





Issue Tracker

Please contact Kevin Stevenson or Sarah Kendrew to add issues to this page.

| Instrument / Group | Description of the Issue (include JIRA/PR links if possible) and Eventual Solution | Priority | Lead (s) | Status |
|--------------------|--|----------|--|--|
| DMS / Calibration | Optimal background subtraction needs to be decided upon and implemented in CALTSO3 <ul style="list-style-type: none"> Optimal TSO Spectral Background Subtraction | Medium | Kevin Stevenson | <ul style="list-style-type: none"> Reach out to Karl Gordon and Steve Crawford about getting optimal version on the enhancements list |
| DMS / Calibration | Continuous Integration / Unit testing <ul style="list-style-type: none"> We need to develop a standard set of tests that automatically run on the calibration pipeline whenever there is an update. | High | Susan Mullally Thomas Beatty Sarah Kendrew | <ul style="list-style-type: none"> Baseline CalTSO3 will be in Build 7.2 (to be delivered Oct 5, 2018) |
| DMS / Calibration | ISIM clock is not precise enough for TSO, need to use FPE clock for relative time and S/C clock for reference point | High | Kevin Stevenson John Stansberry | <ul style="list-style-type: none"> IEC = ISIM Electronics Components Comparing measured IEC panel temperature during heater cycling tests to measured temperature in FPE <ul style="list-style-type: none"> Both temperature sensors record similar (~30 K) swing in temperature IEC exhibits a deadzone of ~2 K FPE has a corresponding deadzone of ~0.2 K <div>IN PROGRESS</div> |
| DMS / Calibration | Write technical memo (TM) describing spacecraft clock correction, engineering mnemonic SCTA_OFFSET, and how to access engineering data to see where within the exposure the correction was applied | Low | Kevin Stevenson | <div>ON HOLD</div> until analysis is completed |
| DMS / Calibration | The transiting exoplanet community is requesting access to "jitter files". These files record the stellar positions of the guide stars and have been used successfully to decorrelate against instrument systematics in HST data. <ul style="list-style-type: none"> Maybe this can be accomplished by accessing the DMS Engineering Database Example: https://github.com/spacetelescope/jwt-dms-edb#example-usage | Medium | Kevin Stevenson | <div>OPEN</div> |
| MIRI TSO | Target acquisition needs to be implemented in APT | Medium | Sarah Kendrew | For LRS slitless <div>DONE</div> For Imaging: <div>ON HOLD</div> (not for cycle 1) For MRS: <div>DONE</div> |
| MIRI TSO | Enable TSO mode for MIRI imaging | High | Sarah Kendrew | Work approved but not yet scheduled |
| MIRI TSO | Tests show long persistence ramp in TSO data, no easy means to pre-flash detector <ul style="list-style-type: none"> Do we need tests during commissioning? Ramp may be due to blackbody light source (per Dan Dicken), new LED light source is currently being tested | Low | Sarah Kendrew | <div>IN PROGRESS</div> |

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| MIRI TSO | Enable MRS TSO mode <ul style="list-style-type: none"> Caution: data volumes could be too high | Medium | Sarah Kendrew | TSO special requirement enabled for MIRI MRS as per: <div>  APT-90305 - Jira project doesn't exist or you don't have permission to view it. </div> Simultaneous imaging is disabled when TSO SR is selected. <div>DONE</div> Note: Add notes to JDocs re. data volume concerns. |
| MIRI TSO | Telescope roll may be an issue with MRS <ul style="list-style-type: none"> FGS holds position, but not roll angle Large distance of MRS from rotation axis could cause deviations of several pixels over the course of an observation | Medium | Sarah Kendrew Kevin Stevenson Dean Hines | no action required? |
| NIRCam TSO | Enable SW DHS spectroscopic mode | High | Jonathan Fraine Thomas Beatty | <div>IN PROGRESS</div> <div>  JSOCIN T-264 - Jira project doesn't exist or you don't have permission to view it. </div> |
| NIRCam TSO | Enable narrow-band filter option for target acquisition | High | Jonathan Fraine Thomas Beatty | |
| NIRCam TSO | Enable TA on saturated targets | Medium | Jonathan Fraine John Stansberry Thomas Beatty | |
| NIRSpec BOTS | How do we ensure the target falls in the 1.6" aperture before TA? <ul style="list-style-type: none"> Enable 4-point mosaic to increase field of view | Low | | |
| NIRSpec BOTS | Enable WATA on saturated targets | High | | |
| NIRSpec BOTS | Enable WATA with NGROUPS=1 or 2 | Medium | | |
| NIRSpec BOTS | Enable 100% duty cycle mode | High | Kevin Stevenson Maria Pena-Guerrero | <div>ON HOLD</div> (not for cycle 1) |
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| NIRISS SOSS | Enable mode to use F277W filter to remove spectral overlap as a calibration | Low | Loic Albert Jonathan Fraine | <div>  JSOCIN <p>T-123 - Jira project doesn't exist or you don't have permission to view it.</p> </div> <div>ON HOLD</div> |
| NIRISS SOSS | Enable 100% duty cycle mode | High | Kevin Stevenson Jonathan Fraine | <div>ON HOLD (not for cycle 1)</div> |
| JDox | Need bias and 1% saturation levels to make target fluence recommendation to observers | Medium | Kevin Stevenson Sarah Kendrew | <p>NIRCam: ~35k ADU (~69k electrons)</p> <p>NIRISS: ~35k ADU (~56k electrons)</p> <p>NIRSpec: ~35k ADU (~???k electrons)</p> <p>MIRI: ???</p> <div>IN PROGRESS</div> |
| JDox | Listed NIRSpec gain values do no apply to BOTS mode <ul style="list-style-type: none"> BOTS gain values to be added with CDP4 ESA delivery Current best guess is ~1.4 e-/ADU | Medium | Maria Pena-Guerrero | 01 Apr 2019 |
| JDox | Add decision tree describing how to plan TSOs | Medium | Sarah Kendrew | <p>See New TSO roadmap page in JDoxs</p> <div>DONE</div> |
| JDox | Discuss file segments in TSO strategy page, link to segment page with full details (once it's created) | Medium | Sarah Kendrew | 01 Apr 2019 |
| ETC | List brightest pixel fluence in output | Low | Brian Brooks | |
| ETC | Provide NGROUPS required to reach saturation. Also, define "saturation" for each instrument | Low | Brian Brooks | |
| ETC | Turn off flatfield uncertainty for TSOs to generate realistic SNR values | Medium | Kevin Stevenson | <div>  JETC- <p>322 - Jira project doesn't exist or you don't have permission to view it.</p> </div> <div>DONE</div> |
| APT | APT only asks for transit ephemeris in HJD <ul style="list-style-type: none"> Want to enable option for BJD | Low | | |
| APT | APT may be slow to run Visit Planner for short period planets <ul style="list-style-type: none"> Visit planner in APT 25.4.4 gets stuck (or is slow) for some short-period planets Karla Peterson and Everett worked out a solution where he multiplied the planet period by 5 and then it works pretty smoothly and since the period is so short there are still plenty of starting windows. If this problem persists in APT, perhaps we should have a note somewhere in JDox (and/or APT) that explains this workaround (multiply the period by a small integer) to users for short period ephemerides? | Low | Everett Schlawin | Everett submitted a ticket (INC0051035) with the JWST Help Desk |

