



Data Release Production Plans

F21A (June July August)

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U.S. DEPARTMENT OF
ENERGY

SLAC

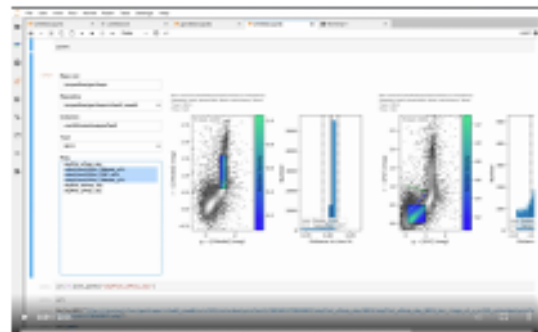
CHARLES AND LISA SIMONYI FUND
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Recall from February:

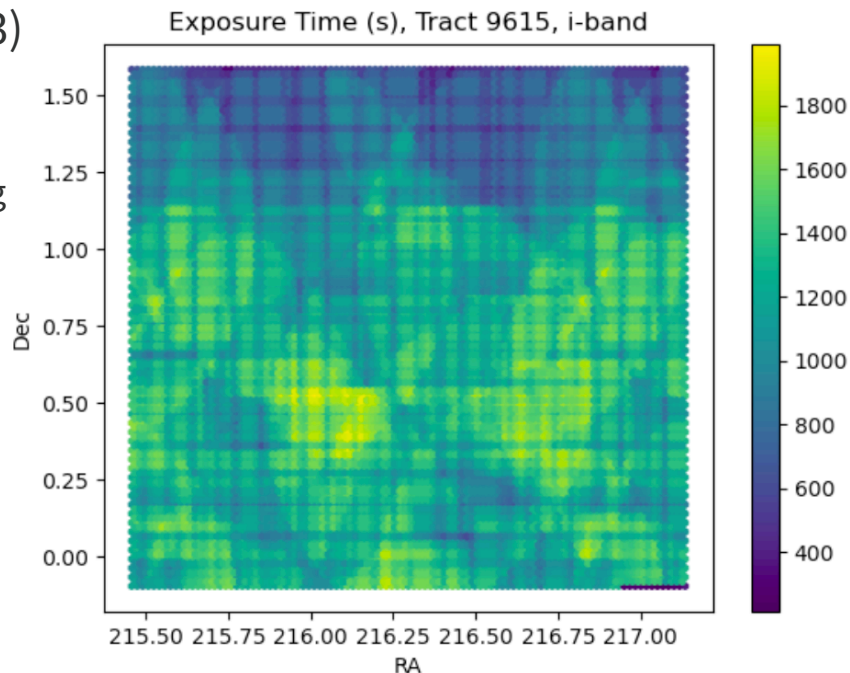
Top Priority for **S21b** is quitting Gen2 By

- Switching over our monthly reprocessings of HSC-RC2 and Imsim-DC2 to Gen3 (*all*)
 - Starting with w_2020_10, we run both.
 - Analyze the results, make adjustments until they match (*MacArthur* decides what that means)
 - If this takes 3 iterations, we'll achieve pipeline parity by June 1, with a month to spare for the DPO.2 pipeline freeze.
 - Monthly DRP Performance meeting
- Continuing work on Gen3 static QA plots: analysis drp (*reed*) and ability to browse them (*Morton*)



