

ESA's European Hubble Science Archive at ESAC

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- The Hubble Science archives
- Why do we have an HST archive at ESA?
- What's different about the EHST compared to the other ESA science archives in operation (e.g. XMM-Newton, Gaia)?
- Where the AAUG can help.

- Hubble Science Archives are developed and maintained by NASA (STScI - MAST), CSA (CADC) and ESA (ESAC, was ESO).
- The Canadian Astronomy Data Centre (CADC) was formed to serve as the Canadian centre for distribution of HST data, 1986 Similarly, the Space Telescope – European Coordinating Facility (ST-ECF) was formed to serve as the European centre for distribution of HST data, 1984.
- Only NASA (STScI – MAST) serve proprietary data.
- Monthly telecons between centres (STScI, CADC, ESAC) and annual Archive coordination meetings.

1984 – 2010: The Space Telescope – European Coordinating Facility (ST-ECF)

- Established in 1984 at ESO as a joint venture between ESA and ESO.
- Provided support to European users of Hubble in close collaboration with STScI.
- Provided significant contributions to the operations of the observatory and its instruments.
- The archive provided access to Hubble science data before high bandwidth connections across the Atlantic made routine use of the US archive possible.
- Ceased operations 31 December 2010.



Why we have an HST archive at ESA - History



2011 - 2012: European HST Archive moved from ESO/ST-ECF to ESAC.

- ESO continued to host the archive on a transitional basis until June 2012.
- June 2012 - European HST archive completed the move to ESAC.
- Migration of all existing archive functionalities, data and services.
- Archive moved "as is" with minimum changes to the software to avoid unnecessary risks or delays.

ESA Hubble Science Archive



A classical search interface is available [here](#). The HLA grism data is also available from a dedicated search [interface](#).

Query form | Result table | Get data

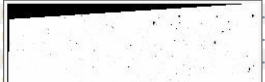
New | HST@ESAC Webpages | Additional Queries | Contact | Acknowledgement | ESAC/CADC/STScI

Fetch marked datasets

Programmatic access

Results 1-12 Show 20 results per page

Click column heading to sort list - Click rows to select [Reset selection](#)
Text boxes under columns select matching rows [Apply Filter](#) | [Clear Filter](#)
Select all rows on this page (only!) [Select all rows](#) | [Un-select all rows](#)

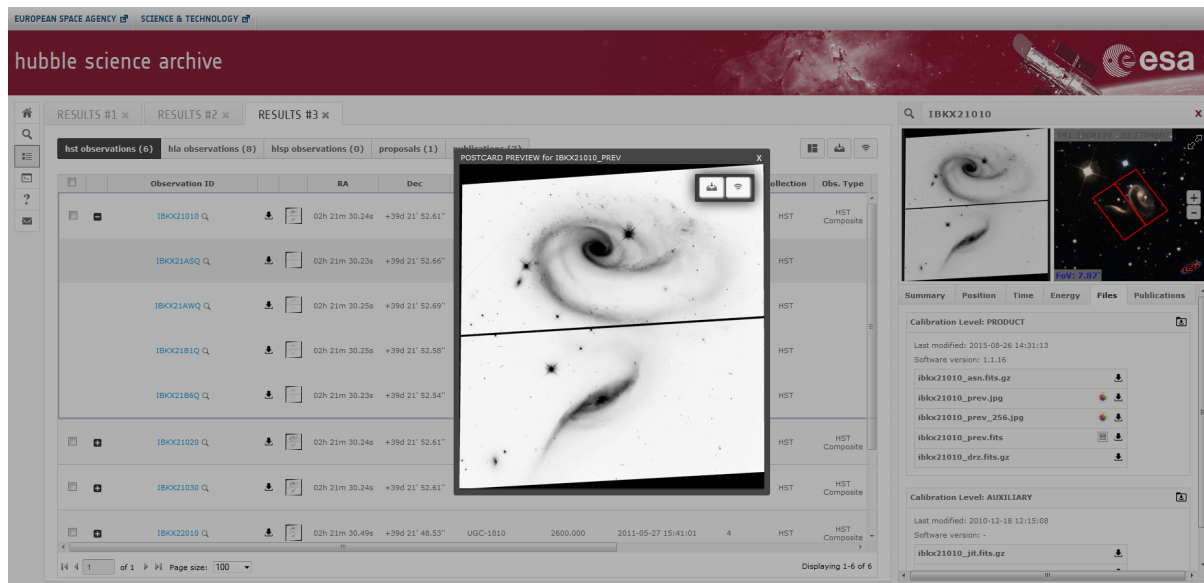
File upload	Preview	Target Name (HST)	RA	Dec	Exposure Time	Archive	Instrument	Detector	Filter Grism Prism	Data Type	Member Number	Dataset Name	Release Date	«	»
<input type="checkbox"/>	Preview	NGC6705-POINTING1	18:50:51.71	-06:14:24.2	2100.000	HST	WFC3	UVIS	F555W	Imaging	6	IBYW01010	Aug 19 2014 11:47:55:000AM		
<input type="checkbox"/>	Preview	NGC6705-POINTING1	18:50:51.7	-06:14:24.2	2200.000	HST	WFC3	UVIS	F336W	Imaging	4	IBYW01020	Aug 19 2014 2:05:51:000PM		
<input type="checkbox"/>	Preview	NGC6705-POINTING1	18:50:51.7	-06:14:24.2	240.000	HST	WFC3	UVIS	F555W	Imaging	2	IBYW01030	Aug 19 2014 3:05:51:000PM		
<input type="checkbox"/>	Preview	NGC6705-POINTING1	18:50:51.7	-06:14:24.2	2200.000	HST	WFC3	UVIS	F336W	Imaging	4	IBYW01040	Aug 19 2014 3:07:46:000PM		
<input type="checkbox"/>	Preview		18:50:51.7	-06:14:24.2	2100.000	HST	WFC3	UVIS	F555W	Imaging	6	IBYW02010	Jul 14 2014 1:27:28:000PM		
<input type="checkbox"/>	Preview				2200.000	HST	WFC3	UVIS	F336W	Imaging	4	IBYW02020	Jul 15 2014 5:55:51:000PM		
<input type="checkbox"/>	Preview				240.000	HST	WFC3	UVIS	F555W	Imaging	2	IBYW02030	Jul 15 2014 5:54:06:000PM		
<input type="checkbox"/>	Preview				2200.000	HST	WFC3	UVIS	F336W	Imaging	4	IBYW02040	Jul 14 2014 8:27:20:000PM		

