Analyzing large datasets: The Portal solution

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DES Science Portal



(1996-2005)

People

- get tired
- get sick
- change jobs
- make mistakes
- get bored
- **—**





I am not registered

I forgot my password

This portal is best viewed with:



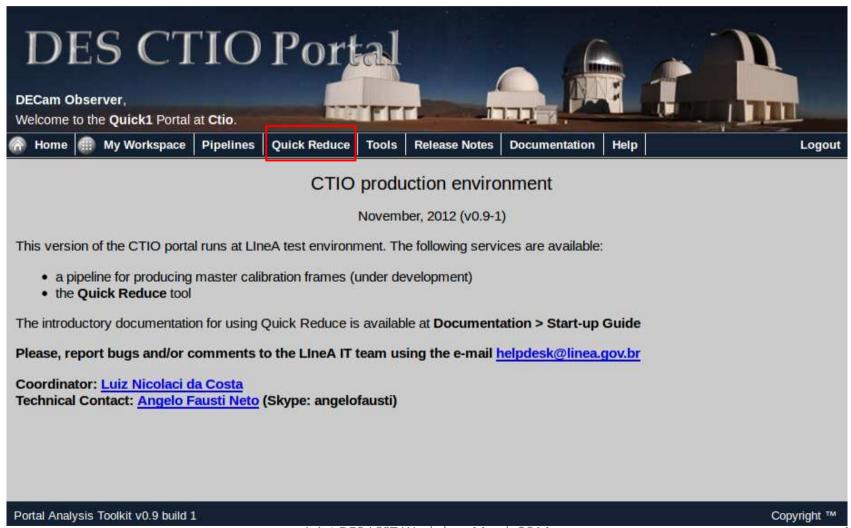
Need to have an integrated system with streamlined procedures running unsupervised

Start 2006 40 FTE-years

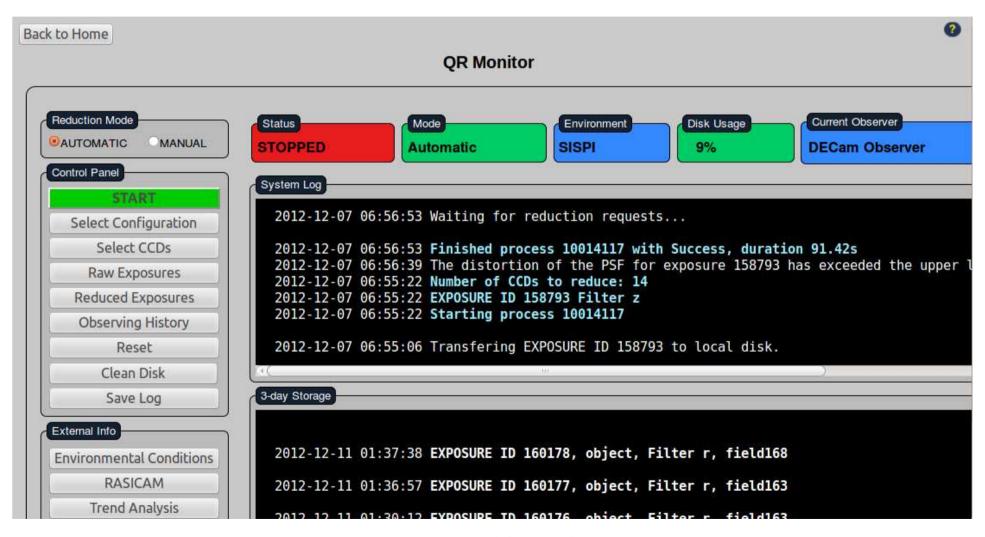
Portal Instances

- CTIO Portal
 - Quick reduce
- DES Science Portal (restricted access)
 - Data installation
 - Data preparation
 - Value-added catalogs
 - Science workflows
 - Other ancillary pipelines (e.g. training set maker, random catalogs)
 - Administration
- DES Data server
 - Reductions
 - Coadds (product log, footprint, tile viewer, object viewer)
 - Value-added catalogs
 - Science Workflow products

