVT151012	INTEGRAL ISGRI	GW	2015-10-12T09:54:43.000000

- For now, a static colleciton of pages.
- In future, populated dynamically by online analysis.

Instrument:
INTEGRAL ISGRI
Class:
GW
Time:
2017-08-17T12:41:04.000000
Light curves:

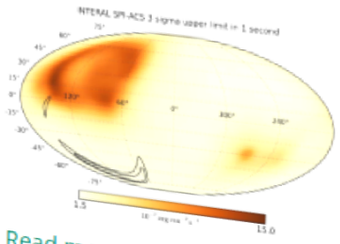
GW170817 light curve



Read more

All sky images:

GW170817 all-sky image



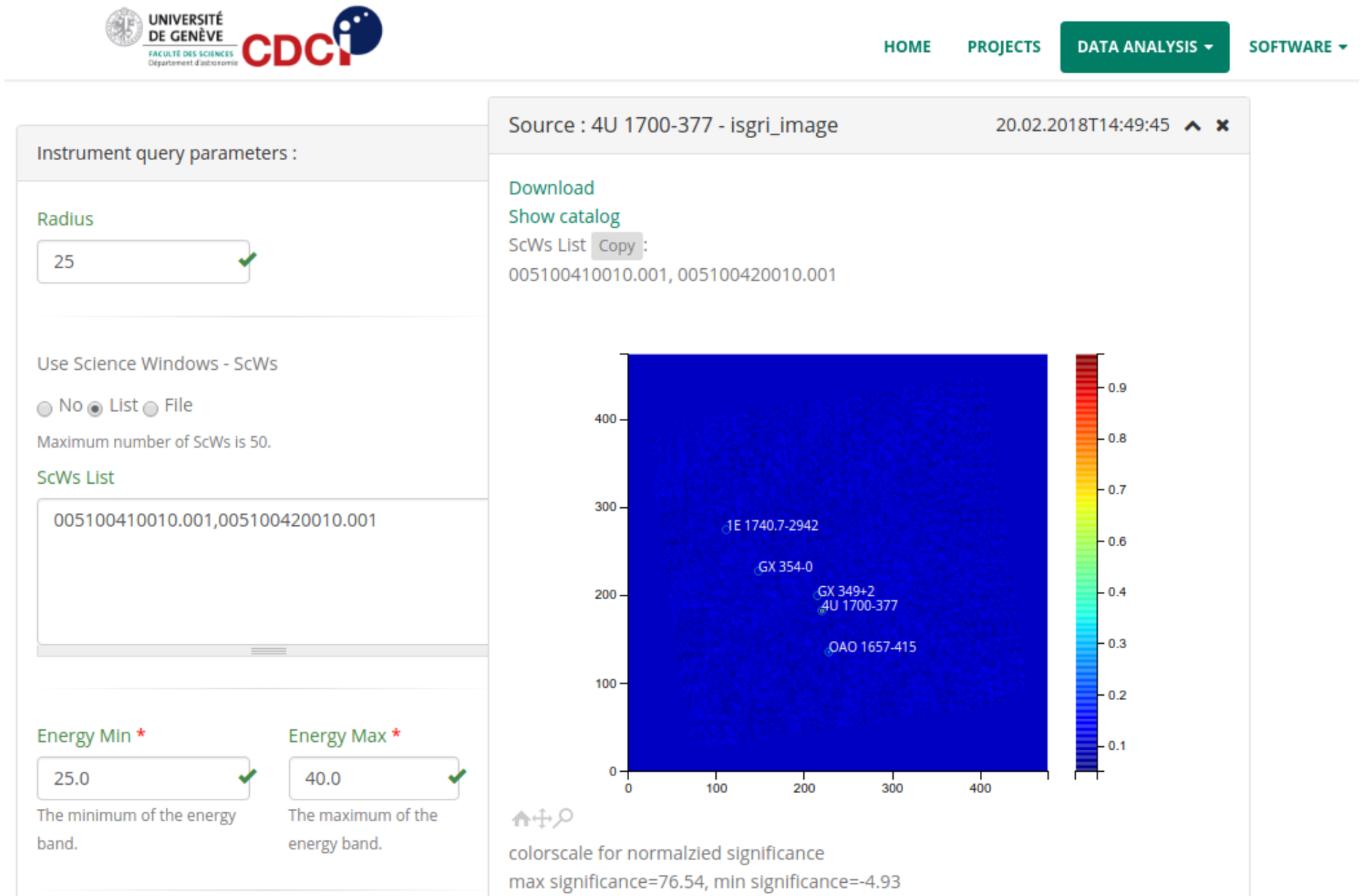
Read more

Localization summaries:

GW170817 localization summary

IMAGE

- Online analysis for ISGRI and JEM-X



Spectra

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Help

Instrument query parameters :

Radius

25

Use Science Windows - ScWs

No List File

Maximum number of ScWs is 50.