January 2013: Start of the new European HST Archive (EHST) project

- Re-engineered the front-end of the archive (part that will be left over when the HST archive becomes static).
- Design of the EHST follows the latest generation of archives by ESDC
- Took full advantage of the existing knowledge, expertise and code.
- Faster and more robust archive, easy to maintain and extend, e.g. with the integration of the Hubble Source Catalog.
- Ensures the long-term access and preservation of Hubble data.

Why we have an HST archive at ESA - History

- 15th October 2015: The eHST was released
 - <http://archives.esac.esa.int/ehst>
 - HST, HLA & High Level Science Products (HLSP) collections included.
 - Includes continuous processing of science data with the latest calibration software.



The screenshot displays the Hubble Science Archive interface. At the top, it says "EUROPEAN SPACE AGENCY SCIENCE & TECHNOLOGY" and "hubble science archive". Below this, there are tabs for "RESULTS #1", "RESULTS #2", and "RESULTS #3". A search bar contains "IBKX21010". The main content area features a table of observations with columns for "Observation ID", "RA", and "Dec". A modal window titled "POSTCARD PREVIEW for IBKX21010_PREV" is open, showing a composite image of a galaxy. To the right, there are two panels: one showing a "Summary" of the observation and another showing "Files" for download. The "Files" panel lists various data files such as "ibkx21010_asn.fits.gz", "ibkx21010_prev.jpg", "ibkx21010_prev_256.jpg", "ibkx21010_prev.fits", and "ibkx21010_drz.fits.gz".

Observation ID	RA	Dec	collection	Obs. Type
IBKX21010 Q	02h 21m 30.24s	+39d 21' 52.61"	HST	HST Composite
IBKX21ARQ Q	02h 21m 30.23s	+39d 21' 52.66"	HST	
IBKX21AWQ Q	02h 21m 30.25s	+39d 21' 52.69"	HST	
IBKX21B1Q Q	02h 21m 30.25s	+39d 21' 52.50"	HST	
IBKX21B6Q Q	02h 21m 30.23s	+39d 21' 52.54"	HST	
IBKX21020 Q	02h 21m 30.24s	+39d 21' 52.61"	HST	HST Composite
IBKX21030 Q	02h 21m 30.24s	+39d 21' 52.61"	HST	HST Composite
IBKX22010 Q	02h 21m 30.49s	+39d 21' 48.53"	UGC-1810	2600,000 2011-05-27 15:41:01 4 HST HST Composite

- For more than a year the team has been concentrating on the HST Consolidation of Pipelines project:
 - Consolidating the 3 pipelines at the 3 centres to 1 pipeline at STScI.
 - A shared common model and common source of data for the 3 partners.
 - Users will now find exactly the same data in all 3 centres.
- Little has been updated on the EHST User Interface during this time.
- V2.0 released 31st May 2018
- We can now concentrate on updating the archive user interface.

What's different about EHST?



What's different to the other archives in operations:

- Mission launched in 1990 -> 28 years of taking scientific data.
- Since 2015 there has been no ESA HST archive scientist
- Small ESA HST team. Antonella Nota, ESA Project Scientist (at STScI), Danny Lennon, Mission Manager (at ESAC).
- ESDC scientist (D. Baines) is the product owner (~ Archive Scientist) for the EHST. ESDC scientist taking on this role is only foreseen to happen when a mission is in Legacy phase.

- Provide us with user feedback and requirements specific to the EHST archive.
- As well as any requirements with synergies across archives / ESASky.
- Feedback: hsthel@sciops.esa.int (or to me)