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# The GTC Archive: Present status and future implementations

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# The GTC Archive



**GTC Archive**

The Gran Telescopio CANARIAS Archive

This data server provides access to the GTC Archive. The **Gran Telescopio CANARIAS (GTC)**, is a 10.4m telescope with a segmented primary mirror. It is located in one of the top astronomical sites in the Northern Hemisphere: the Observatorio del Roque de los Muchachos (ORM, La Palma, Canary Islands). The GTC is a Spanish initiative led by the Instituto de Astrofísica de Canarias (IAC). The project also includes the participation of Mexico (Instituto de Astronomía de la Universidad Nacional Autónoma de México (IA-UNAM) and Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE )) and the US (University of Florida (UFL)). The project is actively supported by the Spanish Government and the Local Government from the Canary Islands through the European Funds for Regional Development (FEDER) provided by the European Union.

**Resources**

- Archive search and data retrieval
- Upload reduced data
- Change your password

- <http://gtc.sdc.cab.inta-csic.es/gtc/>
- First release: Nov 2011
- Raw data

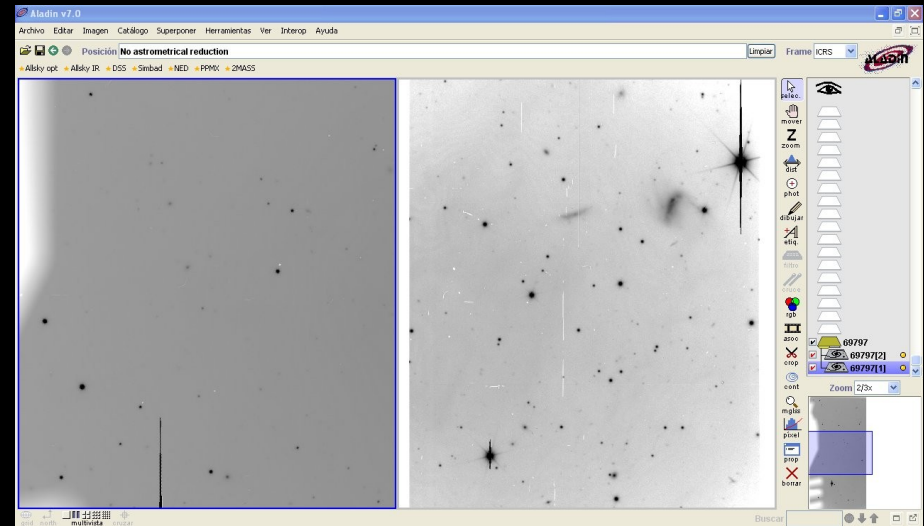
Raw Data			Cal. Files		Acq. Images		QC Files	
Header	Preview	Fetch	View	Fetch	View	Fetch		
Header	Preview	Fetch	View	Fetch	View	Fetch		



**GTC Archive**

```

Header listing for HDU #0:
SIMPLE = T / file does conform to FITS standard
BITPIX = 16 / number of bits per data pixel
NAXIS = 0 / number of data axes
EXTEND = T / FITS dataset may contain extensions
COMMENT FITS (Flexible Image Transport System) format is defined in 'Astronomy
COMMENT and Astrophysics', volume 376, page 359; bibcode: 2001A&A...376..359H
BZERO = 32768 / offset data range to that of unsigned short
BSCALE = 1 / default scaling factor
FILENAME= 'Feb25_234423.fits' / Filename
DATE = '2010-02-25T23:44:24' / file creation date (YYYY-MM-DDThh:mm:ss UT)
INHERIT = T / inherit keyword
INSTRUME= 'OSIRIS ' / Instrument Name
DETECTOR= 'E2V CCD44_82_BI' / Detectors Model
DETSIZE = '[1:4096,1:4102]' / Maximum Imaging Pixel Area
OBSTYPE = 'OBSTYPE ' / To be done
OBSERVER= 'OBSERVER' / To be done
SEQUENCE= 'SIMPLE ' / Basic sequence mode
    
```



