

The GTC Archive. Status Report



First release: Nov 2011
Public and private data



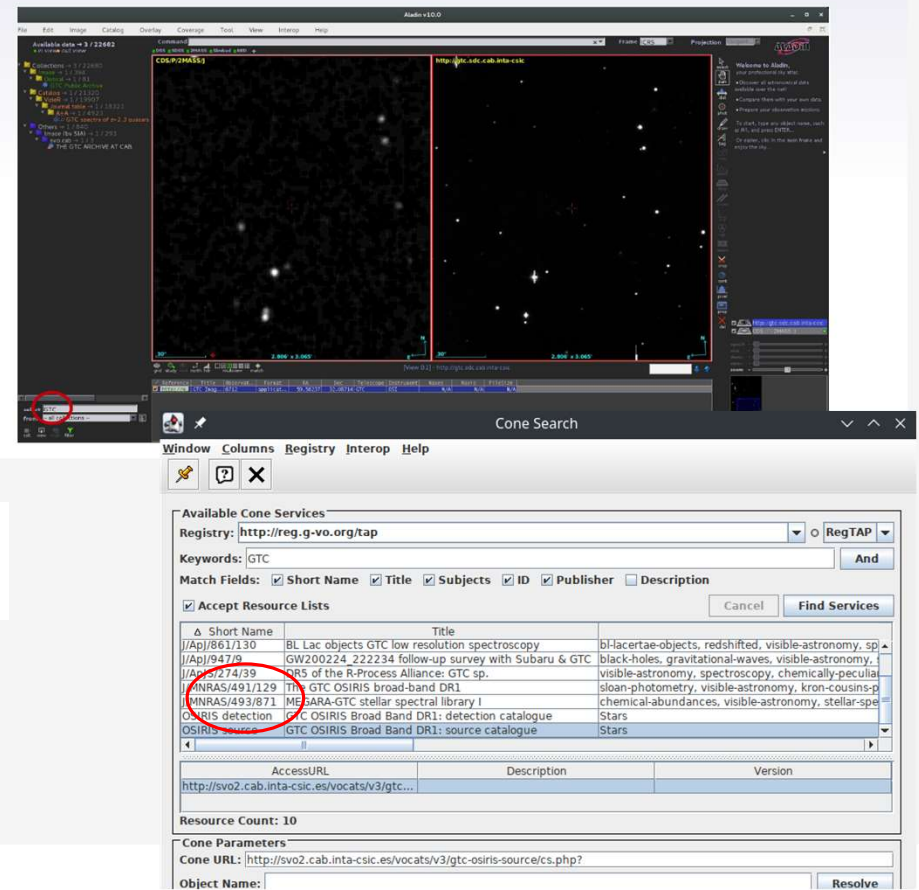
Enrique Solano

The GTC archive: Web and VO access

The GTC Archive: Web access



The GTC Archive: VO access



Archive contents (raw science files)

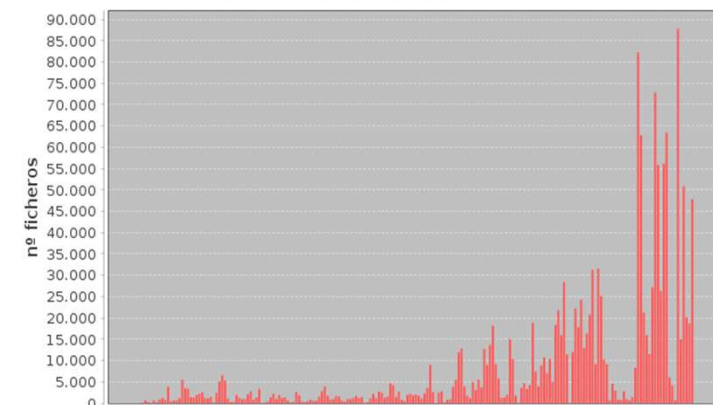
Instrument	Raw science files (Δ)
EMIR	1 440 856 (+215 964)
OSIRIS	217 458 (+9 740)
MEGARA	18 921 (+1592)
HIPERCAM	1 274 (+392)
CIRCE	8 808 (+0)
CANARICAM	1 797 (+0)
HORUS	1 728 (+0)

