

2020-04-22 TSO WG Meeting notes

Date

22 Apr 2020

Attendees

- [Nestor Espinoza](#)
- [Brian Brooks](#)
- [Sarah Kendrew](#)
- [Tony Keyes](#)
- [Nikolay Nikolov](#)
- [Unknown User \(birkmann\)](#)

Goals

- Discussion on (re-)definition of goals/priorities for FY2020 for the WG.
- Update everyone on the WG on the different TSO activities going on on the different branches.
- Presentation by [Nikolay Nikolov](#) on analysis of simulated NIRCam WASP-79b dataset.

Discussion items

Time	Item	Who	Notes
	1. News & announcements	Everyone	
25min	2. Fiscal Year 2020 plan discussion & updating		

Cross-instrument TSO tasks	Everyone	- Néstor mentions that an updated plan for FY2020 has to be delivered next week, and this is one of the reasons why we have been occupied with updating the FY2020 tasks in the previous meetings/weeks. On top of that, this update also brought up many already done and/or close-to-be-finished tasks, which of course is a good by-product. Sarah Kendrew and him will meet on Friday on a "executive meeting" to define the final landscape based on everyone's inputs. - Regarding the DMS tasks, he had a meeting with Rosa Díaz who clarified some of them. Sarah Kendrew and him will have a meeting soon with her to define some details about tasks such as the "Jitter files" (e.g., in what format those files are, what they will be composed of, etc.). As for the rest of the DMS tasks, they'll reach out to Alicia Canipe to know the status of them. - Regarding the "Simulated Data" task, which involves simulating TSO observations and passing the data through the DMS Calibration Pipeline, it was decided by the team that this will be divided into smaller tasks. In particular, there will be 2 tasks per instrument involving "Simulation" and "Reduction" except for NIRSpec (Tony Keyes mentioned they do have a NIRSpec IDT instrument simulator that provides electron rate maps, but that going up-the-ramp is not trivial. They also have "real data" from CV3/OTIS that they are using for pipeline verification purposes. Although these could be used to inject transits, they don't think this would be an easy task). For all the other teams, both are high-priority tasks in the current FY2020. In general, the ideal path would be that each time one of us generates a TSO simulation, these are linked to the Jira project on JWST Data Simulation (JWSTSIMS; for details on this project, see this page and the links to other Jira tickets with simulated data at the end). To do this, simply go to the project, open a new ticket, and fill in the details (use other simulated datasets to guide your way). This will help us maintain order on the simulations, as well as to share them with DMS who then can use them for their own purposes. Sarah Kendrew will also create/maintain a local list of our simulations on the Outerspace page, so when you create these tickets, please, do let us know. - We also had a discussion in terms of how and if to share those simulated datasets with the community. It was proposed that perhaps the best would be to release Python Notebooks and/or tutorials (like, e.g., the NIRCам Mirage ones) with details on how each of those datasets was simulated, but it is not clear if and whether we should support those Notebooks once released. Important to mention here is that a very similar task is anyways being put forward by Camilla Pacifici, but currently, this only includes one time-series observation Notebook (which will be written by Néstor). Alternatively, Nikolay Nikolov proposed that a better approach would be to share the simulated datasets mentioned in the previous point directly with the community, which would nullify the need for support. Sarah Kendrew provided some insight in that it is not clear we really want to release such datasets to the community (or support data simulation in general) — and thus it would be wise to first consult with the WSMO. Sarah and Néstor will have this conversation with the WSMO first in order to make a decision on this. - Some minor ETC, JDOx & APT tasks were not discussed, but they are clear enough that Sarah Kendrew and Nestor Espinoza will have a look at them in their "executive meeting" on Friday.
NIRISS tasks updates	Nestor Espinoza	The F277W task is done; however, the 100% Duty Cycle task definitely needs more study. It is not as straightforward as just "enabling" it, and thus he changed the name of the task from "Enabling" to "Studying". The final decision in terms of on what time-line to decide this will be discussed by him and Sarah Kendrew in their meeting on Friday but most likely than not this task will need to be studied in detail after FY2020 (FY2021 seems like the ideal time-span, as if this happens, it would definitely be a Cycle 2 improvement).
NIRCам tasks updates	Brian Brooks	NIRCам has reached a similar conclusion to that of the NIRISS/SOSS 100% Duty Cycle, and there is an agreement to the need of studying this in detail. As for the other tasks, they will be working on the "TSO Times with FPE Clock" task to improve timings for TSO observations. Brian Brooks will update the name and description of the DHS task, as this will be a task that will be continuously "on", but we need to decide what part of that long-term task will be done on FY2020 (and at what priority).
NIRSpec task updates	Tony Keyes	As with NIRISS and NIRCам, agreement on the re-definition of the high-efficiency mode task. Subsequent to the meeting, updated descriptions of what part of the other tasks will be done in the current FY2020 as well. In addition, Unknown User (birkmann) provided feedback on the JDOx APT task regarding the Gain values for BOTS, and they are going to update the text to clarify that.
MIRI task updates	Sarah Kendrew	- Updated MIRI tasks, and on top of that added a new one involving RSCD which is currently under study. The change will effectively change the detector readout strategy for multi-integration exposures (affecting essentially all TSOs). An extra reset will be carried out between integration in an exposure, as this has been found to reduce the Reset Switch Charge Decay (RSCD) effect in the MIRI detectors. The RSCD effect has proven very difficult to correct in other ways. Assessment at the JWMO and Project level is currently under way to decide on prioritisation. - One of the big next things to do during FY2020 will be to test how simulated MRS and imaging TSO data do with the pipeline.

30min	3. TSO activities per instrument team		
5min	NIRISS activities/updates	Nestor Espinoza	As a quick update, Néstor mentions the WASP-18b TSO commissioning program (NIS-034) he's been working on is done. It's going to go through PIT review soon — the program description can be found here along with the associated APT file.
15min	NIRCam activities /updates	Brian Brooks Nikolay Nikolov	Nikolay Nikolov provided the WG with a step-by-step description on data reduction of a simulated NIRCam dataset of a transit of WASP-79b. He has compared results from the JWST pipeline with results from his custom tool. He's looking into approaches to further remove systematics in the data.
5min	NIRSpec activities /updates	Tony Keyes	As described above, JDox documentation for BOTS didn't have a precise description for Gain values; Unknown User (birkmann) gave some input on this and drafted an update to be submitted.
5min	MIRI activities/updates	Sarah Kendrew	Updated text on detector settling recommendations for TSOs in JDox. Still not pushed yet as was waiting for input from Jeff Valenti, will try to push it this week.
	Closing remarks of the meeting		

Action items

- ☒ Sarah Kendrew and Nestor Espinoza will meet to define the final FY2020 plan for the WG.
- ☒ Sarah Kendrew and Nestor Espinoza will meet with Rosa Díaz to define status of Jitter files.
- ☒ Sarah Kendrew and Nestor Espinoza will reach out to Alicia Canipe to find out status of the rest of the DMS tasks.
- ☐ [Sarah Kendrew](#) and [Nestor Espinoza](#) will reach out to the WSMO to define whether simulated datasets should be shared with the community, and what is the priority of that.
- ☒ Brian Brooks will update name, description and effort level of DHS NIRCam task in order to define what part will be done in FY2020. This is now updated. (BB)
- ☒ Tony Keyes will update the effort level and task descriptions for NIRSpec tasks.
- ☒ Sarah Kendrew will update the descriptions of some of the tasks (e.g., the RSCD task), including effort levels.