



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

WFC3

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WFC3 status/completed projects

Status

- WFC3 operating nominally
- One SIC&DH lockup in July, fast recovery
- About 257,000 images now in MAST archive

Recently completed

- NEW: IR PSF image database. 4.5 million entries
- Spatial scans: more scans in monitors/software available
- Support of gyro high-mode testing (TIR 2019-04)
 - WFC3 imaging, dithering nominal
 - jitter larger in high (~5-8mas) vs low (~3-4 mas)

1 Select a collection...
2 Filter Columns
3 Search

Service Notice
Push MAST, a new authorization mechanism

MAST: Barbara A.

What's New

- Engineering Database: Allows response time and allows multiple
- Instrument Keywords: Guide &
- Download Speeds: Improved is and data transfer rates.
- Upload Observation List: This searched via a file upload.
- Release Notes: A history of all

Upload Targets Quick

1. Select a collection and enter a
2. Use the filters and analyze tools
3. Add files to the download basket

See the User's Guide for more data

Records Found: 4,395,133
Good Quality PSF Subset
Total Limit: 50,000
Download Limit: 500,000

Applied Filters

Filter Columns: ID, Name, Filter, PSF X Center, PSF Y Center, PSF Plus, PSF Min, Exposure Time, Aperture, Read Name, PSF, PSF Min, PSF Max, PSF Min, PSF Max, PSF Min, PSF Max

Filters

PSF X Center: 14.6375, 7.6364

PSF Y Center: 14.6375, 7.6364

PSF Plus: 4.467, 1098.51

PSF Min: 2.78, 117046

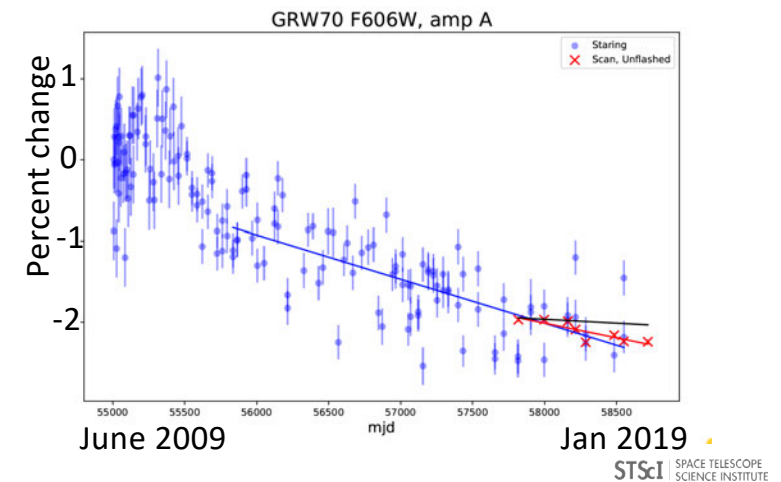
PSF X Center: 0.478, 1098.52

PSF Y Center: 0.478, 1098.52

PSF Plus: 0.478, 1098.52

PSF Min: 0.478, 1098.52

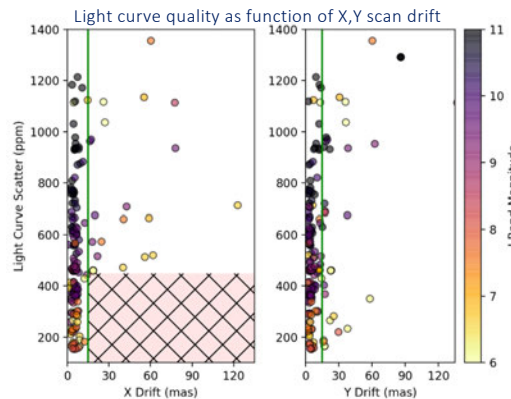
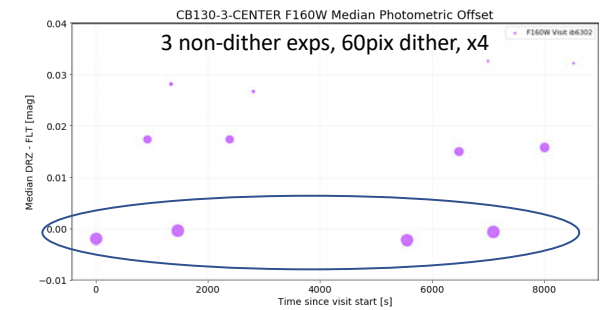
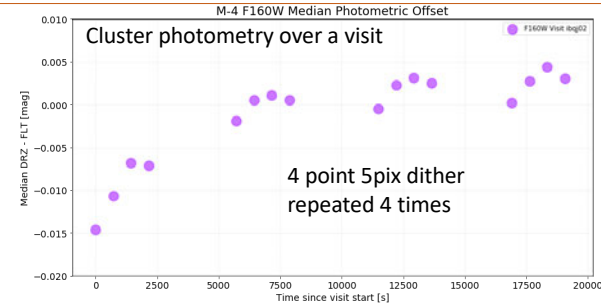
<https://mast.stsci.edu/portal/Mashup/Clients/Mast/Portal.html>