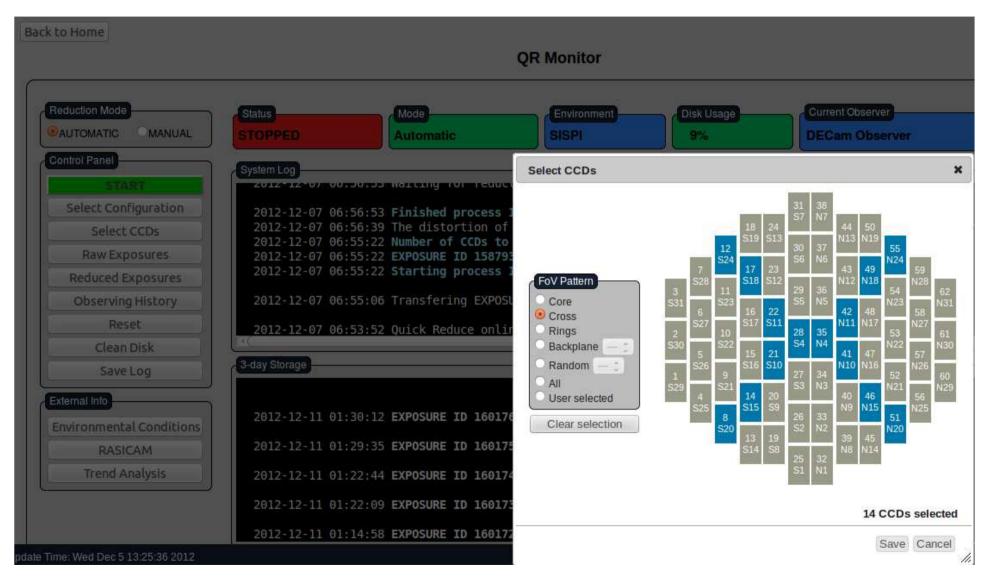
CTIO Portal: all DECam users



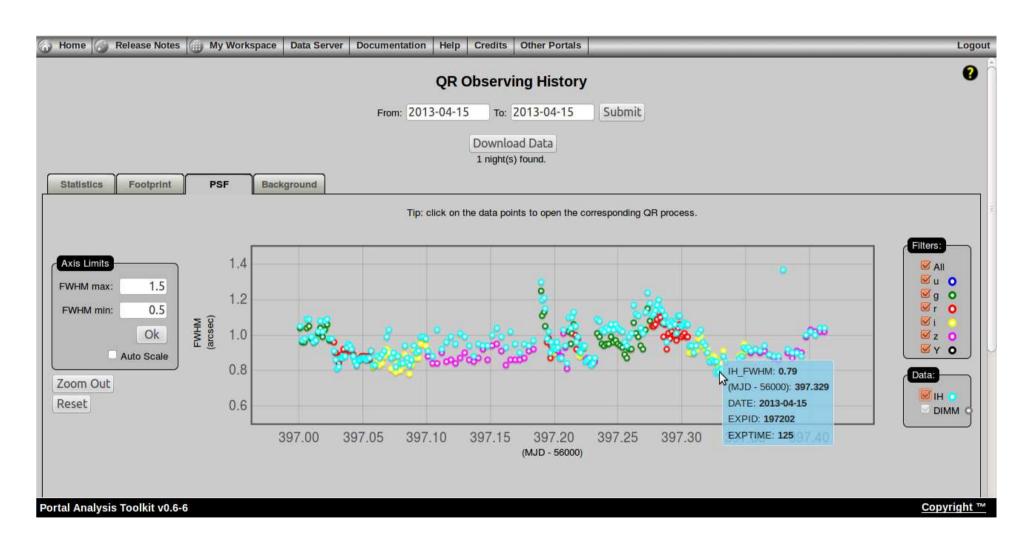
Quick Reduce



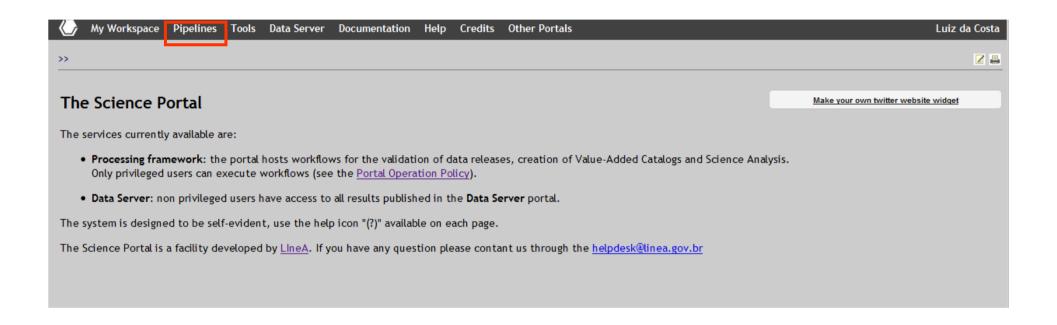
Quick Reduce



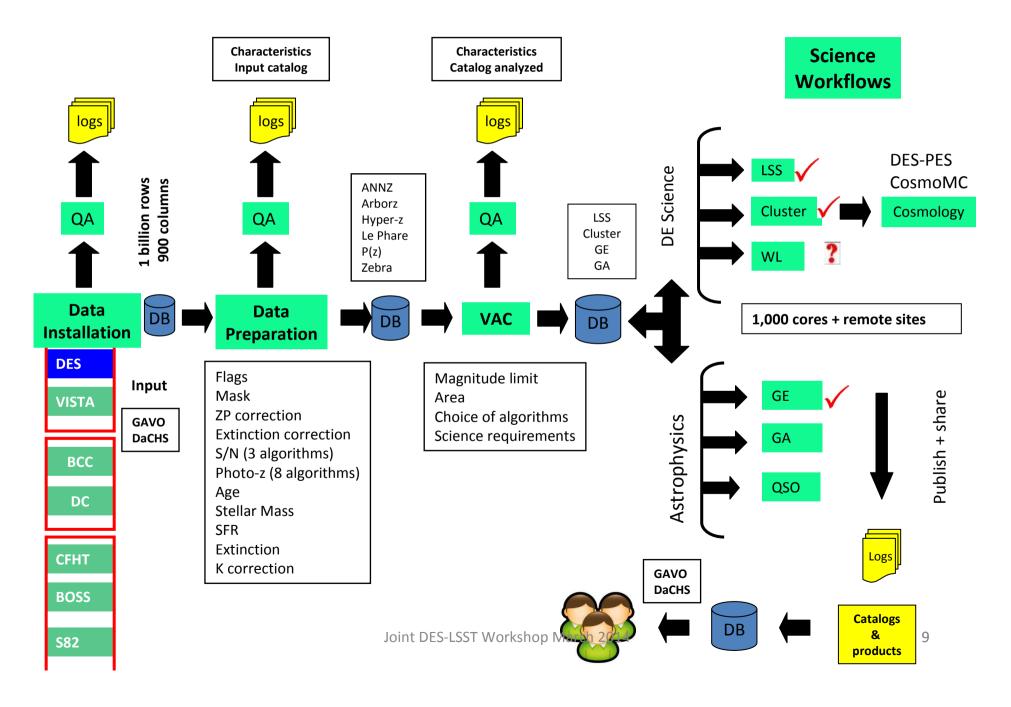
Seeing monitor



Science Portal: restricted Access



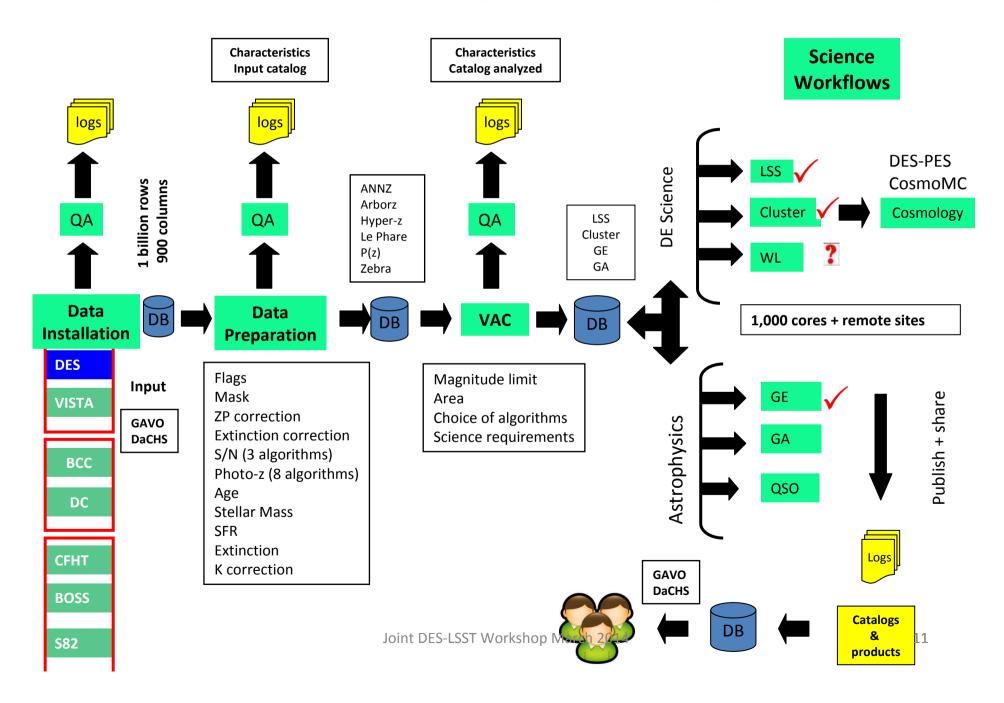
Portal End-to-End Data Flow



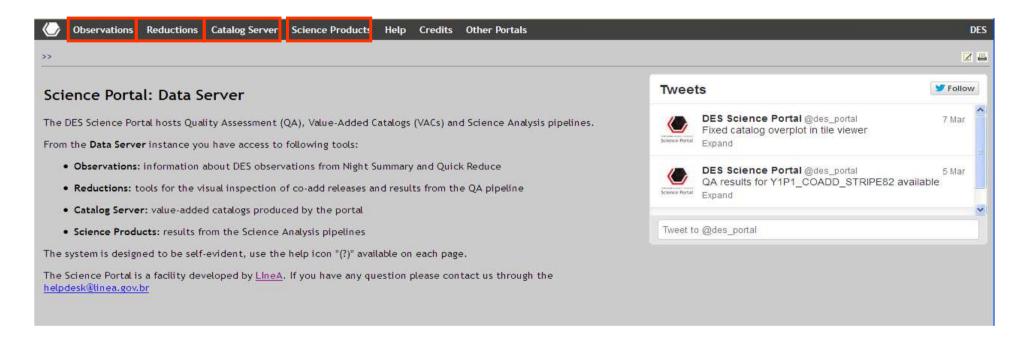
Data Installation

- 1. Identifies new releases
- 2. Downloads catalogs and images
- 3. Ingests catalogs
- 4. Creates B&W and color pngs at different resolution
- 5. Selects tiles (complete area and filter coverage)
- 6. Assesses quality (runs the QA pipeline)
- Creates lists of outliers and dropouts and makes cutouts
- 8. Updates release list, footprint, tile viewer
- 9. Notifies team for final verification
- 10. Send tweet to collaboration

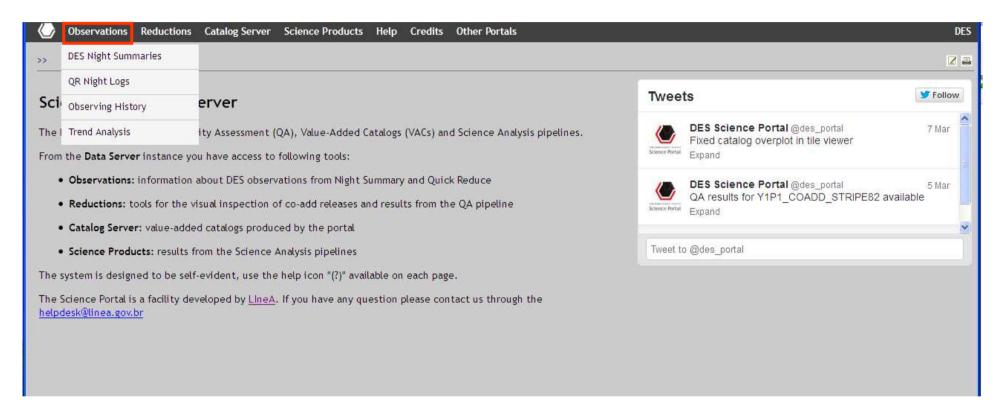
Portal End-to-End Data Flow



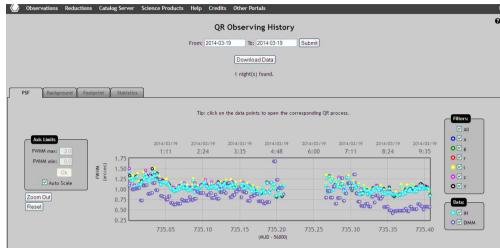
Data Server: open access to the collaboration

