WFC3

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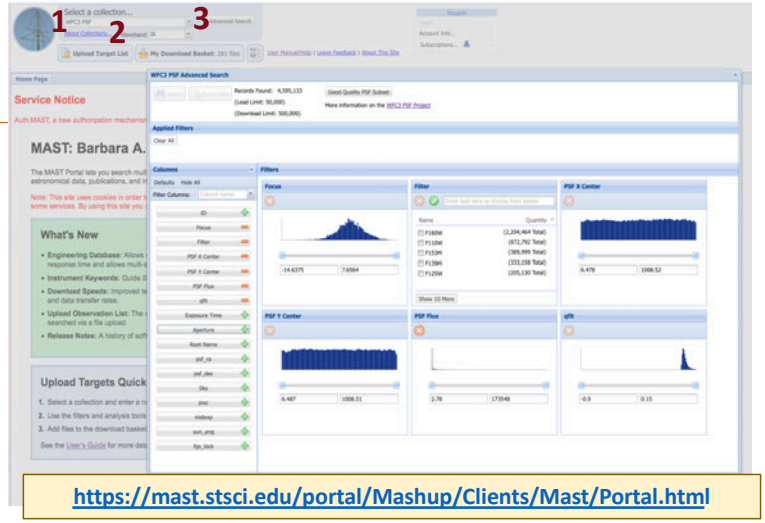
STUC Nov 12, 2019

WFC3 status/completed projects



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

Status

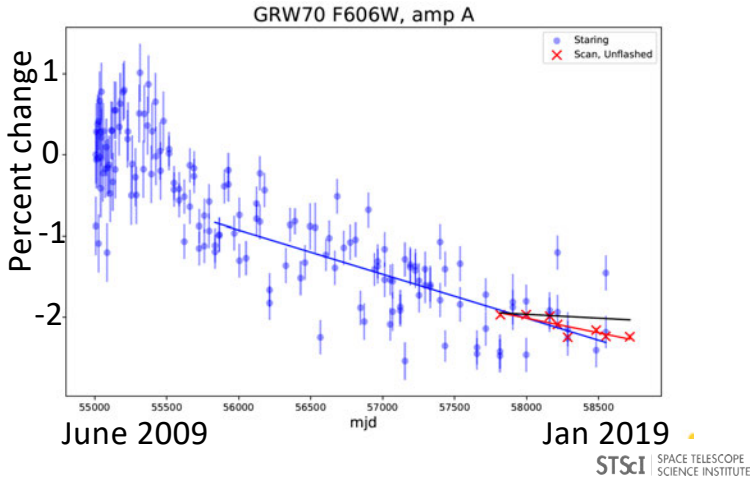
- WFC3 operating nominally
- One SIC&DH lockup in July, fast recovery
- About 257,000 images now in MAST archive

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)



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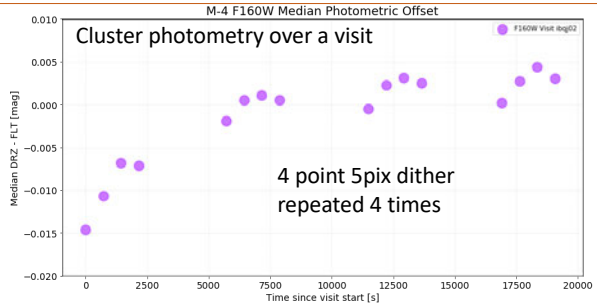
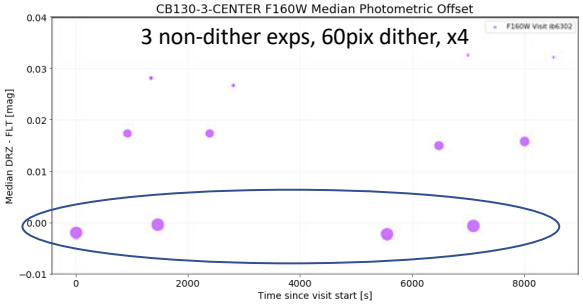
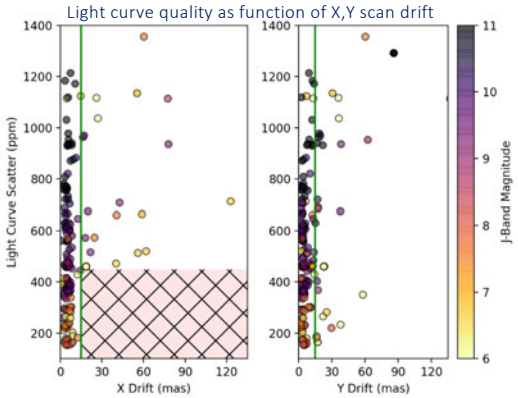
Recently completed/ ongoing

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

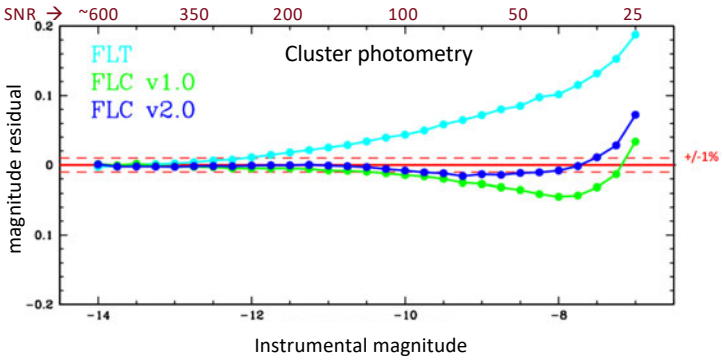


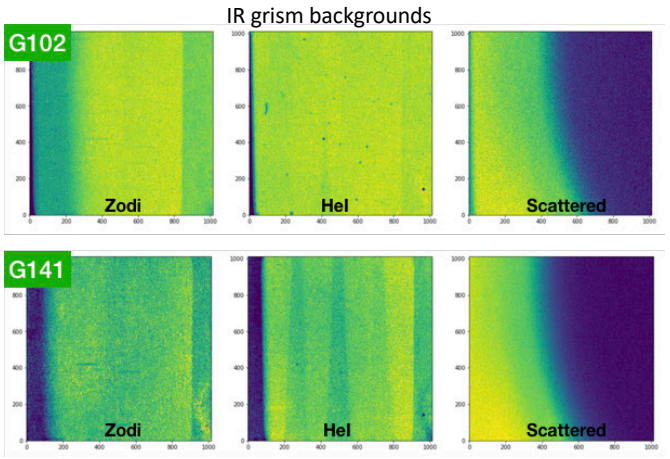




Recently completed/ ongoing / future

- 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*