Aladin v7.0

Archivo Editar Imagen Catálogo Superponer Herramientas Ver Interop Ayuda

Posición No astronomical reduction

Alkyly opt Alkyly IR DSS Simbad NED PPMXL 2MASX

Zoom 23x

# Present status: Archive contents

## OSIRIS

Mode	Sci. Files					
	Raw Files		Red. Files		Cal. Files	
OsirisBroadBandImage	11556	69 GB	1063	14 GB	9666	75 GB
OsirisLongSlitSpectroscopy	6647	28 GB	8	0 GB	26394	127 GB
OsirisTunableFilters	16366	38 GB	3647	9 GB	19837	95 GB
Total	34569	135 GB	4718	23 GB	55897	297 GB

- First CanariCam OB's not public (ESO)
- First public OB: GTC27-12A OB0004 (to be transferred in July'13)

# Present status: Usage statistics

## Queries to the archive:

Jan-Jun  
2012

WEB	VO	Number of hosts
330	0	123

## Download information:

WEB	VO	Number of hosts	Number of files	MB
65	0	33	613	4601

istics:

## Queries to the archive:

Jan-Jun  
2013

WEB	VO	Number of hosts
917	0	101

## Download information:

WEB	VO	Number of hosts	Number of files	MB
82	0	20	1466	10932

# New data: Reduced data

## Benefits

- Facilitates the scientific exploitation of GTC data.
  - Enhances the value of the archive.
  - Provides a higher visibility of scientific results.
- 
- ✓ **ADS: refereed papers (keyword in the abstract):**
    - SDSS : 3470
    - 2MASS: 1569
    - WISE: 223
    - UKIDSS: 179
  - OSIRIS: No batch mode for bulk processing
  - CANARICAM: Not foreseen
  - Future instrum. (EMIR, MEGARA, FRIDA,...): Foreseen

# I.- Reduced data: Search in the bibliography



ADS Labs  
Fulltext Search



Home

Labs Home

ADS Classic

Help

## Limit your search

- ▶ Author
- ▶ Journal Abbreviation
- ▶ Keyword
- ▶ Publication Year
- ▶ Refereed Status
- ▶ Facility/Instrument
- ▶ Database

## Welcome to ADSLabs Fulltext Service!

This interface allows users to search the collection of electronic fulltext papers indexed in the [ADS](#). It provides an exhaustive search solution useful for locating mentions of specific terms in the body of papers indexed in our fulltext archive, rather than just [their abstracts](#). While not all of ADS's bibliographic records are currently covered by this service, it does cover the major astronomy journals, as well as physics journals published by Springer, Elsevier, the American Physical Society, and the American Geophysical Union, as well as all of the [arXiv eprints](#). For more information view the [help page](#).

Refereed Only |  Disable Synonyms |  Journal Abbreviation(s)

- ❑ A&A, AJ, ApJ, MNRAS, Nature, Science
- ❑ GTC, “Gran Telescopio Canarias”, “Gran Telescopio de Canarias”

# II.- Reduced data: Tracking

## The Gran Telescopio CANARIAS Archive -Private zone-

Número total de bibcodes:	46
Número de estados:	
Usuario contactado via email:	20
Proceso terminado. Usuario no acepta subir datos:	2
Usuario acepta subir datos:	9
Proceso terminado. Usuario no responde:	0
Proceso terminado. Datos no subidos:	2
Proceso terminado. Datos subidos:	11

# III.- Reduced data: Ingestion

Data collection name: \*

Publication bibcode: \*

Reduction type: \*

Image:  Bias subtraction  Flatfield correction  Dark current subtraction

Other:

Spectrum:  Bias subtraction  Flatfield correction  Dark current subtraction  Wavelength calibration  Flux calibration

Other:

Description:

Data collection:

File (individual FITS or ZIP file containing several FITS files):

## GTC Archive: Reduced data upload

- 2 products have been ingested.
- 3 products have not been ingested due to the next reasons.

