ESA’s European Hubble Science Archive at ESAC

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Overview

- 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.
The Hubble Science Archives

- 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.
Why we have an HST archive at ESA - History


- 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.
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.
15th October 2015: The eHST was released

- [link to eHST archive](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.
What’s different about EHST?

- 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 31\textsuperscript{st} May 2018
- We can now concentrate on updating the archive user interface.
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.
Where the AAUG can help

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