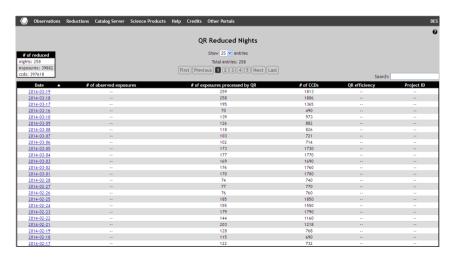


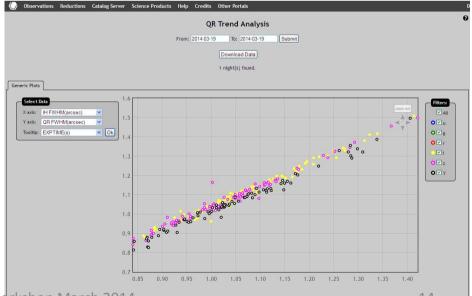
Observations







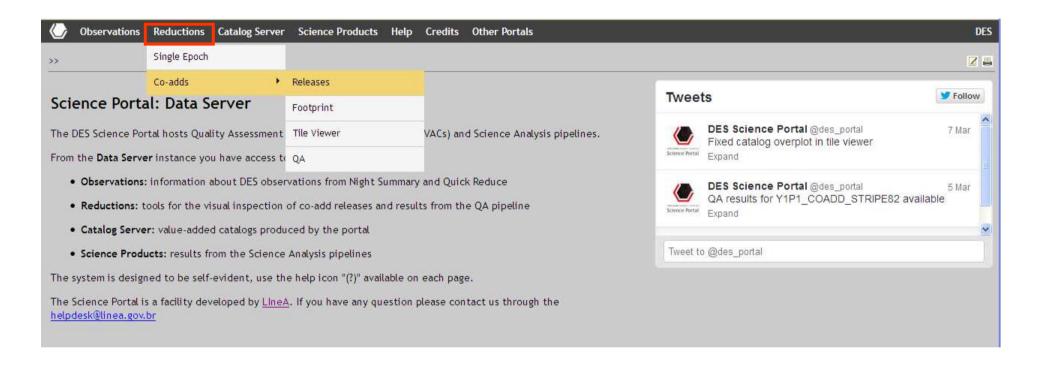


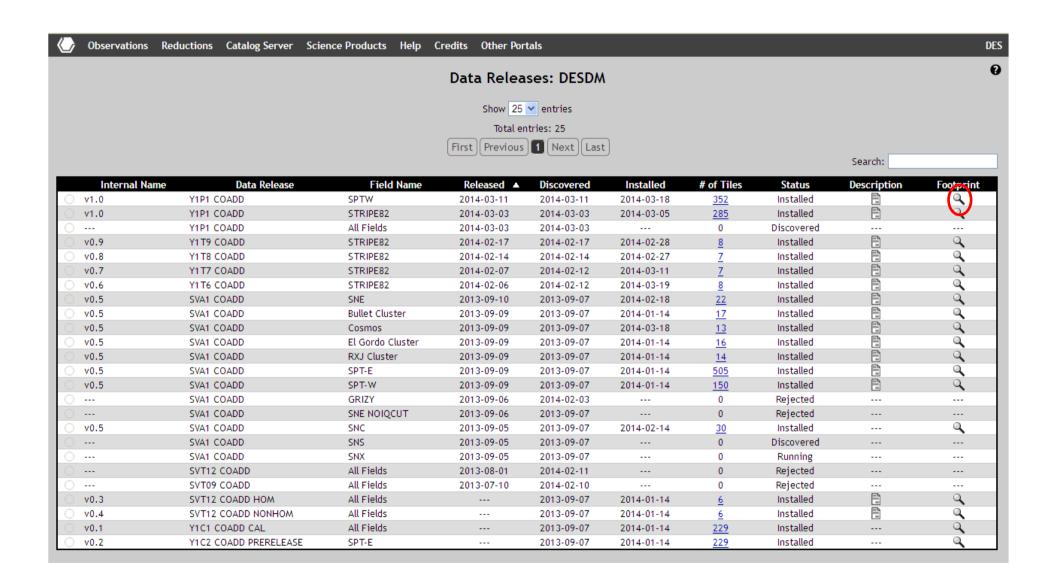


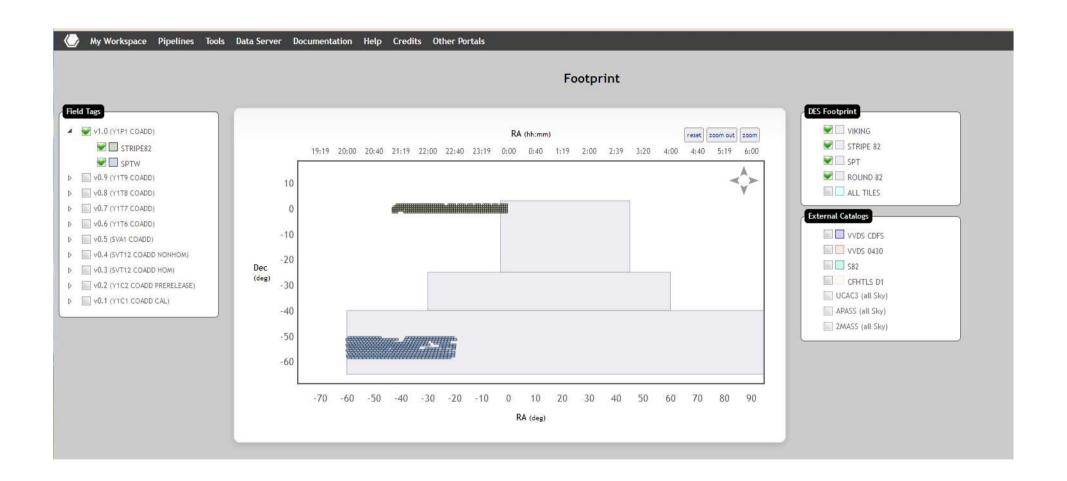
258 nights, 398822 exposures 10% CCDs

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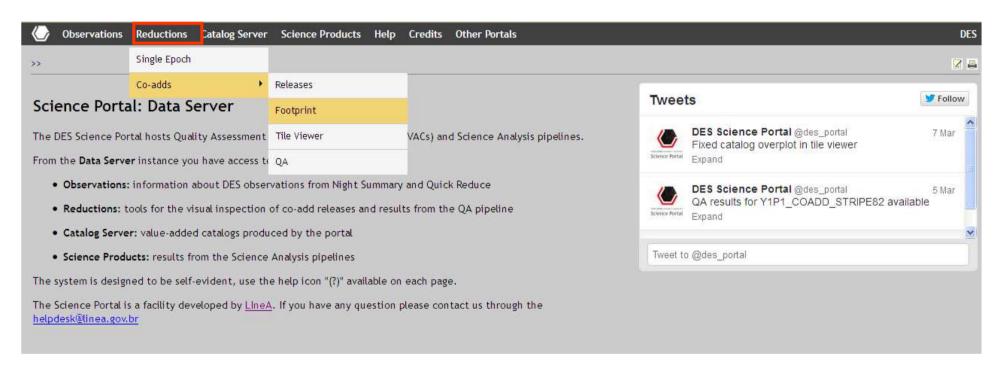
Reductions > Coadd> Releases