File	Status	Desc
ReducedData1.fits	ERROR	Could not find the RAW product corresponding to this reduced product.
ReducedData2.fits	EXISTS	Product already ingested.
ReducedData5.fits	ERROR	OPENTIME keyword does not exist. OPENTIME keyword is needed to find the corresponding RAW product.



# IV.- Reduced data: Availability in archive



**GTC Archive**

Logout Enrique Solano

2 Products found matching your criteria

Download selected in zip format

Page 1 of 1

Prod ID	Program ID	O.Block	RA (deg) J2000	DEC (deg) J2000	Instr.	Obs. Mode	Init.Time	End Time	Airmass	Pub	Reduc. Data <input type="checkbox"/>
85934	GTC4-10BIACMEX	0001	194.11476	25.99944	OSIRIS	LSS	2010-12-26 05:01:28.1	2010-12-26 05:06:28.5	1.24	2012A&A...538.123M	ADS View Fetch <input type="checkbox"/>
72085	GTC4-10BIACMEX	0002	49.58590	-0.36081	OSIRIS	LSS	2010-09-05 05:15:33.8	2010-09-05 05:20:34.2	1.15	2012A&A...538.123M	ADS View Fetch <input type="checkbox"/>

# Link to publications



**GTC Archive**

Logout Enrique Solano

3 Products found matching your criteria

Download selected in zip format

Page 1 of 1

Prod ID	Program ID	O.Block	RA (deg) J2000	DEC (deg) J2000	Instr.	Obs. Mode	Init.Time	End Time	Airmass	Pub	Reduc. Data
40116	GTC7-10AMEX	0002	219.80291	15.50472	OSIRIS	LSS	2010-05-21 02:40:55.9	2010-05-21 03:23:06.4	1.30	<a href="#">2013MNRAS.428..563H</a>	<input type="checkbox"/>
40114	GTC7-10AMEX	0001	219.80293	15.50482	OSIRIS	LSS	2010-05-21 01:53:21.0	2010-05-21 02:35:31.4	1.15	<a href="#">2013MNRAS.428..563H</a>	<input type="checkbox"/>
39697	GTC7-10AMEX	0001A	219.82389	15.48540	OSIRIS	LSS	2010-05-16 03:10:37.5	2010-05-16 03:52:47.9	1.60	<a href="#">2013MNRAS.428..563H</a>	<input type="checkbox"/>

# New functionalities. Footprints: The spatial distribution of GTC observations



*International*

*Virtual*

*Observatory*

*Alliance*

**MOC – HEALPix Multi-Order Coverage map**

**Version 1.0**

***IVOA Working Draft 14 Mar 2013***

# New functionalities. Footprints: The spatial distribution of GTC observations



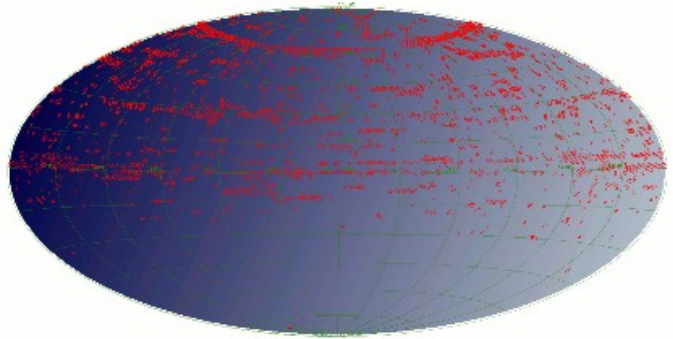
**GTC Archive**

AT SVO

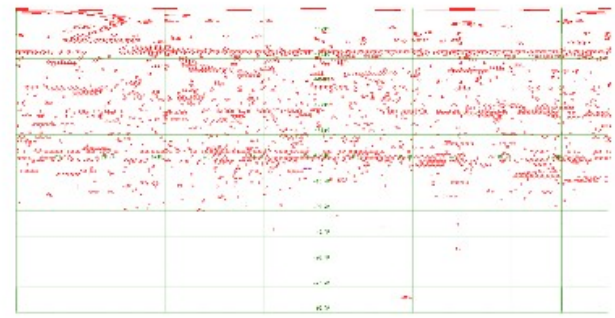
Login Not logged in

## GTC Archive: Search Form

GTC footprint MOC:



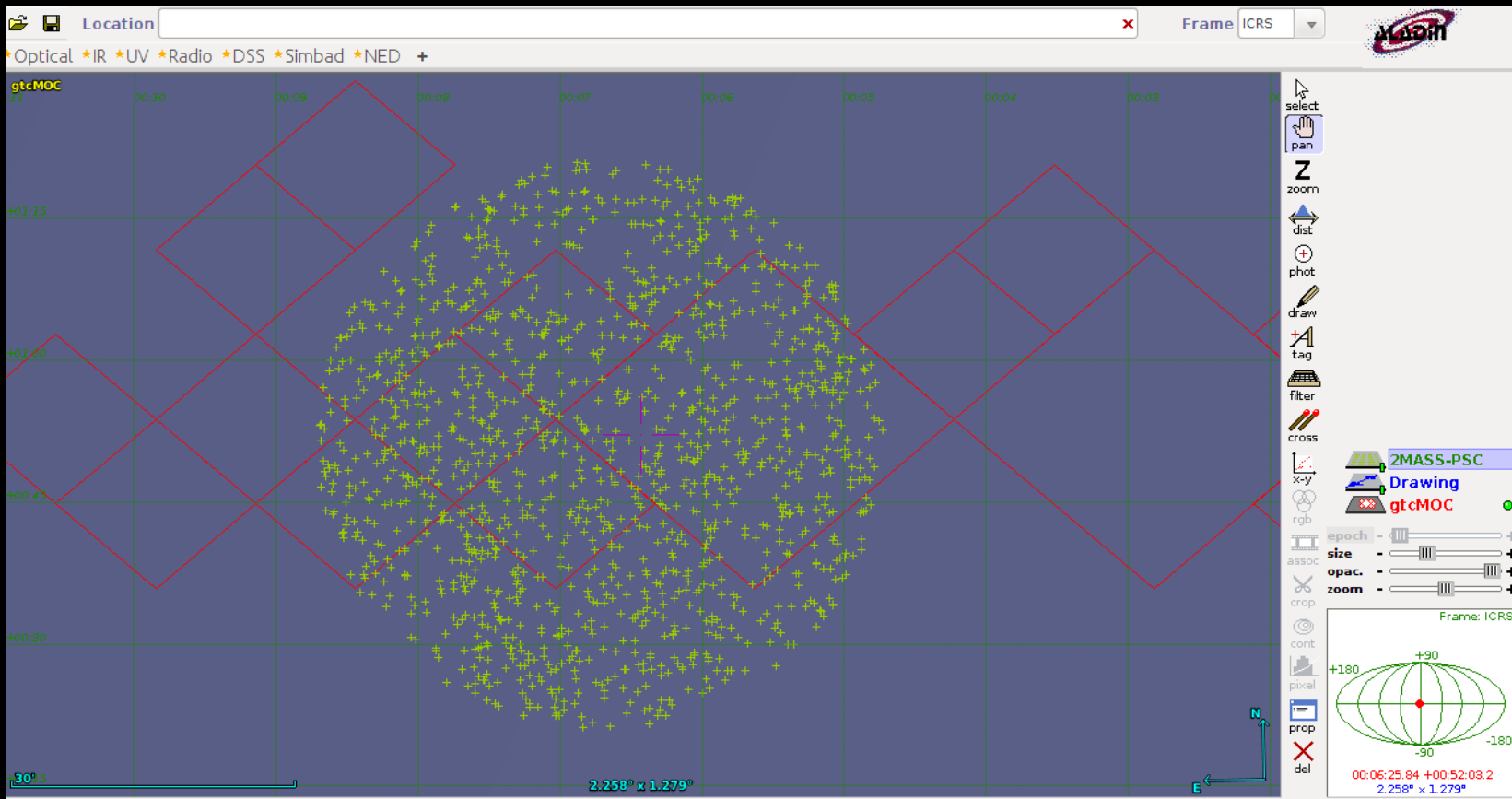
Aitoff (click to see an enlarged view)



