2023-04-19 TSO WG Meeting notes

Date

19 Apr 2023

Attendees

- Sarah Kendrew
- Unknown User (birkmann)
- Brian Brooks
- Nikolay Nikolov
- Everett Schlawin
- Leonardo Ubeda
- Michael Regan

Apologies

- Nestor Espinoza
- Loic Albert

Meeting agenda:

1. News & Announcements.
2. General TSO WG work updates.
3. Documenting TSO timestamp generation
4. NIRCam TSO flux variation causes (Everett)
5. Roundtable check-in.
6. Closing remarks.

Time	Item	Who	Notes
5 mins	**1. News & announcements**		In the interview stage of the MIRI technical position hire. Nestor & Sarah met with MESA leadership yesterday (Diaz) and updated her on the progress in our work for this fiscal year.
	TSO work tasks updates		
	2. 1/f noise		▪ Nestor presented his work to the CalWG 2 weeks ago. No news.
	3. Non-linearity as measured by TSOs (Espinoza)	Leonardo Ubeda	Using Nestor's notebook as a template to look at the NIRSpec non-linearity performance in the WASP-121 data. Took a long time to process (47 hrs).
	4. TSO Monitor	Nikolay Nikolov	Still waiting to hear from ITSD, Meeting with Klaus and Massimo to see what level of public visibility of the page is appropriate. All of the data being queries & shown is already publicly available but it is apparently still somewhat sensitive.
	5. Cosmic ray routine	Nikolay Nikolov Michael Regan	▪ Nikolay and Mike both developing new routines for better cosmic ray detection; methods are quite different. They plan to meet today or next Weds to compare methods and determine good test metrics. NN's method looks at individual groups (ie uncal data). MR's algorithm works on multi-integration data and uses sigma-clipping. ▪ NE had suggested the rms of the pixels as a success metric but for many integrations that is not so meaningful. Need a better metric. ▪ They will report any results or findings in the TSO WG meetings.
	6. TSO Timestamp generation (helpdesk ticket)	Nikolay Nikolov Everett Schlawin	Everett filed a Helpdesk ticket (INC0188726 for those with access) to report that the data in the INT_TIMES extension for TSOs is not consistent with the header keywords (BSTRTIME, BENDTIME, BARTDELT). The difference he finds is ~240 seconds. Brian Brooks has investigated and found other datasets where this is the case. SK has had a report from a MIRI PI as well. The INT_TIMES extension has the most reliable data. A possible workaround is to re-populate the header keywords based on the data in the INT_TIMES extension. Action to write a short note about this for either JDocs or Knowledge Base to have a reference for the user while the cause of the issue is being investigated. SK will check where best to place this.

	7. NIRCam flux variation (anti-)correlated with focal plane assembly houseing temperature	Everett Schlawin	Slides Looking for relevant telemetry to de-trend some light curves - in the smallest subarrays see a slow downward trend. Found an anti-correlation with the mnemonic that traces the focal plane housing (FPHA) temperature, which I turn appears to correlate with the ASIC temperature. The ASIC is not temperature controlled, and we know from lab testing that T control is important. So that is unfortunate. It's important to look at the actual geometry of the focal plane system and where the sensors are. The temperature recorded in the mnemonic is that of the thermistor, not the focal plane itself. No idea of the actual causative mechanism behind this - right now this is just a correlation. Need to dig further to understand better. Mike Regan suggests meeting with Eddie to look at the detain more detail.
TSO Roundtable check-in			
		Sarah Kendrew	
	NIRCam	Nikolay Nikolov	SPAR reviews and reviews of CAL programs.
	NIRISS	Nestor Espinoza	
	NIRSpec	Unknown User (birkmann)	
	MIRI	Sarah Kendrew	
2 mins	**4. Closing Remarks**		None.