

# 2021-04-7 TSO WG Meeting notes

## Date

07 Apr 2021

## Attendees

- [Nestor Espinoza](#)
- [Sarah Kendrew](#)
- [Nikolay Nikolov](#)
- [Arpita Roy](#)
- [Everett Schlawin](#)
- [Knicole Colon](#)
- [Michael Regan](#)
- [Tony Keyes](#)
- [Diane Karakla](#)

## Apologies:

- [Stephan Birkmann](#)

## Meeting agenda:

1. News & announcements
2. High efficiency mode
3. Outlier detection update
4.  $1/f$  noise update
5. Closing remarks

## Meeting slides

[TSOWG-April7th2021.key](#)

(links to Innerspace page which is unavailable for external folks — if interested in seeing them, send [Nestor Espinoza](#) or [Sarah Kendrew](#) an e-mail).

## Discussion items

Time	Item	Who	Notes
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5 mins	1. News & announcements	Everyone	<ul style="list-style-type: none"> <li>▪ There's been an email discussion about the Calspec2 Photom() step, whether it should be in the default execution of the pipeline stage. As this calibration step corrects for throughput, blaze functions etc, there is a concern it will introduce systematics. Most scientists and analysts are skipping the step as the analysis looks at differential (spectro-) photometry so doesn't require physical units. The step can be toggled in the calwebb_tso-spec2.cfg file (or the asdf file that will replace it). <ul style="list-style-type: none"> <li>▪ Regan &amp; Keyes question how you can get correct line ratio measurements if you don't correct for throughputs?</li> <li>▪ more analysis is needed</li> </ul> </li> <li>▪ APT2021.1 will include a warning &amp; workaround for a known issue with visit planning for long TSOs. When the scheduled visit time is bigger than the period then APT is not able to respect the input phase constraints. See ticket <div data-bbox="769 430 1484 598" style="border: 1px solid orange; padding: 5px; margin: 5px 0;">  APT-90539 - Jira project doesn't exist or you don't have permission to view it. </div> <p>. The workaround implemented raises a warning and tells the user to double the period provided to AT, and adjust the phase range to match. This will reduce the number of available scheduling opportunities (by half)</p> <ul style="list-style-type: none"> <li>▪ on discussion the WG agrees this is not idea as it will require documentation and will confuse users. The impact on the schedulability of the various programs is also not fully known.</li> <li>▪ we feel the option to have this properly corrected by APT should remain on the table as the workaround is not optimal</li> <li>▪ (update: <a href="#">Nestor Espinoza</a> has emailed Jeff Valenti to provide this feedback after the meeting)</li> </ul> </li> <li>▪ <a href="#">Brian Brook</a> talked about the release of ETC 1.6, which contained TSO-specific updates. Some changes for MIRI are still being worked as they required an update to the timing document. This work is in progress, led by Bryan Holler. Some JDocs updates will be required. A description of changes can be found in <a href="#">this article</a>.</li> </ul>
30min	2. High efficiency modes		
		Sarah Kendrew	<ul style="list-style-type: none"> <li>▪ See meeting slides for updates</li> <li>▪ <a href="#">Loic Albert</a> brings up importance of providing technical information to science community (or "study group") so they can then determine impact on science.</li> <li>▪ <a href="#">Michael Regan</a> says a report on the 100% duty cycle mode for the NIR detectors is ready (by Eddie B)</li> <li>▪ <a href="#">Michael Regan</a> &amp; Eddie B have also looked into different read modes in the NIR that avoid 1/f noise. Have for example spoken to Karl M at UAZ regarding an IRS2 read mode for NIRCcam. There are many possibilities but need to gather evidence and numbers on the need and the trade-offs.</li> <li>▪ Case for keeping (or bringing back) the 0 frame resets mode for MIRI is also compelling for TSOs, as the problems solved by the frame resets did not significantly impact TSO science, whereas these observations will suffer from the loss of efficiency particularly for v bright targets</li> <li>▪ Team feels this is an important activity that we should take action on soon. We need the science justification for these capabilities, so the project (Goddard) has both the view of the technical and scientific impact &amp; can assess - but will take time.</li> <li>▪ <a href="#">Nestor Espinoza</a> &amp; <a href="#">Sarah Kendrew</a> will set up an additional small-group meeting in the next 2 wks to discuss a plan for this activity. All from TSO WG are welcome + some additional stakeholders.</li> <li>▪ <a href="#">Loic Albert</a> asks if changing the readout speeds of our detectors is possible to increase the saturation limits? <ul style="list-style-type: none"> <li>▪ this is theoretically possible but introduces additional noise, and not sure if JWST SI readout electronics can accommodate much faster speeds.</li> </ul> </li> </ul>
5min	3. Outlier detection update		
		Sarah Kendrew / Nikolay Nikolov	<ul style="list-style-type: none"> <li>▪ Nikolay will present at the May Cal WG meeting and we should have an internal discussion beforehand. Propose that we do this in next meeting, or set up a small separate meeting for this topic.</li> <li>▪ <a href="#">Michael Regan</a> reports there is a pull request for the jump step, to work properly on 3 and 4 group integrations. Next step is to identify jumps across multiple integrations.</li> </ul>
5 mins	4. 1/f noise		
		Nestor Espinoza	<ul style="list-style-type: none"> <li>• Work in progress on the PSD modelling - will return to this in next meeting</li> </ul>

5 mins	<b>5. Final comments or updates</b>		
		<a href="#">Sarah Kendrew</a>	<ul style="list-style-type: none"><li>• Let's meet again in 2 weeks!</li></ul>