# 2023-05-03 TSO WG Meeting notes

## Date

03 May 2023

## Attendees

- Sarah Kendrew
- Brian Brooks
- Leonardo Ubeda
- Nestor Espinoza
- Loic Albert
- Elena Manjavacas
- Everett Schlawin
- Unknown User (birkmann)
- Nikolay Nikolov

## Meeting agenda:

1. News & Announcements.
2. TSO Programs Monitor & Upcoming observations (Nikolov)
3. TSO Discussion: TSO & Parallels, TA monitoring for TSOs (Espinoza, all).
4. TSO Heads-ups: JSOCINT-764, JWST Cycle 3 preparation (Espinoza, all).
5. Instrument Roundtable check-in.

## Discussion items

| Time | Item | Who | Notes |
|---|---|---|---|
| 5 mins | **1. News & announcements** | | • MIRI: technical staff hire for TSOs, interviews completed.<br>• Paper of NIRSpec transit observations of super-Earth GJ486-b (Moran et al 2023)<br>  ◦ see some correlated noise in the white light curve residuals.<br>  ◦ observed features in transmission spectrum can be explained by star spots or an H2O-rich atmosphere - interesting to see this degeneracy and note IR doesn't remove the starspot/atmosphere degeneracy.<br>  ◦ also see the flux calibration for the most star: very stable between the different epochs. though not a great match with the models.<br>  ◦ Loic Albert talking with Volk about the flux calibration for SOSS re some abs flux calibration issues in the reference files.<br>  ◦ absolute flux calibration is important for stellar contamination issues so we really need to understand the systematics in flux cal (eg uncertainties on the models we're using etc) and communicate to user. Esp when models are extrapolated from optical/NIR to longer wavelengths.<br>• Call is out for TSO Deputy WG position. Deadline is next Friday, May 12th. 1 paragraph of interest to Nestor & please to Branch Manager first (10% effort level) |
| | **2. TSO program monitor** | Nikolay Nikolov | • Now online! tsomonitor.stsci.edu<br>• Coming up: 5 observations - 2 NIRSpec BOTS, 2 MIRI LRS<br>• Not currently planned to make public. Mission Office/NASA have to be involved when we develop new "products". Would need approval.<br>• WOPR: have had instances when TA fails, then reverts to blind pointing and pointing is off so end up doing a TSO on empty background. Instruments should double check how this is handled for their cases. Will investigate further what the cause of the failure is. |

| | | | |
|---|---|---|---|
| | **3. TSO & parallels, TA monitoring for TSOs** | Nestor Espinoza | • Parallels (see Holwerda et al 2019)<br>  ◦ fears for timing offsets; instrumental systematics due to extra use of mechanisms, devices (eg heaters)<br>  ◦ Nestor, Nikolay, SK all agreed that a proof of concept observation is required<br>  ◦ Loic: we should definitely do TSOs in parallel. we already operate FGS in parallel with TSOs.<br>  ▪ how confident are we that NONE of our systematics are due to the FGS<br>  ◦ how bad would the impact be from CRs on extragalactic data if we can't dither?<br>  ◦ data volume limitations? apparently Jeff Valenti's looked into this and only a potential issue for NIRCam TSOs.<br>  ◦ What would a test look like? perform a transit; perhaps try a mechanism move in the parallel instrument to try<br>• TA monitoring for TSOs<br>  ◦ question from the JWSTQL team - do we need TSO monitors for TSOs<br>  ▪ understanding visit-to-visit stability<br>  ▪ identify anomalies in data taking<br>  ▪ thoughts on important plots to have at hand?<br>  ◦ SK: perhaps TA calculation results as a function of target brightness - to understand better how it works for (near-) saturated targets |
| | | | |
| | | | |
| | | | |
| 2 mins | **4. TSO heads-up: JSOCINT-764** | Nestor Espinoza | Implementing high-efficiency modes (report with Natasha Batalha)<br>• NE spoke with JWMO<br>  ◦ Please go read the ticket, spread the word and promote the work |
| | **5. Cycle 3 Prep** | Nestor Espinoza | Approaching quickly! Think about:<br>• Tools<br>• Documentation: e.g. time stamps<br>• better understanding of photometric stability<br>Please report in 2 wks on the most important updates for TSOs. |
| | **6. Instrument roundtable** | | MIRI (SK):<br>• Eddie & Mike have an algorithm that corrects the 390 Hz noise<br>NIRISS (NE):<br>• have identified the source of all the NaNs that were noticed in the data following pipeline updates<br>NIRCam (NN/EAS):<br>• no major updates. working on updates of cycle 2 cal programs<br>• CR detection - can update later<br>• did experiment for 1/f subtraction method - work in progress.<br>NIRSpec:<br>• nothing to report<br>NIRISS/FGS (Nestor):<br>• will be getting a student to develop a TSO pipeline for FGS data & looking for co-mentor<br>• Loic volunteers |