What happened Mar Apr May

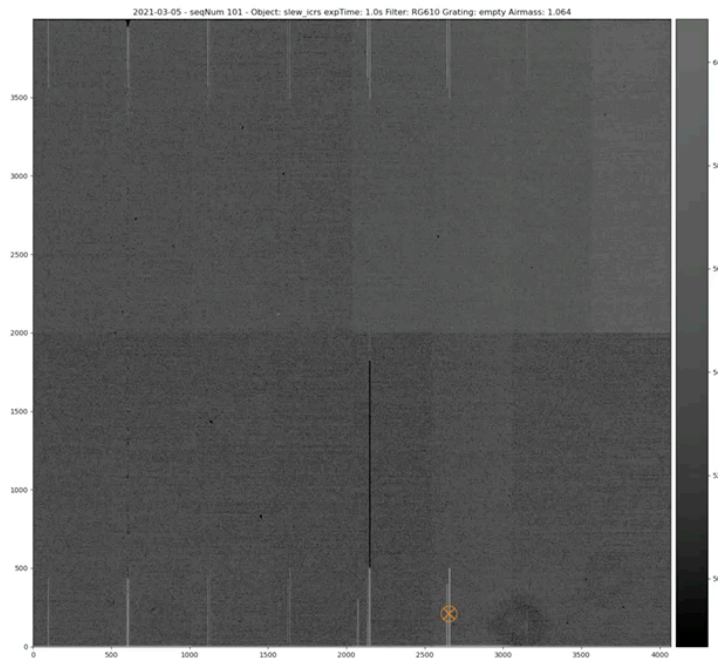
- Started running Gen3 DRP w_2021_10 (Mar 3)
- Reaching parity has been a bumpy ride:
 - Been working through BPS, matching configs, understanding memory requirements, propagating failures
 - Now: gets to the end of a DRP without lost tracts
 - 2to3 Parity through single frame processing (calexps)
- **Freely expanding Gen3-only pipeline:**
 - Coadd Templates for image differencing (DM-DRP-22) in addition to existing coadds for detection.
 - DIA pipeline for DRP (DM-DRP-28)
 - Survey Property Maps (DM-DRP-12)



Exposure time map for one HSC tract
Courtesy of Eli Rykoff

What happened Mar Apr May

- Supported March 2021 Auxtel runs
- Added packages:
 - meas_extensions_multiprofit (galaxy modeling afterburner)
 - meas_extensions_gaap (for galaxy colors)
 - cp_verify
- Added debiased PSF moments to HSM (the default shape measurement package)
- Worked through commissioning and validating Scarlet on monthly reprocessings
- Slowed down and then sped up ci_hsc
- [Shared Gen3 dataset repos are now available](#) for use by all project members on the development cluster at NCSA



Auxtel data this cycle (March 2021, May 25, June 8-10 2021)
Video courtesy of Merlin Fisher-Levine

F21A: Continuing projects

- **DRP QA** for F21a
 - Synthetic source injection (*Kelvin, Reed, Meyers on DESC time*)
- **DRP Measurement** Activities for F21a
 - Simultaneous multi-band galaxy photometry afterburner PipelineTask based on [Multiprofit](#) (*Taranu*)
 - Continue galaxy colors by GaaP: PSF- and aperture-matched photometry (*Kannawadi*)
- **DRP Image Characterization** Activities for F21a
 - Improve handling of instrumental background effects: amp-to-amp offsets. (*Kelvin*)
 - Continue modeling scattered light from bright stars to subtract as background (*Schmitz*)

Delivering to Ops

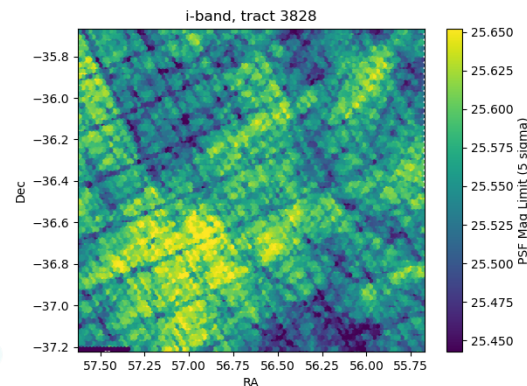
F21A: New projects on the horizon

- Improving Photometric Calibration by implementing “Compensated Aperture Flux” Plugin.
- Beginning “Coadds for measurement”
 - Save artifact masks for use by survey maps and cell-based coadds.
 - Track and improve interpolation steps in single frame processing
- Make a WCS/skymap for healpix to support HIPS coadds
- Fit stellar parallax and proper motion by integrating GBDES astrometric fitting code
- Running another iteration of processCcd (DM-DRP-21)
 - DMTN-172, describes the initial design of iterative image characterization, now possible with Gen 3 middleware (Bosch)

