

2023-03-22 TSO WG Meeting notes

Date

22 Mar 2023

Attendees

- [Sarah Kendrew](#)
- [Brian Brooks](#)
- [Nikolay Nikolov](#)
- [Everett Schlawin](#)
- [Nestor Espinoza](#)
- [Knicole Colon](#)
- [Michael Regan](#)
- [Eddie Bergeron](#)
- [Loic Albert](#)
- [Elena Manjavacas](#)

Meeting agenda:

1. News & Announcements (all)
2. Roundtable Cycle 2 calibration plan updates (all)
3. Handling LRS SLITLESSPRISM 390 Hz noise (Regan)
4. TSO WG work (TSO monitors, non-linearity, 1/f, etc.; all)
5. Roundtable check-in

Discussion items

Time	Item	Who	Notes
5 mins	1. News & announcements		None! Nestor Espinoza : some cycle 2 stats. huge increase in exoplanet proposals compared to cycle 1 (not all TSOs) the TSO modes are heavily requested as well: esp NIRSpec BOTS TSOs are ~20-30% of JWST usage for cycle 2 proposals (yay and yikes)
	2. Cycle 2 calibration plan check-in		Cycle 2 calibration plan is not yet fixed - mission office will review the programs before assigning PIDs. NIRSpec: NIRCam: • Program on grism backgrounds • Mario will try to add a program similar for NIRISS and to Grism backgrounds for the DHS mode. MIRI: • not a dedicated program but we have requested dedicated backgrounds for all LRS slitless cal observations • some detector calibration activities will also feed into our TSO performance. NIRISS:

	3. 390 Hz noise for MIRI	Michael Regan Eddie Bergeron	Slides from Eddie & Mike. Noise is actually present in all array configurations, but in most array configs the noise is in phase (which occurs when npixels in subarray is a multiple of 256) . Very visible in SLITLESSPRISM. Initial fix from Ressler is to move the subarray, increasing frame read time by 8% Eddie created a library of solutions with various compromises. Some even shorten the frame time. Quite an impactful change, need to start the transition asap - we need consensus and buy in from stakeholders asap. We should not accept having this additional noise in the data for the lifetime of the mission - we would not have picked this for flight had we known about it. SK: like the smallest size where we gain 6.6% read time NE: what is the cost? - anything that has a time calculation will need updating so it's quite impactful NE: how well can we correct it in data? - you have to solve for phase, it can be done but it's not easy. definitely hard to implement in the pipeline - several community members have reported back that there is some residual noise. We need to quantify with some numbers for the trade-off for this work to assess whether it's worthwhile doing. LA: should we optimize the subarray size to maximize the background coverage if that is proving problematic? - yes the LRS group will have to look into the optimal size - comparing the background coverage against the wavelength range. ES: can we make a new subarray to avoid the shadowed region? - yes that can be part of the equation. we can move the subarray up & down with no additional impact, moving horizontally has more of a frame time cost. - MR: also looking into the initial conditions for the observations, eg the shadowed region
	4. TSO Work	Nestor Espinoza	TSO monitor Nikolay Nikolov : - no major updates; code running every 12 hrs (4 hrs was a bit too much) - difficulty getting responses from ITSD for this to become hosted on the webpage (requiring SSO login; not public) - workaround: emailing it round. - some issues with the visit status reports, esp if there was a failure of some kind. sometimes when replacement obs is generated it can take a long time for the visit status to be updated online. Bad pixels/NaNs Nestor Espinoza : with newest version of the pipeline bad pixels are converted to NaNs. newest processed data shows a LOT of NaNs, more than expected. Probably related to new bad pixel map.
	5. Roundtable check-in		
	NIRCam	Nikolay Nikolov	
	NIRISS	Nestor Espinoza	
	NIRSpec	Elena Manjavacas	
	MIRI	Sarah Kendrew	
2 mins	4. Closing Remarks		