1 690 842 (+ 228 711) raw science files

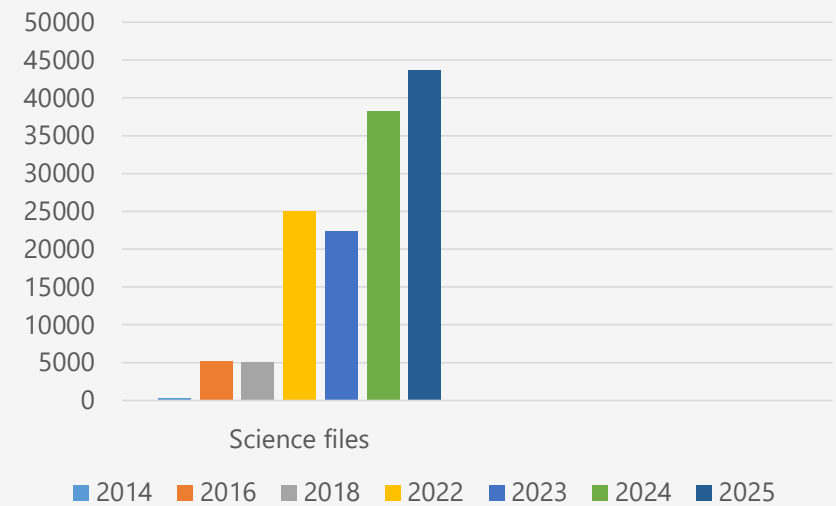
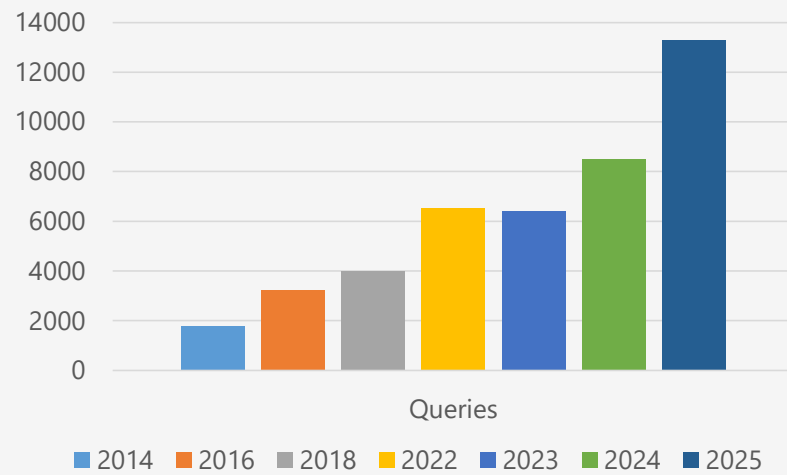
Between:

And:

Histograma datos GTC



Usage statistics



ADPs (Advanced Data Products)



Gran Telescopio CANARIAS
Observatorio del Roque de los Muchachos
La Palma

(solo en Inglés)

[HOME](#) [GRANTECAN](#) [INSTRUMENTS](#) [OBSERVING](#) [NEWS](#) [OUTREACH](#)

[Phase-2 access](#)

[User feedback](#)

[Observing calendar](#)

[Web cameras](#)

[Data archive](#)

Data reduction



The advanced data products (ADP) at GTC are prepared using automated data reduction pipelines and delivered with the raw data and calibration files to the users. The files are easily recognized by all having the prefix ADP_. Below we list and describe the products for the different instruments and modes that are currently being delivered. The data reduction pipelines are continuously being updated and optimized with pipelines for other modes and instruments also in development. We will inform of relevant news and changes on this webpage. Papers describing the pipelines developed at GTC are also being produced. When published they will be linked here and users will be requested to please reference those papers.

DISCLAIMER: Due to the very varied nature of observations at GTC on the one hand and the automatization of the data reduction process on the other, **GRANTECAN does not guarantee the science readiness of the advanced data products**. In particular absolute calibrations (such as flux calibrations) should always be viewed with caution. There will also be special cases, where the observations does not follow the standard setup and/or workflow of an instrument, and thus the data will not be able to be reduced with the automatic system.

NEWS

July 2026: First deliveries of reduced data for EMIR long slit spectroscopy.

Semester 2025B: First deliveries of EMIR imaging reduced data.

Semester 2025A: Implementation of **DRAGO**, *Data Reduction and Analysis for GTC Operations*. First official deliveries of OSIRIS+ BBI and LSS reduced data.