ScWs List

005100410010.001,005100420010.001

Energy Min *

25.0

The minimum of the energy band.

Energy Max *

40.0

The maximum of the energy band.

Query Type

Real

Select query type

Detection Threshold

5.0

Output catalog significance threshold

Product Type

Image

Spectrum

Light curve

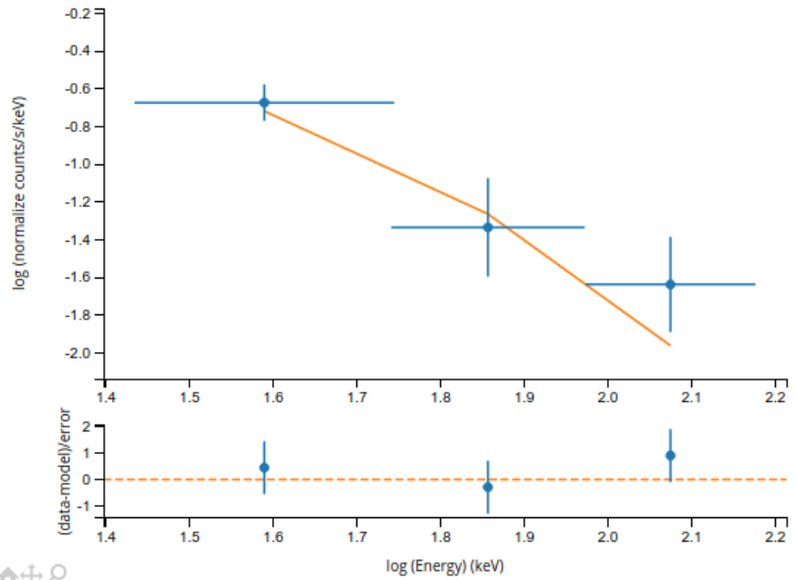
Source : GX 1+4 - Spectrum 20.02.2018T14:49:45

Source : 4U 1700-377 - Spectra table 20.02.2018T15:15:19

Source name	Xspec model
GX 349+2	powerlaw
Background	powerlaw
GX 1+4	cutoffpl
H 1705-440	powerlaw
OAO 1657-415	powerlaw
GRS 1747-312	powerlaw
GX 354-0	powerlaw
KS 1741-293	powerlaw
4U 1700-377	powerlaw
IGR J17252-3616	powerlaw
1E 1740.7-2942	powerlaw

Source : GX 1+4 - Spectrum 20.02.2018T15:17:19

Download



Exposure 1198.972046 (s)

Fit report for model cutoffpl

Component	Par name	Value	Units	Error
cutoffpl	PhoIndex	1.08674		1.74052
cutoffpl	HighECut	59.70789	keV	124.14324
cutoffpl	norm	0.01746		0.07966

dof 51

Chi-squared 50.51523

Chi-squared red. 0.99049

Spectra 2

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Instrument query parameters :