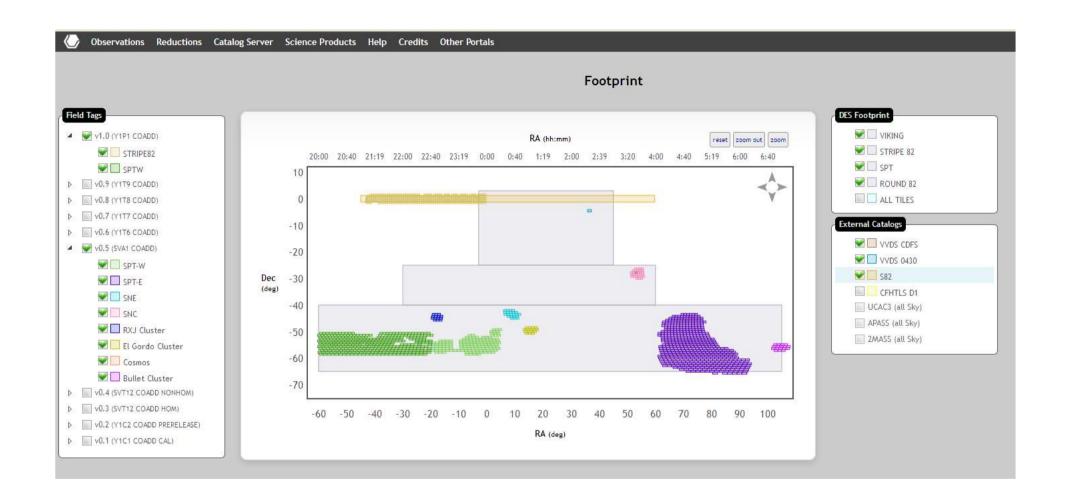


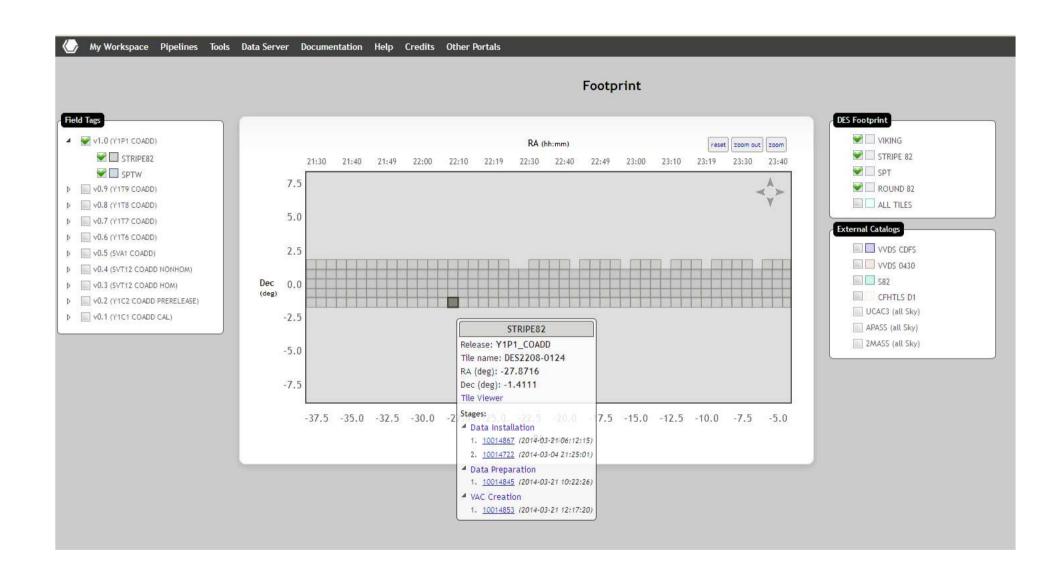




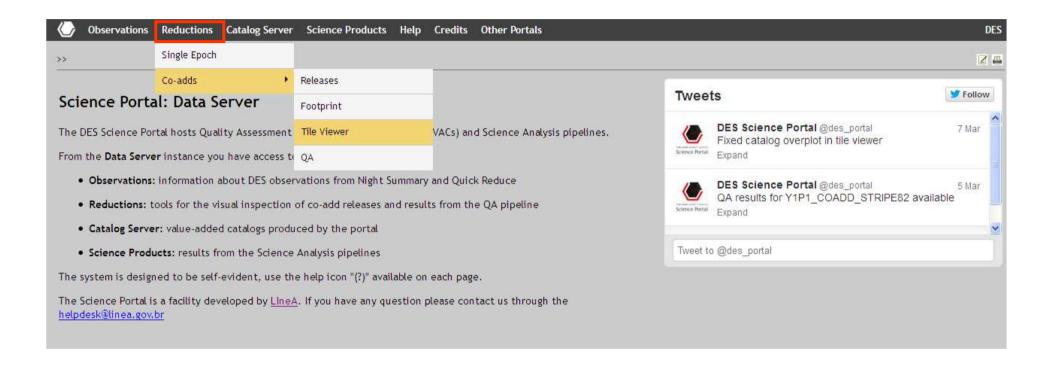
Reductions > Coadd > Footprint

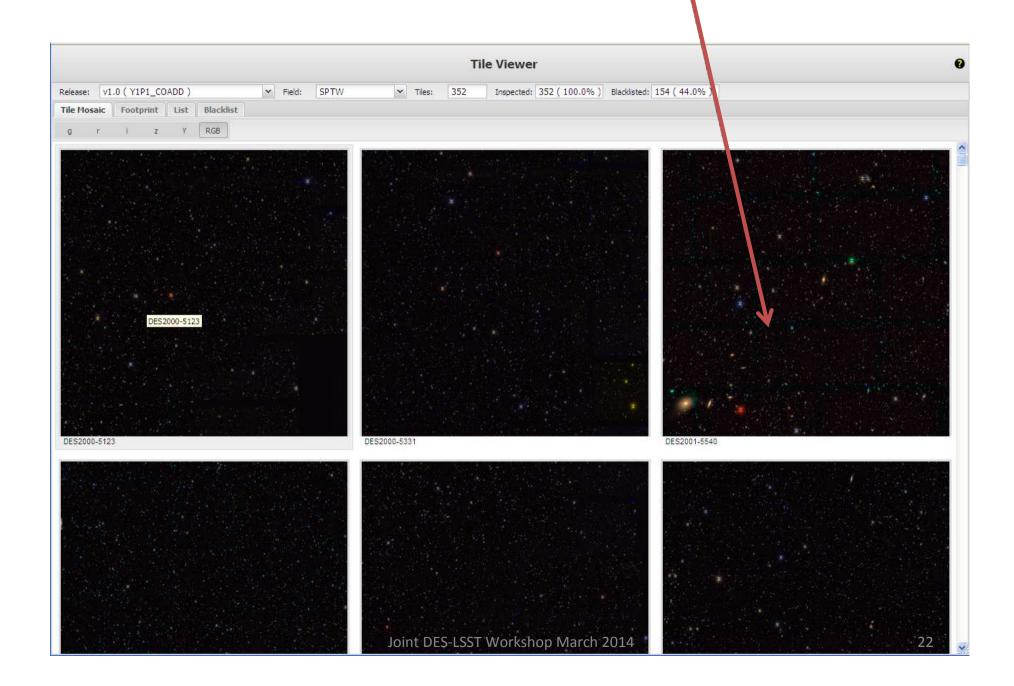






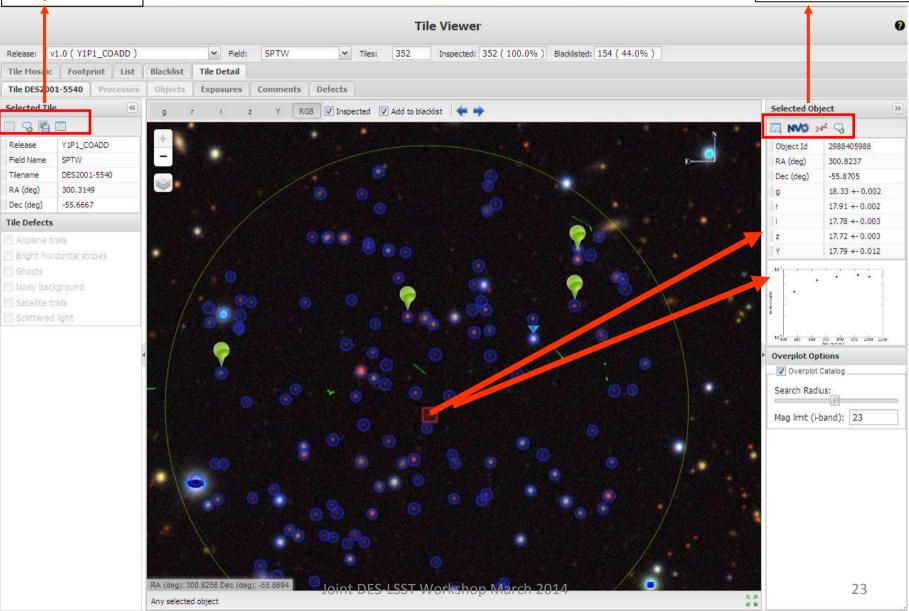