ADPs (Advanced Data Products)

- Modifications in the ingestion and QC system

```
[esm@spock OB0006]$ ls
adp  bias  GTCMULTIPLE2E-25A_0006_night_report.pdf  object
arc  flat  GTCMULTIPLE2E-25A_0006_qc.txt             stds
[esm@spock OB0006]$ cd adp
[esm@spock adp]$ ls
ADP_0005252322-20250520-OSIRIS-LSS_1d_flux.fits
ADP_0005252322-20250520-OSIRIS-LSS_2d.fits.gz
ADP_0005252323-20250520-OSIRIS-LSS_1d_flux.fits.gz
ADP_0005252323-20250520-OSIRIS-LSS_2d.fits.gz
ADP_0005252324-20250520-OSIRIS-LSS_1d_flux.fits.gz
ADP_0005252324-20250520-OSIRIS-LSS_2d.fits
ADP_0005252325-20250520-OSIRIS-LSS_1d_flux.fits.gz
ADP_0005252325-20250520-OSIRIS-LSS_2d.fits.gz
ADP_0005252348-20250520-OSIRIS-LSS_1d_STD.fits
ADP_0005252348-20250520-OSIRIS-LSS_2d_STD.fits.gz
ADP_0005252349-20250520-OSIRIS-LSS_1d_STD.fits.gz
ADP_0005252349-20250520-OSIRIS-LSS_2d_STD.fits.gz
ADP_GTCMULTIPLE2E-25A-0006_R2500R_1d_flux.fits
ADP_GTCMULTIPLE2E-25A-0006_R2500V_1d_flux.fits
```

Bug detection and fixing
on both sides.

OSIRIS LSS



GTC Public Archive

Login Not logged

7123 Products found matching your criteria

Download selected in zip format

Page 1 of 72 Next New Search

Prod ID	Program ID	PI	O.Block	Object	RA (deg) J2000	DEC (deg) J2000	RAJ2000 (hh:mm:ss.ss)	DECJ2000 (dd:mm:ss.s)	Instr.	Obs. Mode	Init.Time	End Time	Exptime (s)	Airmass	Pub	Reduced Data			
																User Reduced Data ?	GTC Reduced Data ?	View Reduced Data	
5608719	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.59049	37.52982	02:26:21.72	37:31:47.4	OSIRIS	LSS?	2025-09-07 05:40:55.0	2025-09-07 05:50:55.0	600	1.04				View	Fetch
5608718	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.59024	37.52705	02:26:21.66	37:31:37.4	OSIRIS	LSS?	2025-09-07 05:30:19.0	2025-09-07 05:40:19.0	600	1.03				View	Fetch
5608717	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.58976	37.52152	02:26:21.54	37:31:17.5	OSIRIS	LSS?	2025-09-07 05:19:48.0	2025-09-07 05:29:48.0	600	1.03				View	Fetch
5608716	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.59000	37.52429	02:26:21.60	37:31:27.4	OSIRIS	LSS?	2025-09-07 05:09:12.0	2025-09-07 05:19:12.0	600	1.02				View	Fetch
5608715	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.59037	37.52844	02:26:21.69	37:31:42.4	OSIRIS	LSS?	2025-09-07 04:58:04.0	2025-09-07 05:08:04.0	600	1.02				View	Fetch
5608714	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.58988	37.52290	02:26:21.57	37:31:22.4	OSIRIS	LSS?	2025-09-07 04:47:33.0	2025-09-07 04:57:33.0	600	1.01				View	Fetch
5608713	GTC2-25ITP?	Peter Gustaaf Jonker	0003	EP250827b	36.59012	37.52567	02:26:21.63	37:31:32.4	OSIRIS	LSS?	2025-09-07 04:36:57.0	2025-09-07 04:46:57.0	600	1.01				View	Fetch
5601433	GTCB-25B?	Enrique Miguel Garcia Zamora	0004	30420+6450	65.20750	64.85703	04:20:49.80	64:51:25.3	OSIRIS	LSS?	2025-09-06 05:25:01.0	2025-09-06 05:31:02.0	900	1.26				View	Fetch
									OSIRIS	LSS?	2025-09-06 04:48:12.0	2025-09-06 05:00:53.0	1361	1.58				View	Fetch
									OSIRIS	LSS?	2025-09-06 04:26:30.0	2025-09-06 04:41:30.0	900	1.16				View	Fetch