Cartesian (click to see an enlarged view)

[View MOC in Aladin \(use Beta version of Aladin\)](#)  
[Download MOC](#)

# New functionalities. Footprints: The spatial distribution of GTC observations

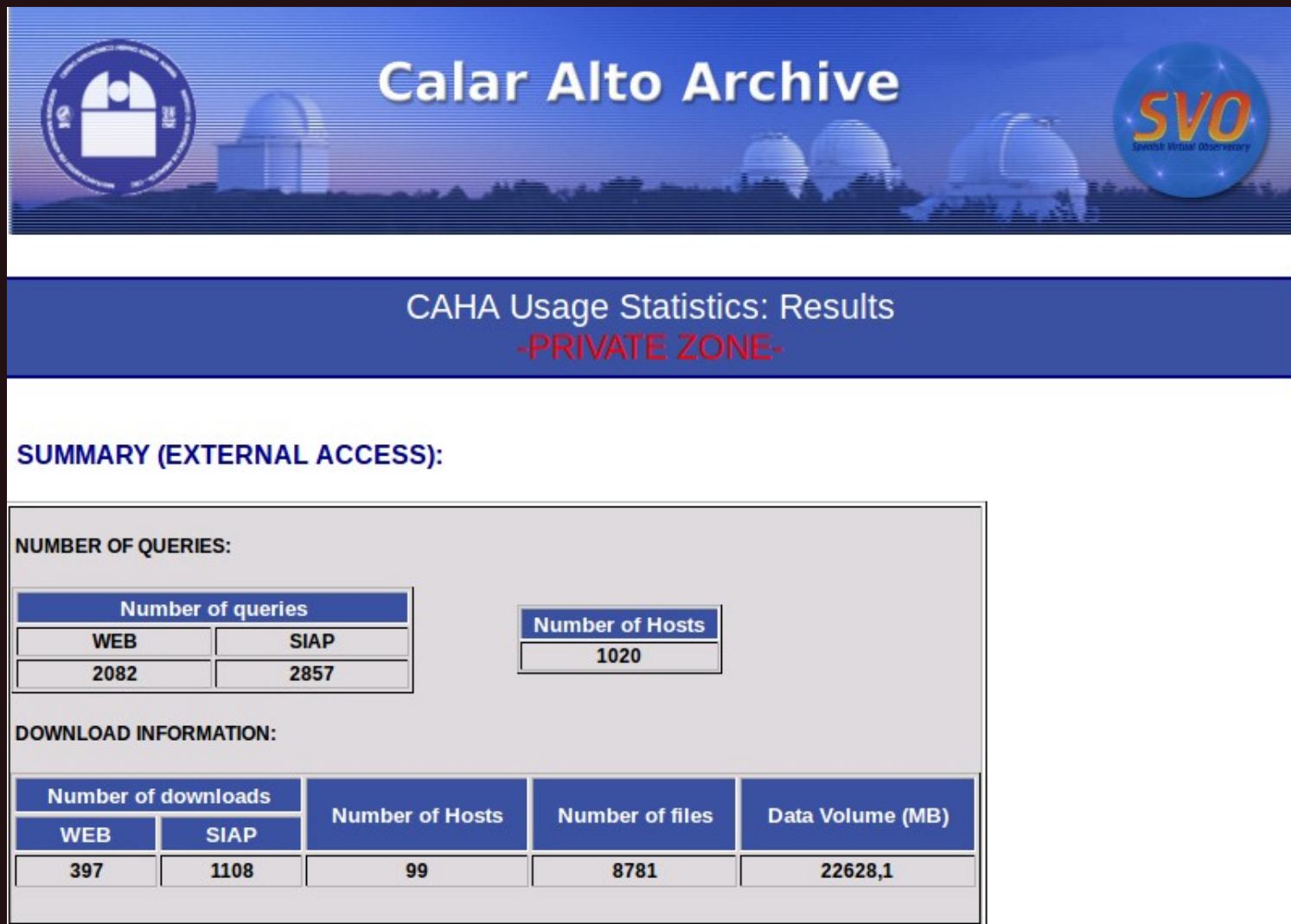


## What's next?

- ❑ Implementation of a service to query by a list of coordinates.



# Foreseen improvements: VO access protocols. SIAP and SSAP



# User's questionnaire



Spanish Virtual Observatory