Reductions > Coadds > Tile viewer

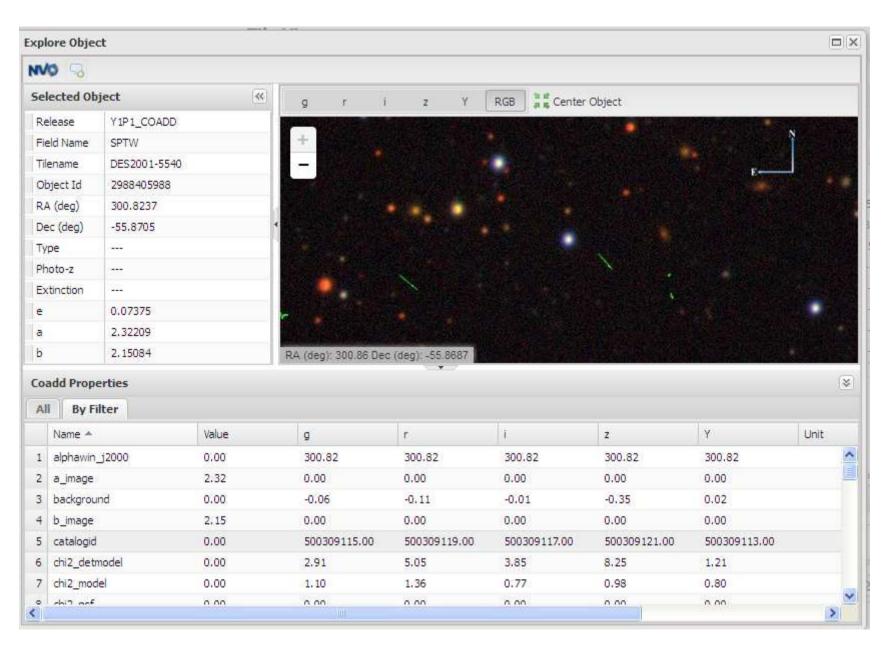


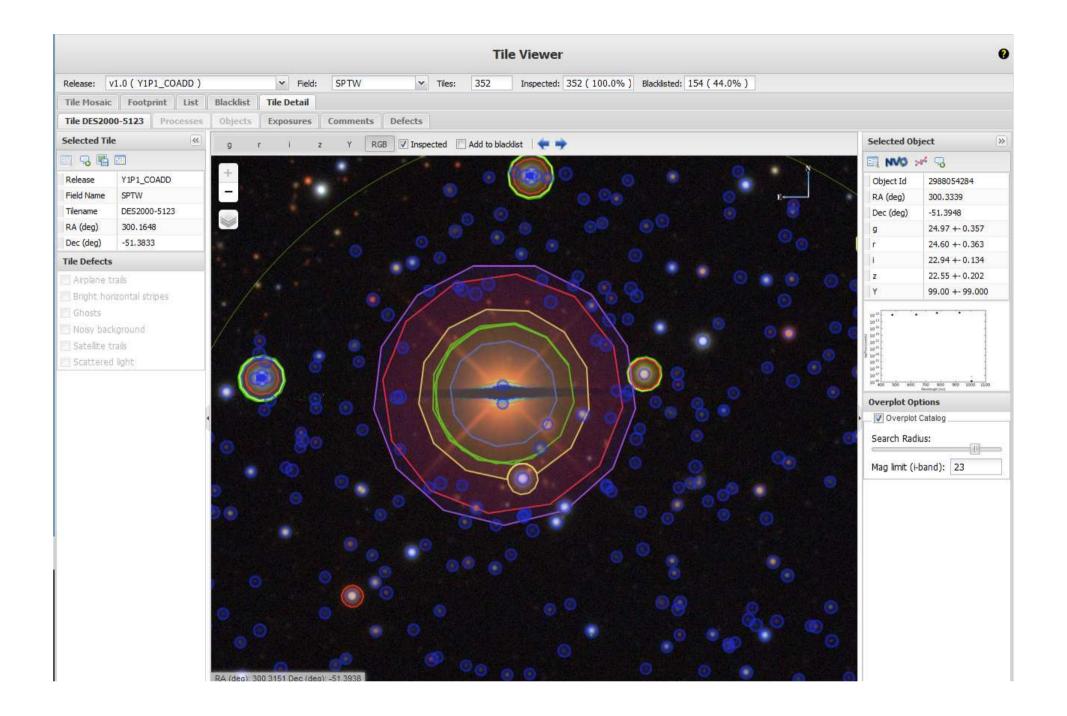


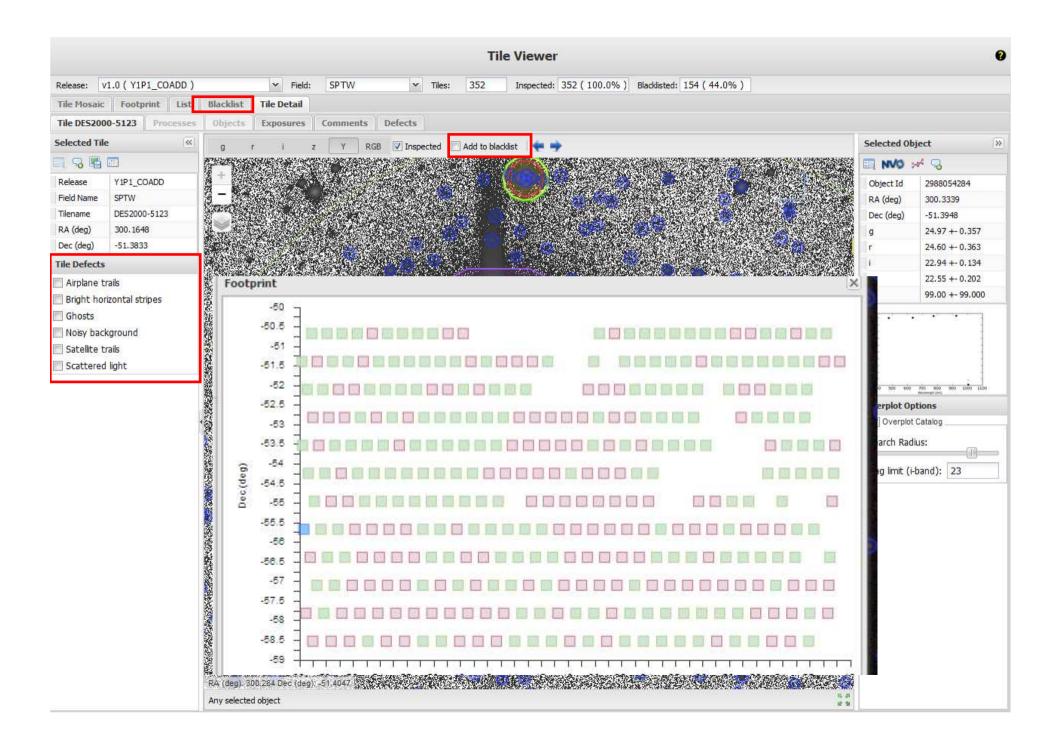
QA results
Tile comments
FITs image
footprint