Radius

25

Use Science Windows - ScWs

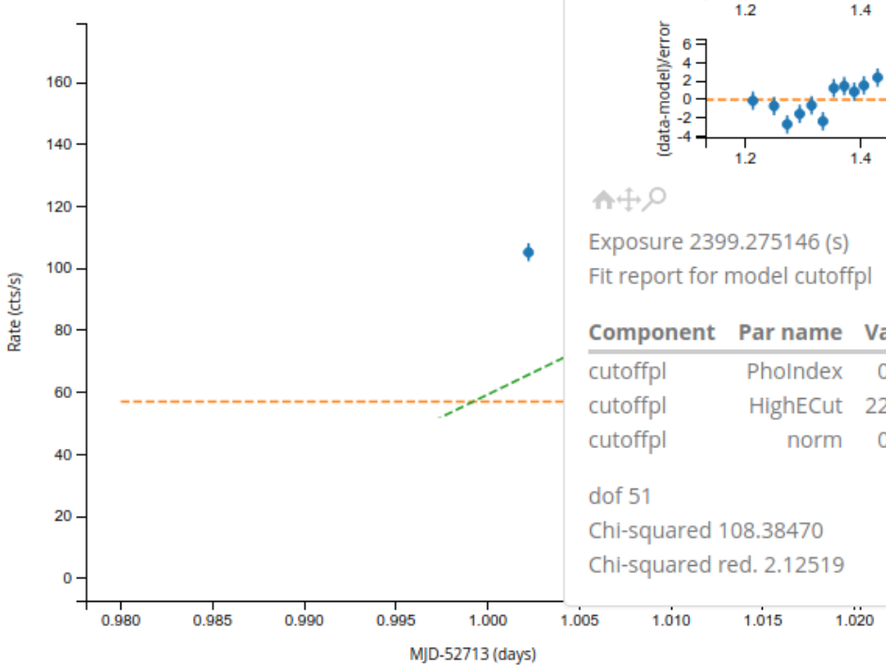
No List File

Source : 4U 1700-377 - Spectrum

Download

ScWs List Copy :

005100410010.001, 005100420010.001



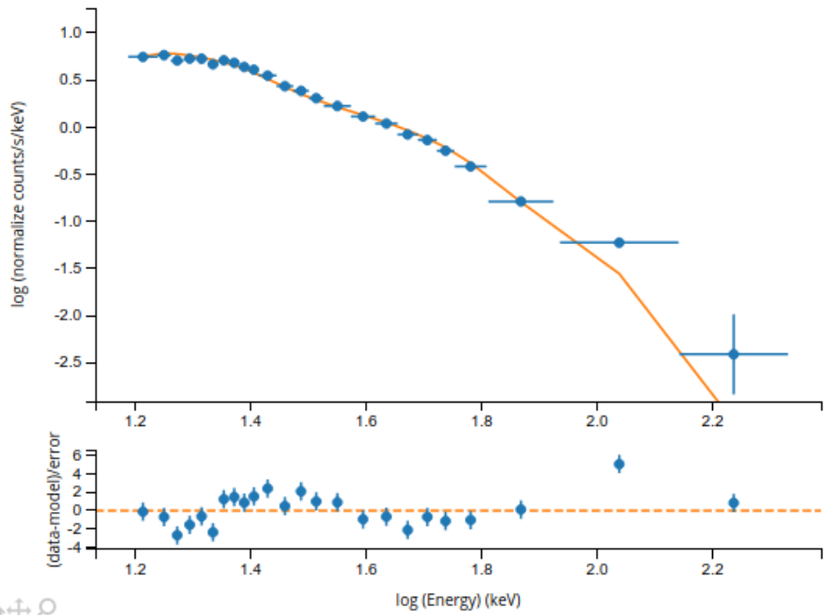
None

Exposure 3196.90050 (s)

Source : 4U 1700-377 - Spectrum 20.02.2018T14:49:45

Source : 4U 1700-377 - Spectrum 20.02.2018T15:56:35

Download



Exposure 2399.275146 (s)

Fit report for model cutoffpl

Component	Par name	Value	Units	Error
cutoffpl	PhoIndex	0.87277		0.14247
cutoffpl	HighECut	22.76041	keV	2.21796
cutoffpl	norm	0.18456		0.07022

dof 51

Chi-squared 108.38470

Chi-squared red. 2.12519

20.02

Light curve

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INTEGRAL ISGRI | INTEGRAL JEM-X | MOCK instrument

Instrument query parameters :

Radius

25

Use Science Windows - ScWs

No List File

Maximum number of ScWs is 50.

ScWs List

005100410010.001,005100420010.001

Energy Min *

25.0

The minimum of the energy band.

Energy Max *

40.0

The maximum of the energy band.