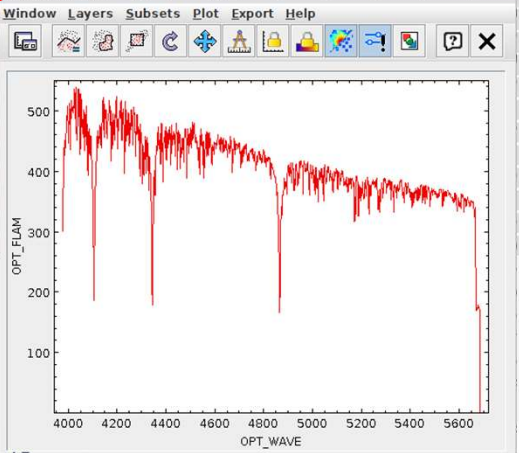
Program ID: GTC2-25ITP
ObsBlock ID: 0003
Instrument: OSIRIS

Observing block QLA files

File	Mode	Type	
ADP_0005608725-20250906-OSIRIS-LSS_2d_STD.fits.gz	LSS?	ADP_LSS2DSTD	Fetch
ADP_0005608724-20250906-OSIRIS-LSS_2d_STD.fits.gz	LSS?	ADP_LSS2DSTD	Fetch
ADP_GTC2-25ITP-0003_R1000R_1d_flux.fits.gz	LSS?	ADP_STACK	Fetch
ADP_GTC2-25ITP-0003_R1000B_1d_flux.fits.gz	LSS?	ADP_STACK	Fetch
ADP_0005608725-20250906-OSIRIS-LSS_1d_STD.fits.gz	LSS?	ADP_LSS1DSTD	Fetch
ADP_0005608724-20250906-OSIRIS-LSS_1d_STD.fits.gz	LSS?	ADP_LSS1DSTD	Fetch

QLA Products

File	Mode	Type	Init. Time	End Time		
ADP_0005608719-20250906-OSIRIS-LSS_1d_flux.fits.gz	LSS?	RSPEC1D	2025-09-07 05:40:55.0	2025-09-07 05:50:55.0	Header	Fetch
ADP_0005608719-20250906-OSIRIS-LSS_2d_flux.fits.gz	LSS?	RSPEC2D	2025-09-07 05:40:55.0	2025-09-07 05:50:55.0	Header	Fetch



EMIR/BBI



321 Products found matching your criteria

Download selected in zip format

Page 1 of 4

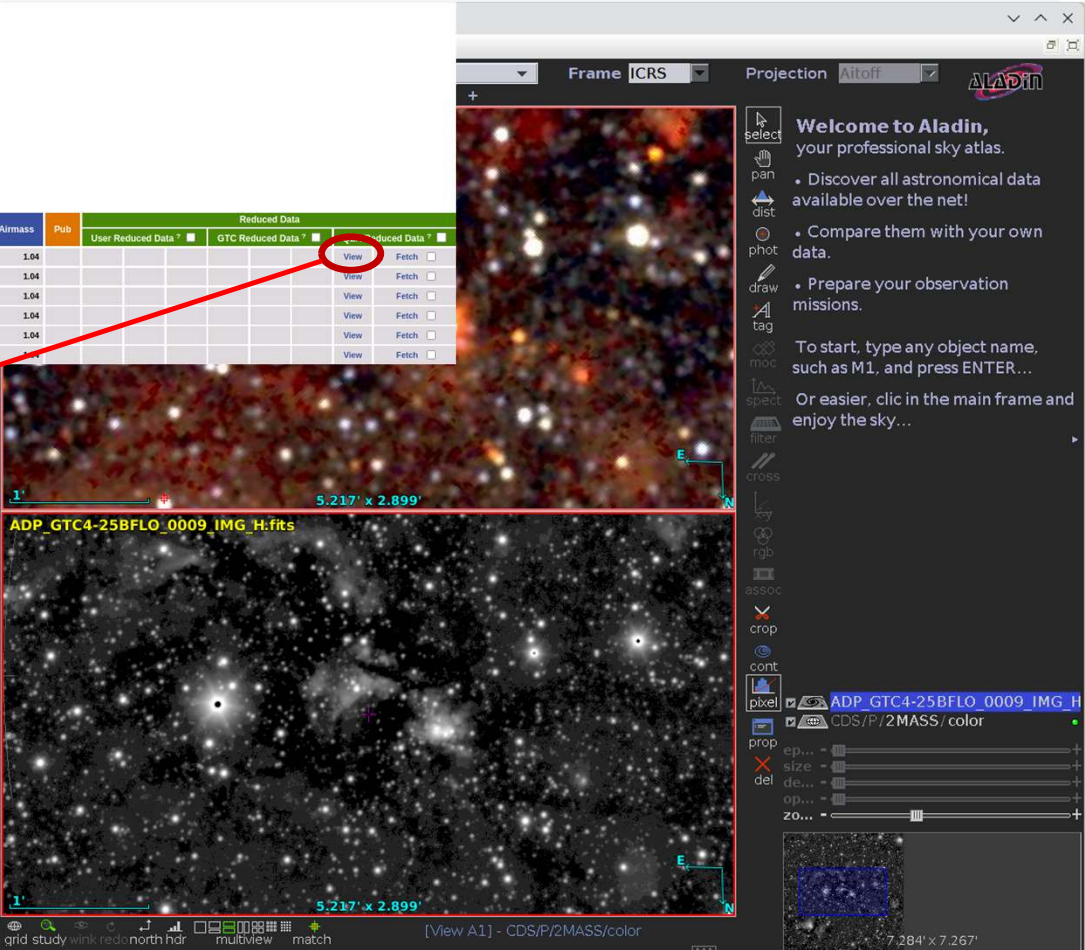
Prod ID	Program ID	PI	O.Block	Object	RA (deg) J2000	DEC (deg) J2000	RAJ2000 (hh:mm:ss.ss)	DECJ2000 (dd:mm:ss.ss)	Instr.	Obs. Mode	Init.Time	End Time	Exptime (s)	Airmass	Pub	Reduced Data			
																User Reduced Data	GTC Reduced Data	Reduced Data	
5581211	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:10:03.9	2025-09-04 22:10:08.9	5	1.04				View	Fetch
5581206	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:09:56.0	2025-09-04 22:10:01.0	5	1.04				View	Fetch
5581201	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:09:48.1	2025-09-04 22:09:53.1	5	1.04				View	Fetch
5581196	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:09:40.1	2025-09-04 22:09:45.1	5	1.04				View	Fetch
5581191	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:09:32.2	2025-09-04 22:09:37.2	5	1.04				View	Fetch
5581186	GTC4-25BFLO?	Adam Ginsburg	0009	WS1MainIRS2broad	290.92681	14.51478	19:23:42.43	14:30:53.2	EMIR	BBI?	2025-09-04 22:09:24.2	2025-09-04 22:09:29.2	5					View	Fetch