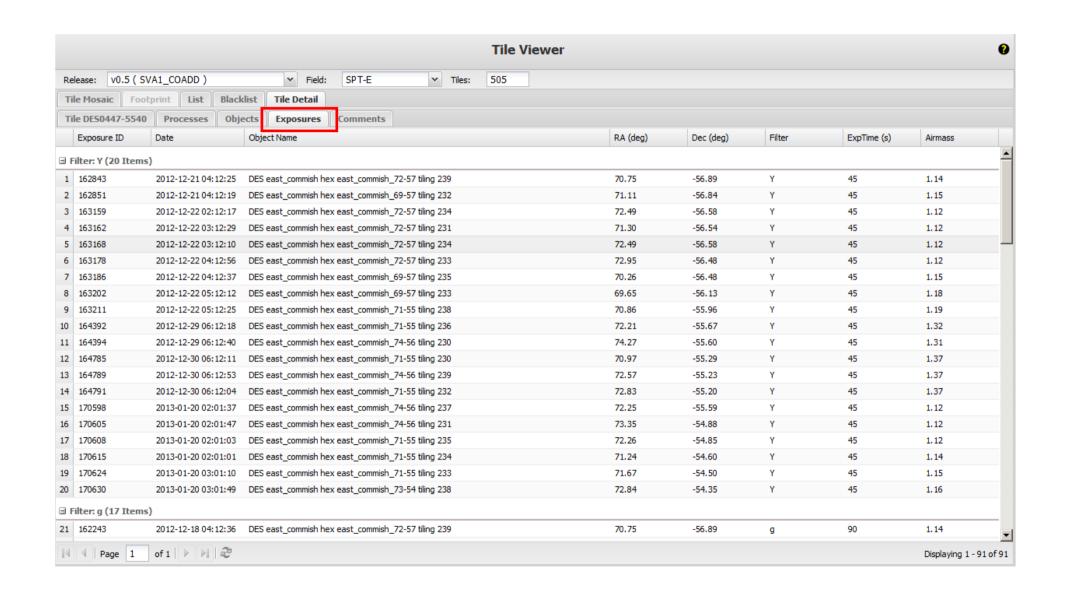
Explore NVO datascope Flux plot Object comment