Query Type

Real

Select query type

Detection Threshold

5.0

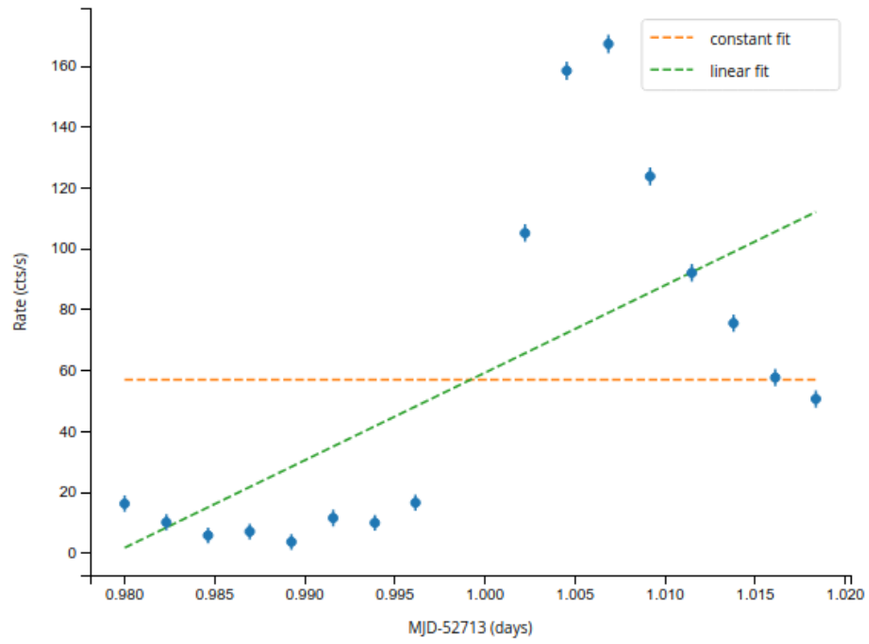
Output catalog significance threshold

Source : 4U 1700-377 - isgri_lc 20.02.2018T15:23:02

Download

ScWs List Copy :

005100410010.001, 005100420010.001



None

Exposure 3196.90050 (s)

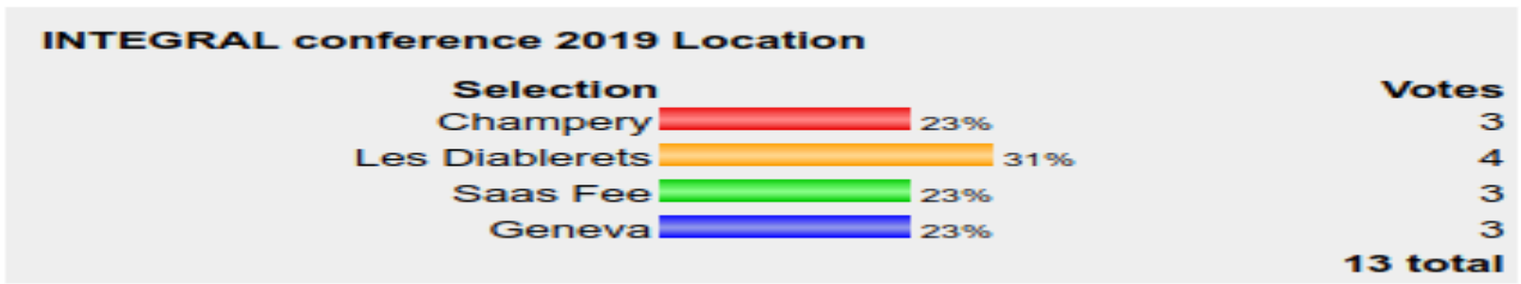
Constant fit
flux level 57.06709
dof 15
Chi-squared red. 398.63771

Linear fit
slope 2874.56787

INTEGRAL conference 2019

- Decided to postpone it to January 2019 in Switzerland to have some results from LVC O3
- Co-organized AHEAD workshop on future gamma-ray missions (one day)
- If on mountains, we can make a morning and late afternoon sessions to allow for ski break (Monday afternoon to Friday morning 3 full days)
- Locations (estimated fee 400 CHF, except Geneva):
  - Geneva, close to airport, conference at University, 200 CHF fee
  - Les Diablerets: 2,5 hours from Geneva airport, 1100 m.sl. (only 14 January slot)
  - Champery: 2,5 hours from Geneva airport, 1100 m.sl.
  - Saas Fee: 3.5 hours from Geneva airport, 1600 m.s.l. (no cars)
  - Murren: 4 hours from Geneva airport (3 Zurich), 1800 m.s.l. (no cars)

  Positive course outcome
- Hotels are 100 CHF/night, train from Geneva from 100 to 200 CHF return ticket.



Locations


19/02/2018 16:36:56
Saas-Fee
23h ago - 16:39
Saas-Fee


Murren
Heute, 13:16


Les Diablerets
cached 2018/02/20 4:03PM CET


CHAMPÉRY - VILLAGE
www.idelec.ch / www.champery.ch
le 20.02.2018 - 16h35:01