Program ID: GTC4-25BFLO
ObsBlock ID: 0009
Instrument: EMIR

Observing block QLA files

File	Mode	Type	
ADP_GTC4-25BFLO_0009_IMG_H.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTC4-25BFLO_0009_IMG_Y.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTC4-25BFLO_0009_IMG_Ks.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTC4-25BFLO_0009_IMG_J.fits.gz	BBI?	ADP_STACK	Fetch

No products found.



OSIRIS/BBI



Program ID: GTCMULTIPLE7B-25A
ObsBlock ID: 0049
Instrument: OSIRIS

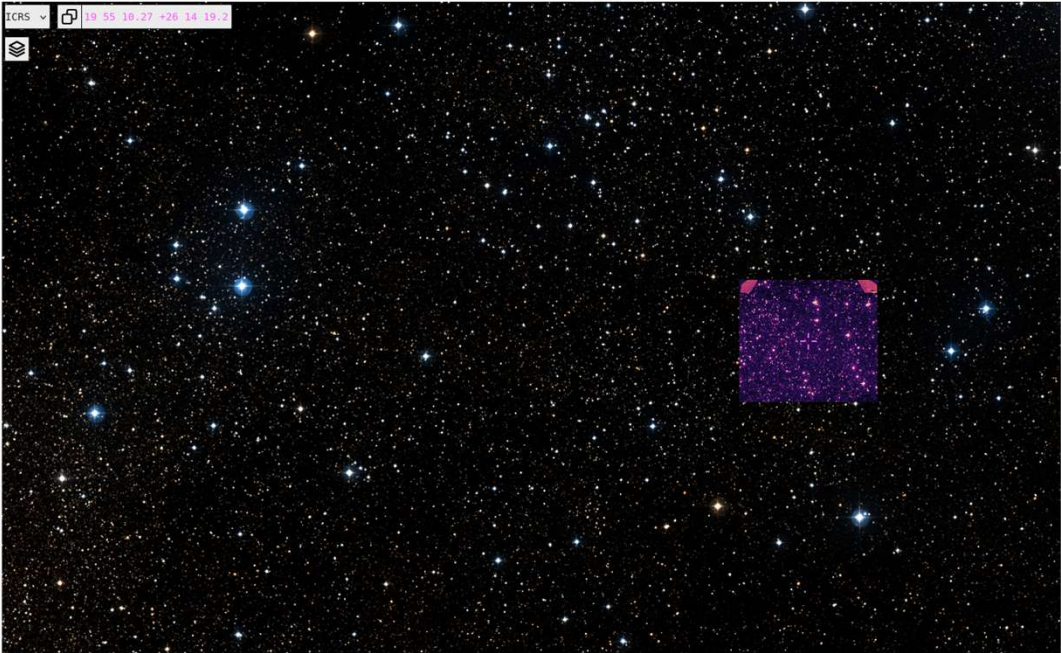
Observing block QLA files

File	Mode	Type	
GTCMULTIPLE7B-25A_0049_Sloan_z_20250830_SKY_BBI.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTCMULTIPLE7B-25A_0049_IMG_Sloan_g.fits.gz	BBI?	ADP_STACK	Fetch
GTCMULTIPLE7B-25A_0049_Sloan_i_20250830_SKY_BBI.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTCMULTIPLE7B-25A_0049_IMG_Sloan_i.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTCMULTIPLE7B-25A_0049_IMG_Sloan_r.fits.gz	BBI?	ADP_STACK	Fetch
GTCMULTIPLE7B-25A_0049_Sloan_g_20250830_SKY_BBI.fits.gz	BBI?	ADP_STACK	Fetch
GTCMULTIPLE7B-25A_0049_Sloan_r_20250830_SKY_BBI.fits.gz	BBI?	ADP_STACK	Fetch
ADP_GTCMULTIPLE7B-25A_0049_IMG_Sloan_z.fits.gz	BBI?	ADP_STACK	Fetch

QLA Products

File	Mode	Type	Init. Time	End Time	Header	Preview	Fetch
ADP_0005562520-20250830-OSIRIS-IMG.fits.gz	BBI?	RIMG	2025-08-30 23:45:46.0	2025-08-30 23:46:46.0			

Image preview GTCMULTIPLE7B-25A..0049..305562520



In progress: TAP (Table Access Protocol)

- Poor scalability for programmes with a lot of data:

Search by Program:

Program ID: % character may be used as wildcard.
Type "%ESO%" for ESO-GTC Large Programmes

Program PI: Smart % character may be used as wildcard.

Obs. Block:

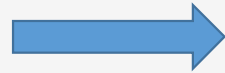
GTC Programmes: Large

Order:

Order by: Observing Date

Pages:

Results per page: 100 Page show: to 1



GTC Public Archive

13623 Products found matching your criteria

Download selected in zip format

Page 1 of 137 Next » New Search

- The interface only shows a limited number of entries per page (max. 100), forcing users to click through even hundreds of pages to view all results.
- This makes the process extremely tedious and, sometimes, impossible.
- These limitations waste researchers' time and introduce barriers to data analysis

In progress: TAP (Table Access Protocol)

Dear,

I'm trying to download some GTC-EMIR data from one of my programs. After searching for program GTCXXX, with myself as PI and specifying OBXXX, I get a list with over 1300 entries.

However, it seems impossible to download the data efficiently, as I would need to manually check each file across multiple pages.

Is there an alternative way to download all the data at once?