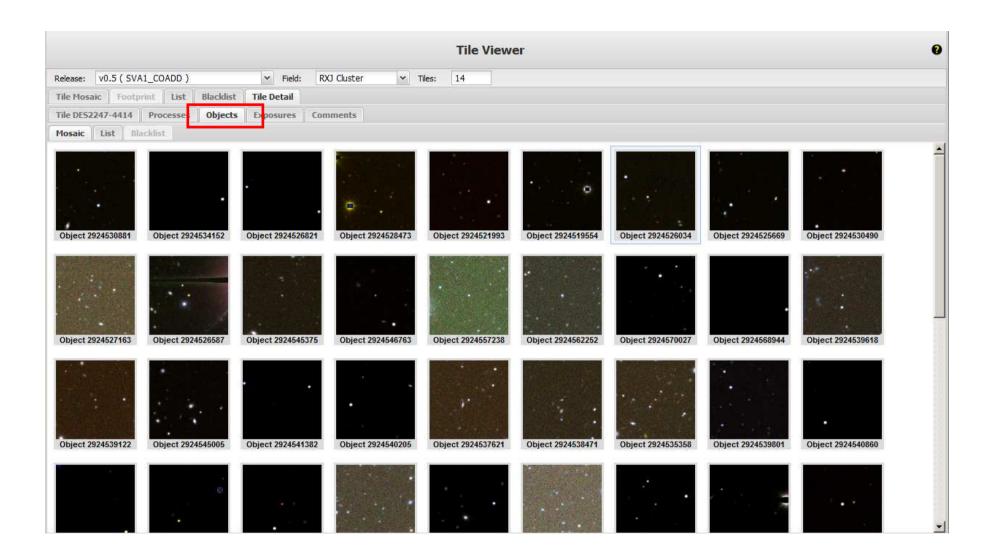


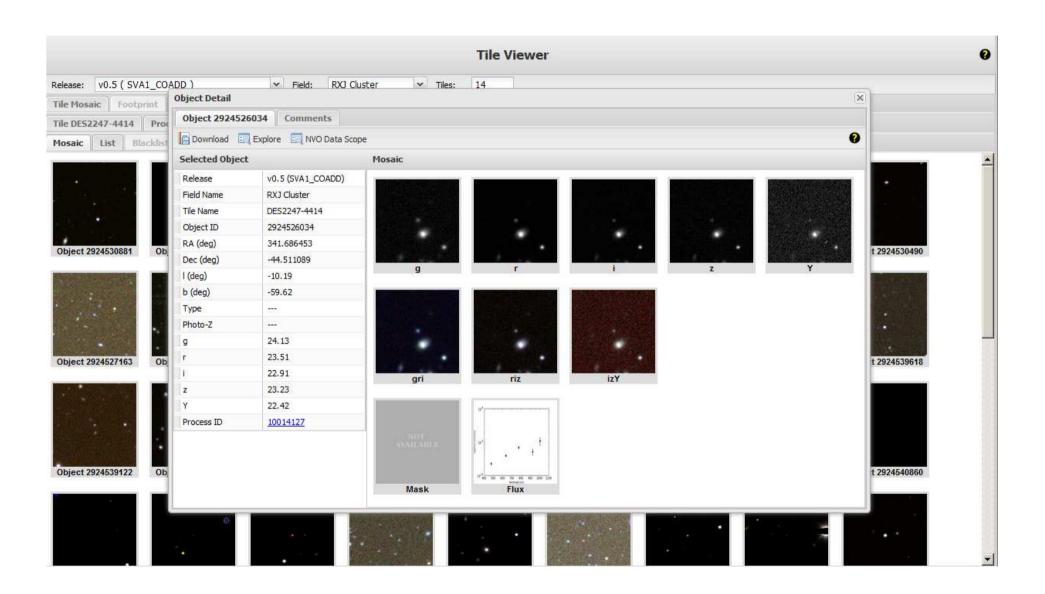




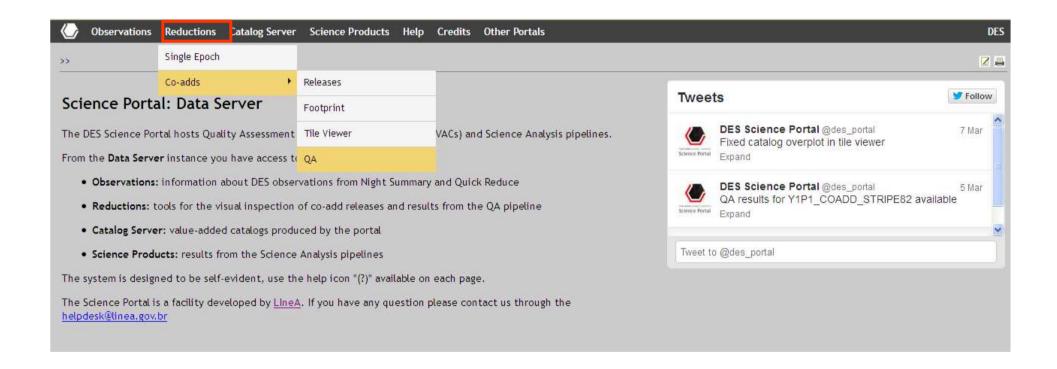


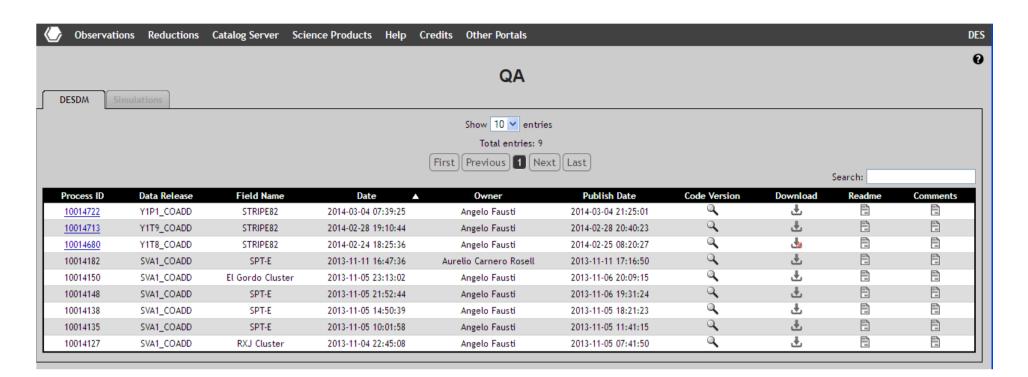




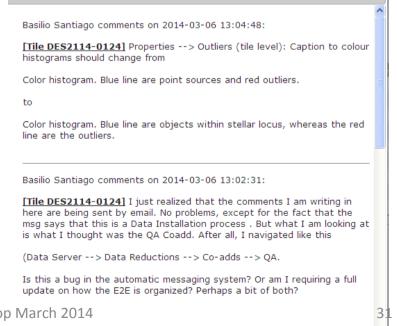


Reductions > QA product logs



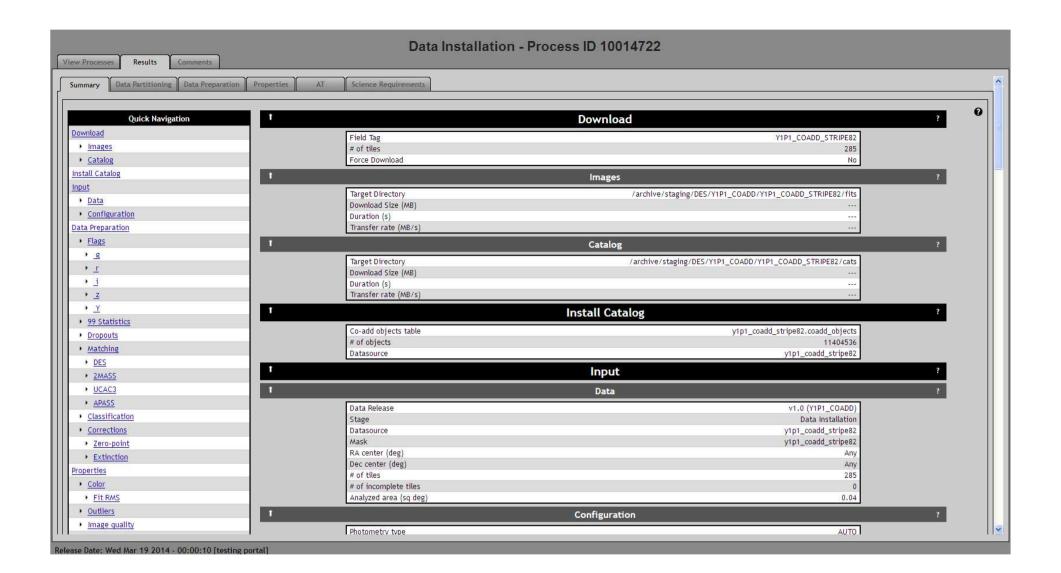


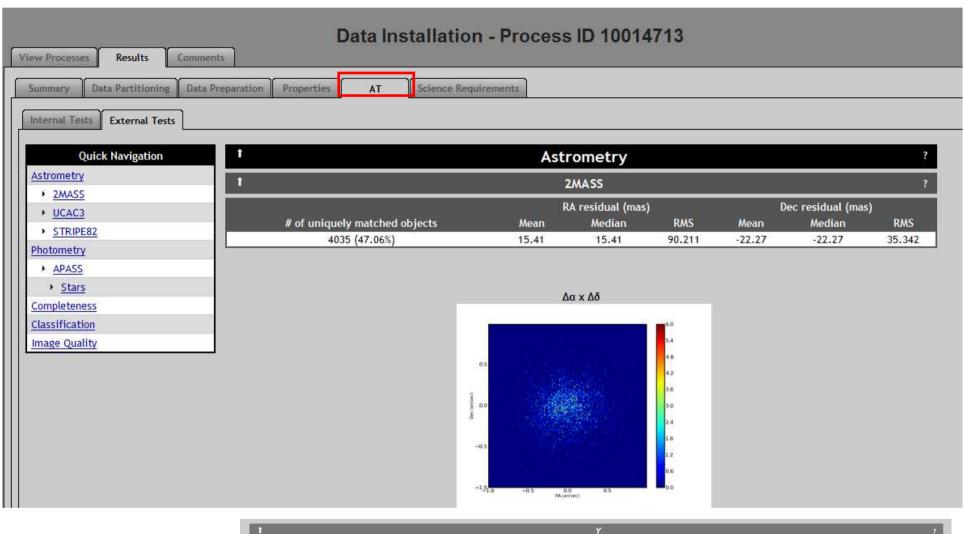
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Component Name	Version	Date
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install_images	V00 06 00	2014-02-25 09:04:15
check_install_images	V00 06 00	2014-02-25 09:17:24
install_catalogs	V00 06 00	2014-02-25 11:40:16
create_pype_input	Git HEAD	2014-02-25 21:23:08
tileorganizer	V00 16 02	2014-02-26 13:30:42
dataretriever	V00 16 02	2014-02-26 13:30:42
coadd_properties	V01 05 05	2014-02-25 21:35:18
coadd_at	V00 03 03	2014-02-21 16:42:06
sci_req	V00 07 01	2014-02-25 22:13:54
qa_coadd_consolidator	V01 03 00	2014-02-28 14:53:08