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| APT | <p>For very long exposures, the APT visit planner fails to satisfy the phase constraint.</p> <ul style="list-style-type: none"> • See JWST program 1201 (NEAT), observation 11 (phase curve observation of WASP-121b) • The phase constraint is correctly set, but the calculated visibility periods do not satisfy it. • The problem appears whenever $t_{\text{exp}} > P - w - 1048$, where t_{exp} is the total exposure time, P is the planet period, and w is the time width of the of the observing start window specified in the phase constraint, all in seconds. <p>PR 90539</p> <p>Resolution: We are *not* planning to change JWST's VSS/JCL to change the way it deals with Phase constrained observations. We *are* planning to have APT alert the user with a warning when the Phase constraint is lost due to the overlapping windows problem. We believe a handful of observations a year will face this issue and we can refer the user to documentation of workarounds in the APT warning.</p> <p>Proposed workarounds:</p> <ol style="list-style-type: none"> 1. The user doubles the period and recalculates the phase start and end to apply to only one of the two transits in that doubled period. (Downside: loss of half of the scheduling opportunities, but that shouldn't be a big deal since there are so many.) 2. The user could double the period and create two observations - one with the start and end time of the first transit and one with the start and end time of the second transit. The second observation could be put "on hold" in case it is needed for increased scheduling flexibility. 3. Create a short observation that can be correctly constrained and SEQ NON-INT it to the desired long TSO observation. This is a more elegant solution, but has more overheads associated with it. 4. Use a single tight Between to nail down the observation to a single transit. This would be helpful when coordinating the observation with another observatory. <p>Agreed upon solution:</p> <p>When APT calculates that the observation is long enough that VSS will not be able to honor the specified Phase requirement (** see note below) then APT will take the following actions:</p> <ol style="list-style-type: none"> 1. Create two visits 2. First visit will be very short (perhaps only a couple minutes) <ol style="list-style-type: none"> a. A S/C visit with the same aperture as the science observation b. No GS Acq c. No Target Acq d. Will have a Phase Special Requirement e. This Phase will have the start and end time adjusted so that the requested start and end time are honored for the science 3. The second visit will be the Target Acq and science originally requested 4. Link the two visits with a SEQ NON INT 5. Inform the user via a warning what was done and why | Low | David Lafreniere | <p>David submitted a ticket (INC0058021)</p> <p>DONE</p> <p>Resolved</p> |
| QuickLook | <p>Develop JWST TSO QuickLook monitor for all relevant instrument modes</p> <p>https://innerspace.stsci.edu/display/JWQLPROJ/TSO+monitor</p> <p>What to include in TSO monitor:</p> <ul style="list-style-type: none"> • Time in BJD_TDB • Spectroscopic flux vs time • PSF drift and shape vs time • Instrument (FPE?) temperatures vs time • Precision relative to photon limit • Max target fluence | Medium | Kevin Stevenson | <p>Reached out to Francesca and timeline and work justification/priority</p> <p>IN PROGRESS</p> |