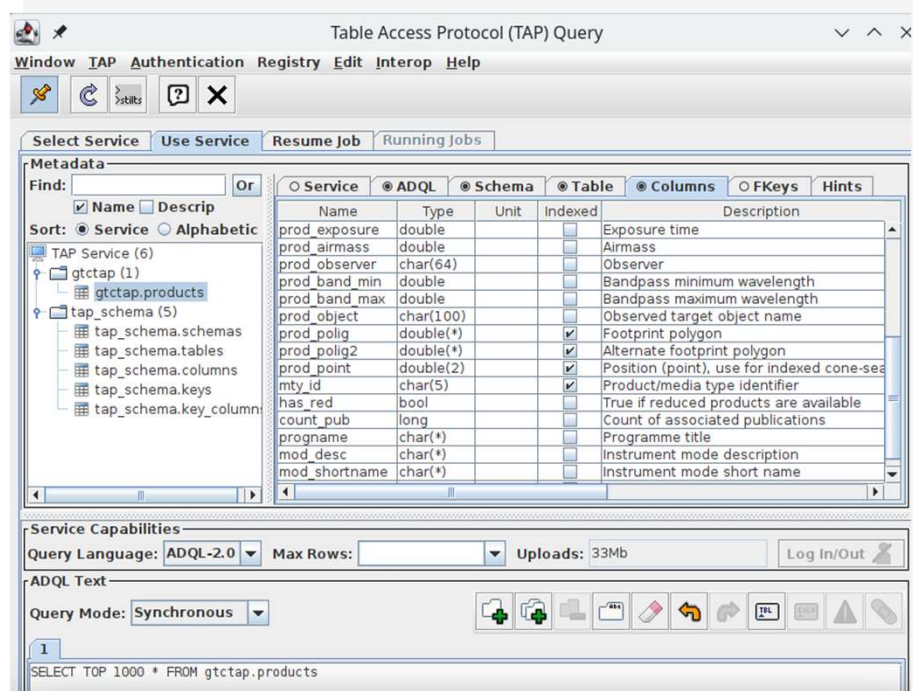
Dear Enrique/GTC Support,

Would it be possible to get the further observations that have been taken since I last got data? If you recall it is quite difficult with the current interface as I am only get 100 at a time. Right now it looks like there are 11K images.

In progress: TAP (Table Access Protocol)

- [Support for Asynchronous Queries](#): TAP supports asynchronous mode, useful for long-running queries. You can submit a heavy query, disconnect, and download the results once ready. On the contrary, web form requires keeping the session open; long queries often time out or fail.
- [Automation and Scripting](#): TAP can be accessed via scripts (e.g., using pyvo in Python), allowing full automation of data access and downloading.
- [Interoperability with VO Tools](#): TAP is a VO standard and works seamlessly with VO tools. You can, for instance, load data from a TAP service directly into TOPCAT for cross-matching with other catalogs.
- [More Complex Queries](#) (Using ADQL)

In progress: TAP (Table Access Protocol)



Next step: Datalink

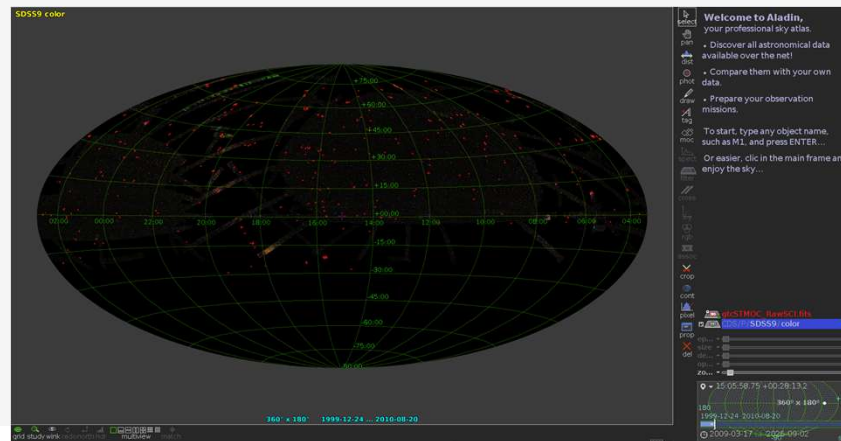
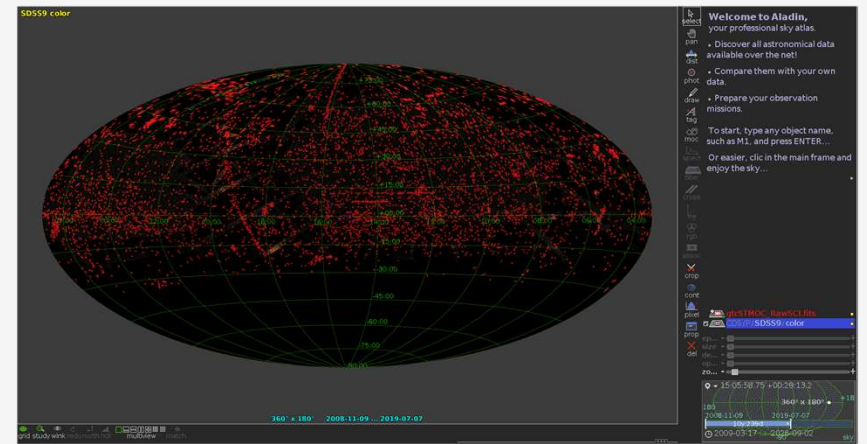
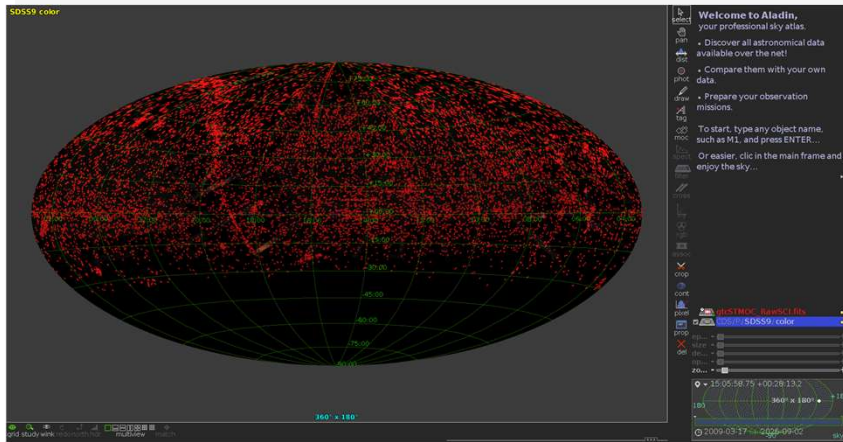
Public Data only