DRP Ops Activities

- In Mar/Apr/May we:
 - Finally got a ci_imsim. Let's run it nightly.
 - SDM'ed Visit, CcdVisit, DiaSource Tables produced during DRP
 - Added a functional DRP DIA pipeline
 - Too many middleware fixes to enumerate. Thank you, Jim.
- In F21A (Jun/July/Aug) we will:
 - Assess whether DC2 Gen3 DRP pipelines is performing as we expect. Continue to refine scientific performance.
 - Respond to emergent issues that arise from test runs by the execution team and validation by the V&V team.
 - Instead of tagging June 30th and backporting fix all summer, we will use new weekly with fixes on it ~Sept 30. This will be the RC for v23.
 - Configure PIFF to switch on by default

5-sigma depth map for one 1.5yr DC2 tract
Courtesy of Eli Rykoff



Kept FY22+ epics very basic for agility

Activity	Epic	WBS	Description	Notes	SPs
f21b-drp-emergent	DM-30536	02C.04.01	Emergent Work for DRP in F21B	To Do	50 Sept/Oct/Nov
f21b-drp-astrom	DM-30537	02C.04.03	Astrometry Improvements in F21B	To Do	50 Sept/Oct/Nov
f21b-drp-bkgd	DM-30538	02C.04.03	Image Characterization in F21B	To Do	50 Sept/Oct/Nov
f21b-drp-isr	DM-30539	02C.04.02	ISR and Detector Characterization in F21B	To Do	75 Sept/Oct/Nov
f21b-drp-qa	DM-30540	02C.04.07	DRP QA in F21B	To Do	50 Sept/Oct/Nov
f21b-drp-deblender	DM-30541	02C.04.05	Deblender Improvements in F21B	To Do	50 Sept/Oct/Nov
f21b-drp-object	DM-30542	02C.04.06	Object Characterization in F21B	To Do	50 Sept/Oct/Nov
s22a-drp-emergent	DM-30543	02C.04.01	Emergent Work for DRP in S22A	To Do	50 Dec/Jan/Feb
s22a-drp-astrom	DM-30544	02C.04.03	Astrometry Improvements in S22A	To Do	50 Dec/Jan/Feb
s22a-drp-bkgd	DM-30545	02C.04.03	Image Characterization in S22A	To Do	50 Dec/Jan/Feb
s22a-drp-isr	DM-30546	02C.04.02	ISR and Detector Characterization in S22A	To Do	75 Dec/Jan/Feb
s22a-drp-qa	DM-30547	02C.04.07	DRP QA in S22A	To Do	50 Dec/Jan/Feb
s22a-drp-deblender	DM-30548	02C.04.05	Deblender Improvements in S22A	To Do	50 Dec/Jan/Feb
s22a-drp-object	DM-30549	02C.04.06	Object Characterization in S22A	To Do	50 Dec/Jan/Feb
s22b-drp-emergent	DM-30551	02C.04.01	Emergent Work for DRP in S22B	To Do	50 Mar/Apr/May
s22b-drp-astrom	DM-30552	02C.04.03	Astrometry Improvements in S22B	To Do	50 Mar/Apr/May
s22b-drp-bkgd	DM-30553	02C.04.03	Image Characterization in S22B	To Do	50 Mar/Apr/May
s22b-drp-isr	DM-30554	02C.04.02	ISR and Detector Characterization in S22B	To Do	75 Mar/Apr/May
s22b-drp-qa	DM-30555	02C.04.07	DRP QA in S22B	To Do	50 Mar/Apr/May
s22b-drp-deblender	DM-30556	02C.04.05	Deblender Improvements in S22B	To Do	50 Mar/Apr/May
s22b-drp-object	DM-30557	02C.04.06	Object Characterization in S22B	To Do	50 Mar/Apr/May

Personnel changes for F21A

- Jim Bosch on paternity leave any time now
- Fred Moolekamp taking some time off this summer
- Morgan Schmitz's last day July 30
 - Starts faculty job in Nice Sept 1
- Remy Joseph's last day Sept 30
 - Starts postdoc with Hiranya Peiris in Stockholm working remotely from Copenhagen Oct 1.

- Please take a vacation this summer.



Conference room in our new building
You'll see us calling in from here in Sept