[Home](#)   [SVO-LAEFF](#)   [Help Desk](#)   [User Menu](#)

## Encuesta GTC Junio 2013

The aim of this survey is to determine the degree of satisfaction of the users of the GTC Scientific Archive (<http://gtc.sdc.cab.inta-csic.es/gtc/>). It is not mandatory to answer all questions.

### \* How did you know about the GTC Archive?

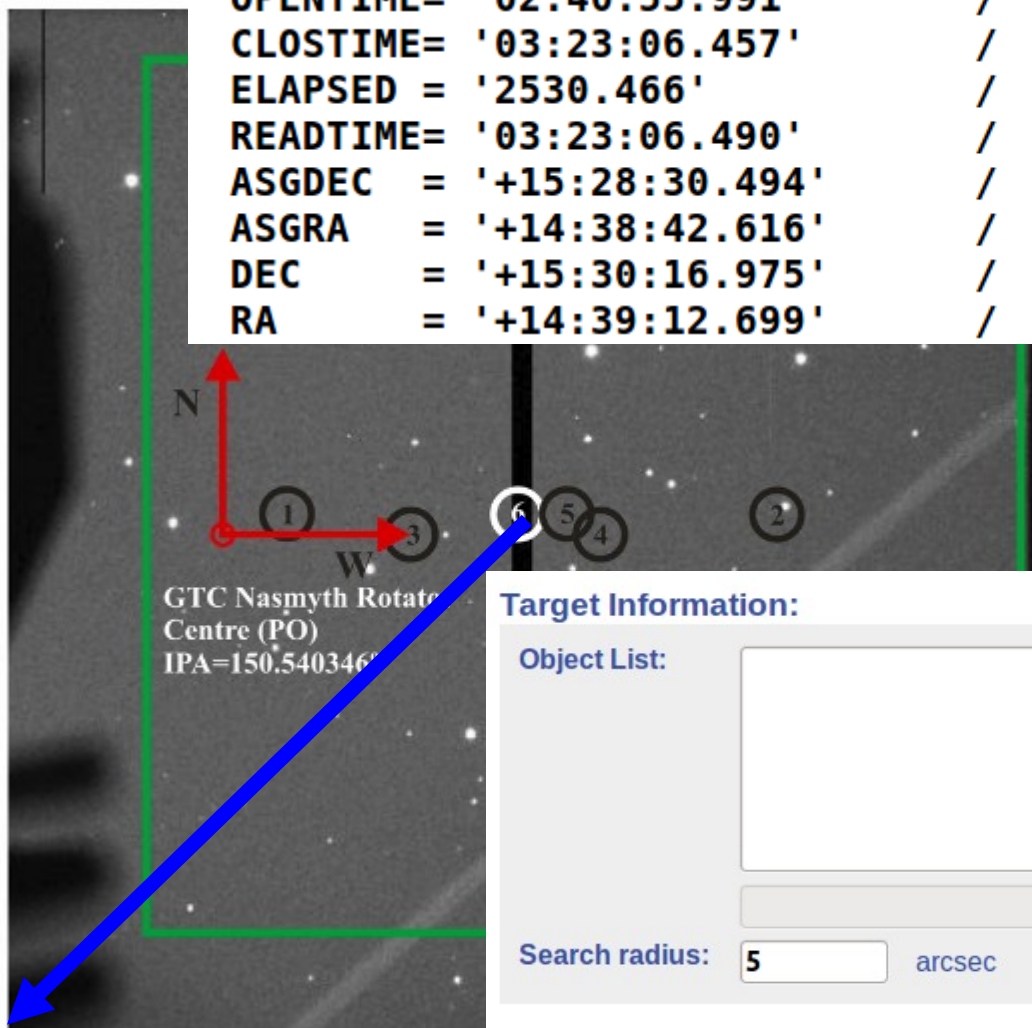
- Search engines (Google,...)
- Presentation in workshops / conferences
- GTC web page
- Others (please, indicate)