The screenshot shows the 'TOPCAT(28): Table Browser' window. The table 'Table Browser for 28: TAP_2_gtctap.products' is displayed. The table has columns: 'prog_id', 'obl_id', 'prod_id', 'ins_id', 'mod_id', 'subj_id', and 'prod_filename'. The data is sorted by 'prod_filename' in ascending order. The table contains 17 rows of data, showing various astronomical observations and their associated files.

	prog_id	obl_id	prod_id	ins_id	mod_id	subj_id	prod_filename
1	GTC15-21A	0012C	2896348	EMIR	NBI	NBI	0002896348-20210330...IMAGE_SKY_raw.fits.gz
2	GTC15-21A	0012C	2896406	EMIR	NBI	NBI	0002896406-20210330...RE_IMAGE_SKY_raw.fits.gz
3	GTC15-21A	0012C	2896461	EMIR	NBI	NBI	0002896461-20210330...IMAGE_SKY_raw.fits.gz
4	GTC15-21A	0012C	2896219	EMIR	NBI	NBI	0002896219-20210330...RE_IMAGE_SKY_raw.fits.gz
5	GTC15-21A	0012C	2895744	EMIR	BBI	BBI	0002895744-20210330...IMAGE_SKY_raw.fits.gz
6	GTC15-21A	0012C	2896202	EMIR	NBI	NBI	0002896202-20210330...RE_IMAGE_SKY_raw.fits.gz
7	GTC15-21A	0012C	2896477	EMIR	NBI	NBI	0002896477-20210330...RE_IMAGE_SKY_raw.fits.gz
8	GTC2-21AFLO	0012C	3095058	EMIR	SPE	SPE	0003095058-2021082...E_SPECTRA_raw.fits.gz
9	GTC15-21A	0012C	2896068	EMIR	NBI	NBI	0002896068-20210330...IMAGE_SKY_raw.fits.gz
10	GTC15-21A	0012C	2895998	EMIR	NBI	NBI	0002895998-20210330...IMAGE_SKY_raw.fits.gz
11	GTC15-21A	0012C	2897078	EMIR	NBI	NBI	0002897078-20210330...RE_IMAGE_SKY_raw.fits.gz
12	GTC15-21A	0012C	2896914	EMIR	NBI	NBI	0002896914-20210330...IMAGE_SKY_raw.fits.gz
13	GTC15-21A	0012C	2895995	EMIR	NBI	NBI	0002895995-20210330...IMAGE_SKY_raw.fits.gz
14	GTC15-21A	0012C	2896871	EMIR	NBI	NBI	0002896871-20210330...RE_IMAGE_SKY_raw.fits.gz
15	GTC15-21A	0012C	2897043	EMIR	NBI	NBI	0002897043-20210330...IMAGE_SKY_raw.fits.gz
16	GTC15-21A	0012C	2896173	EMIR	NBI	NBI	0002896173-20210330...IMAGE_SKY_raw.fits.gz
17	GTC15-21A	0012C	2896277	EMIR	NBI	NBI	0002896277-20210330...IMAGE_SKY_raw.fits.gz

Total: 1,000 Visible: 1,000 Selected: 0

MOCs & STMOCs



Other improvements

- **Main search optimization:** Optimization of database indexes. The search is now **much faster**.
- **Database simplification:** We simplified the database structure by removing unused tables and relationships
- **Memory leak fixes:** We fixed memory leaks that could occasionally cause the web application to crash.
- **HIPERCAM FITS file ingestion.** Only the primary header is analysed Performance improvement: header reading for a 10 GB test file was reduced from ~140 s to ~0.2 s.
- **Health monitoring:** Continuous monitoring and automatic alerts when the archive is unavailable or not responding.