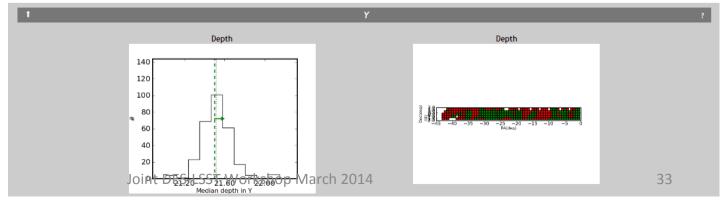
Comments from process 10014722

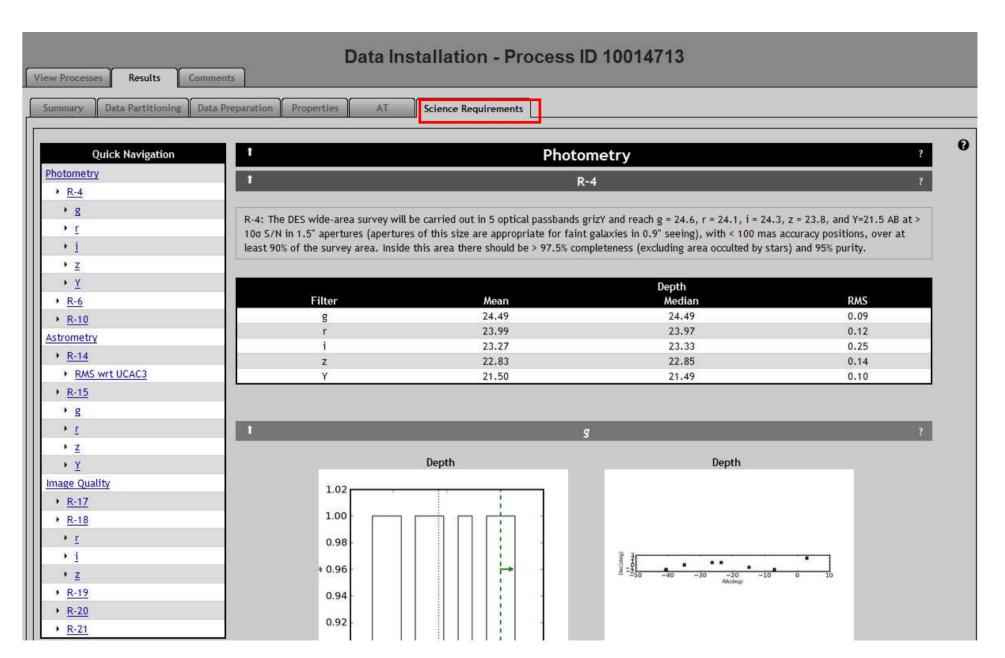
Close



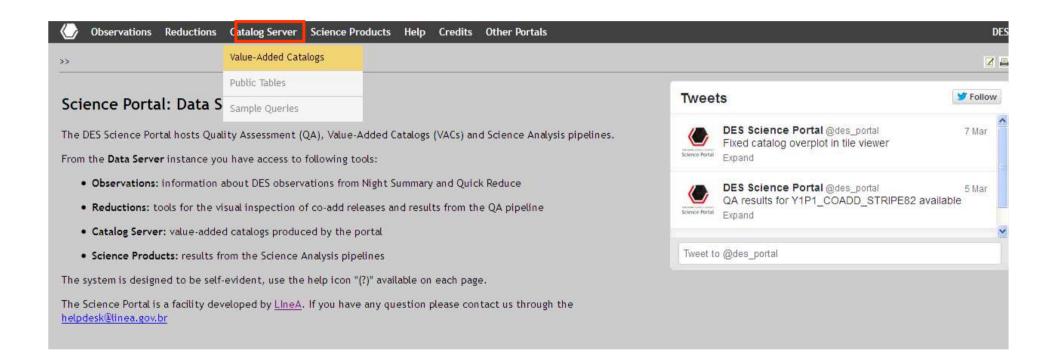


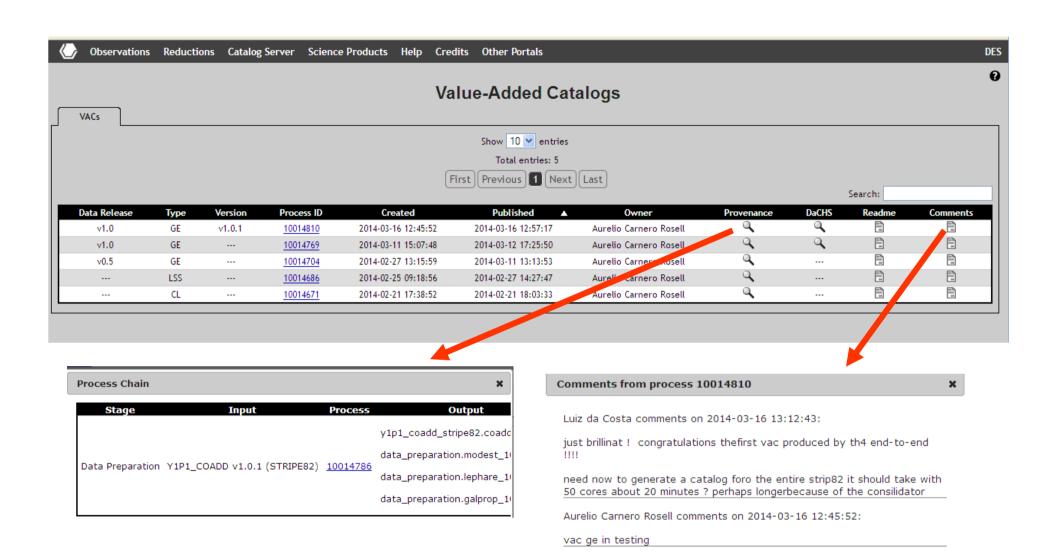


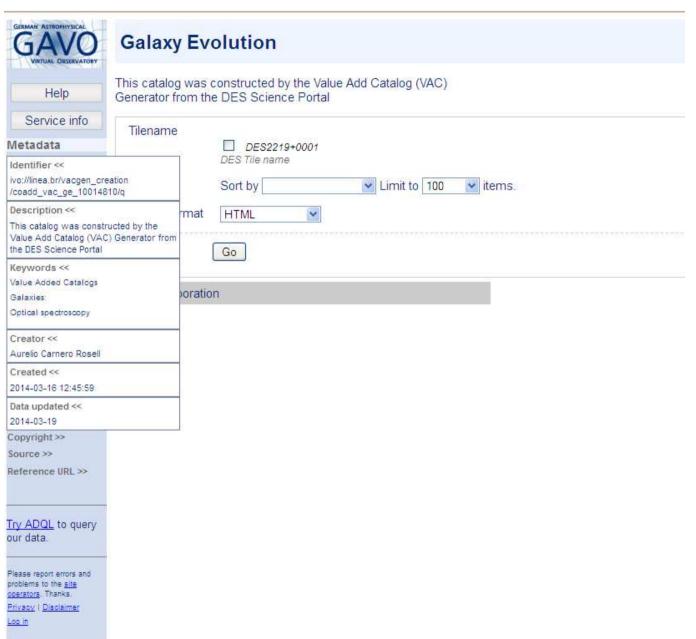




Catalog Server









Service info

Metadata

Identifier>> Description >> Keywords >>

Creator>>

Created >>

Data updated >> Copyright >>

Source >> Reference URL>>>

Try ADQL to query our data.

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Result

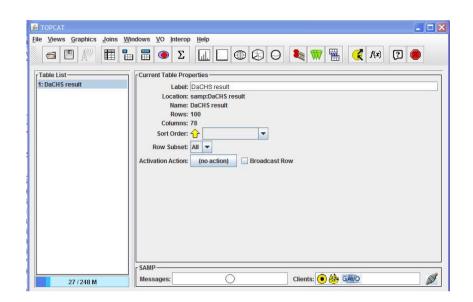
Matched: 100

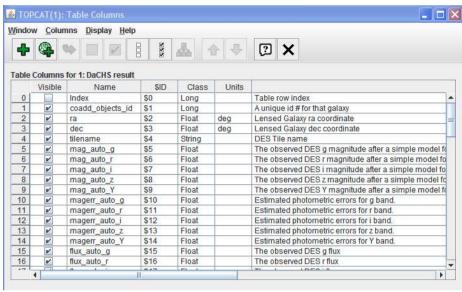
Send via SAMP

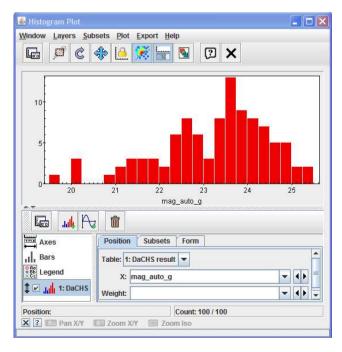
Quick Plot

The query limit was reached. Increase it to retrieve more matches. Note that unsorted truncated queries are not reproducible (i.e., might return a different result set at a later time).

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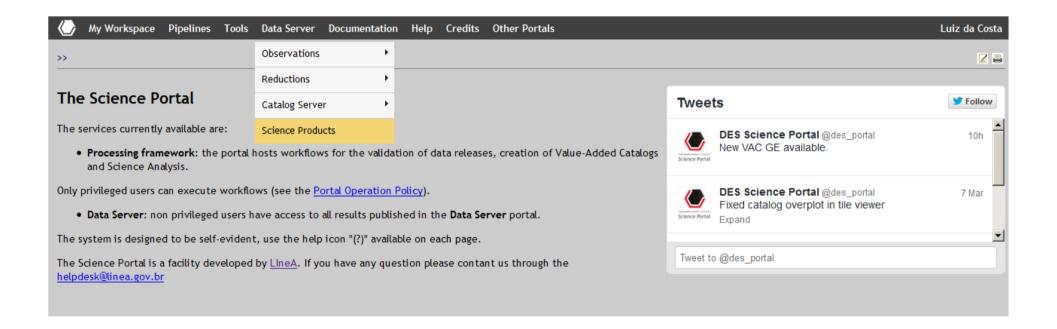




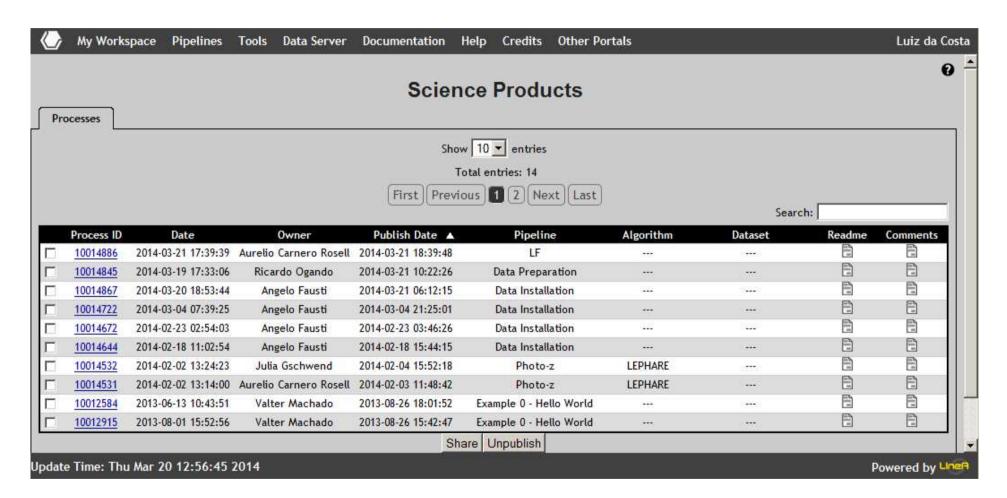


Joint DES-LSST Workshop March 2014

Science Products



Science Product



Work in progress

- Data server being installed at Fermilab
- Addressing database problems
- Interface issues with NCSA (training set, corrections, mask)
- Producing catalogs & AT according to WG requirements

Summary

- From data release to Vacs with minimum human intervention
- 2. Catalogs available for Y1P1 (Stripe82, SPTW)
- 3. Provenance (data, configuration, codes)
- 4. Work still ongoing
 - new facilities continue to be implemented
 - Review of design and contents of product logs
- 5. Portal should be ready for Y1A1

Extra slides