Recently completed/ ongoing

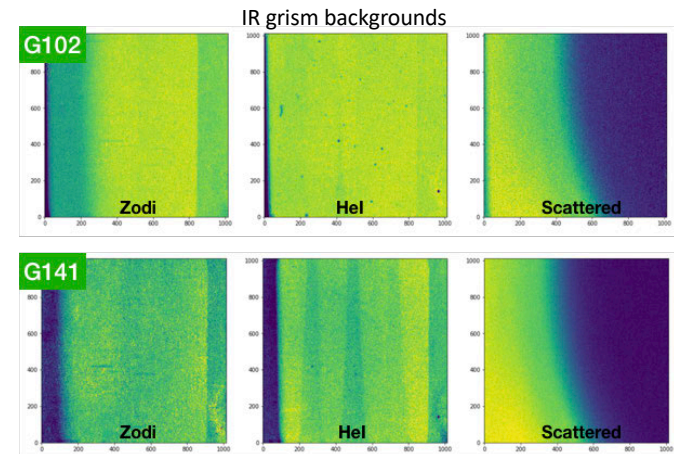
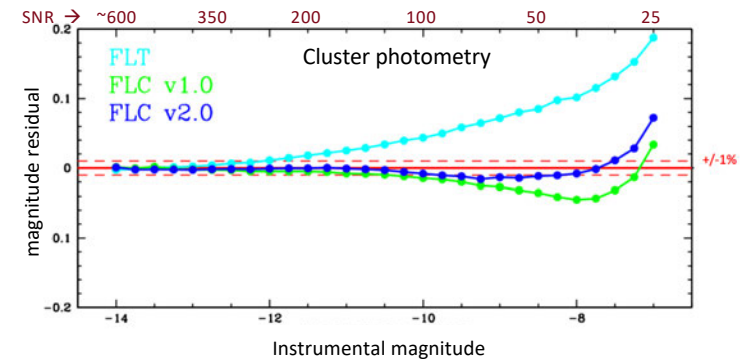
- IR photometric repeatability (ISR 2019-07) typically 2-3% even with 5pix dither min 10 pix dither to achieve $\sim 0.5\%$
- New: QL monitor of time-series grism data best precision: X drifts $< 15\text{mas}$ (ISR 2019-12) no trend of drifts with time
- Verification of MAST/SCSB astrometric updates/documentation - release imminent





Recently completed/ ongoing / future

- UVIS CTE correction update finalized
code being incorporated into calwf3 by DMD
then: pipeline testing, release to MAST
- G141 grism background: 3-component model done
both G102/G141 now vetted
consistency of observations at different PAs
- Cycle 27 calibration plan: routine monitors +
UVIS background recommendation check
UVIS grism wavelength & flux calibration
IR time-dependent sensitivity, color terms
- Update to IR skyflats
- Time-dependent UVIS zeropoints for pipeline
- Python tools for using PSFs
- Improvements to UVIS superdarks (CTE;hotpix)





User support, new documentation

- Cycle 27 Phase II reviews
- Updating IHB for Cycle 28 Call for Proposals
- Vetting of DHB conversion to Hdox
- STAN in June, next one Jan

- ISRs
 - 2019-13: Pre-Flashing WFC3/IR Time-Series, Spatial Scan Observations – *Stevenson & Eck*
 - 2019-12: Transiting Exoplanet Observations Using WFC3's Spatial Scan Monitor – *Stevenson & Fowler*
 - 2019-11: WFC3/UVIS: 2018 Superbias Reference File – *Kuhn & Khandrika*
 - 2019-10: WFC3/UVIS CTE Monitor: Efficacy of Post-Flash in the UVIS Darks – *Medina, et al.*
 - 2019-09: Comparison of WFC3/UVIS Geometric Distortions Solutions to Gaia Data Release 2 – *Martlin et al.*
 - 2019-08: Periodicity in the WFC3/UVIS Bias Pre-Scan – *Khandrika & Desjardins*
 - 2019-07: WFC3/IR Photometric Repeatability – *Baja*
 - 2019-06: Monitoring of the Internal Flat Fields for WFC3/IR - *Ryan*
 - 2019-05: Improved Drizzled Data Products for the WFC3/IR Detector – *Mack & Bajaj*

- TIRs
 - 2019-04: WFC3 data quality under gyro high-mode – *Khandrika et al.*
 - 2019-03: Running the WFC3/UVIS dark pipeline – *Martlin*
 - 2019-02: Generating time-dependent WFC3/IR bad pixel tables and superdarks – *Sunnquist*
 - 2019-01: WFC3/IR blob monitoring: an end-to-end Jupyter notebook workflow – *Sunnquist*