### \* What were the reasons for using the GTC archive?

- Look for my PI data
- Planning of future observations
- Research based on archive data
- Calibration of science data
- Education & Outreach

# An issue: The search radius

```
OPENTIME= '02:40:55.991' / Open Shutter Time
CLOSTIME= '03:23:06.457' / Close Shutter Time
ELAPSED = '2530.466' / Total elapsed time
READTIME= '03:23:06.490' / Approximate time when read starts
ASGDEC = '+15:28:30.494' / d:m:s
ASGRA = '+14:38:42.616' / h:m:s
DEC = '+15:30:16.975' / d:m:s
RA = '+14:39:12.699' / h:m:s
```



## Target Information:

Object List:

Examples (coordinates in J2000):

64.99061 52.98401

4 19 57.75 +52 59 02.436

4:19:57.75 +52:59:02.436

ULAS J135058.86+081506.8 (radius: 600arcsec)

Examinar...

Search radius:  arcsec

1 CCD1 Center  
2 CCD2 Center  
3 LongSlit Center CCD1

4 LongSlit Center CCD2  
5 TF Center Pointing  
6 GAP Center



# And a couple of suggestions

Navigation menu: HOME | GTC | INSTRUMENTS | OBSERVING | NEWS | MULTIMEDIA | LINKS

Left sidebar:

- Call for proposals
- Phase-2 access  
observing preparation tool
- Observing calendar
- Images from GTC
- Web cameras

Main content area:

- Observing with GTC
- Call for proposals
- Targets of Opportunity
- Visiting astronomers
- Observing calendar
- Phase-2 access
- Phase-2 manual
- Weather conditions
- Data archive**
- Science publications
- GTC summary
- Telescope status

News section:

- Observation plans
- CanariCam
- Universe
- Multi-object spectroscopy with OSIRIS
- Sign review
- Discovering an asteroide
- The first tests with OSIRIS multi-object spectroscopy
- z-band images of Y-dwarf stars with GTC/OSIRIS
- What did the first stars in the universe look like?
- Brown dwarfs in the sigma Orionis cloud
- White dwarfs tests Einstein's theory of relativity
- A new set of filters for the OSIRIS instrument
- GTC observes the early life of massive galaxies

Image: A colorful astronomical image showing a complex structure of stars and gas, likely a star-forming region or a nebula.

Text box at the bottom:

The **Gran Telescopio CANARIAS (GTC)**, is a 10.4m telescope with a segmented primary mirror. It is located in one of the top astronomical sites in the Northern Hemisphere: the **Observatorio del Roque de los Muchachos (ORM, La Palma,**

# And a couple of suggestions

## Data dissemination

Once the observations have been obtained and are considered to be of the correct quality, the PI will be informed about how to obtain the scientific data files from the FTP server. The data will remain available on the FTP server for a period of at least 50 days. The PI enjoys a one-year proprietary period for her/his data, after which the data will be made publicly available.

*... through the GTC Archive (<http://gtc.sdc.cab.inta-csic.es/gtc>).  
Observers are also encouraged to contact archive staff to submit their reduced data once they have been published.*

*+ in the Call for proposals*