2018-06-04 TSO Meeting notes

Date

04 Jun 2018

Attendees

- Kevin Stevenson
- Brian Brooks
- Daniel Dicken
- Jeroen Bouwman
- Maria Pena-Guerrero
- Pierre-Olivier Lagage
- Unknown User (birkmann)

Goals

Discussion items

Time	Item	Who	Notes
	TSO Timing Precision	Kevin	- ISIM clock is not precise enough for TSO - Use FPE clock for relative time and S/C clock for reference point - Frequency of FPE clock has a slight temperature dependence (10 ppm variation in flux over 25 K variation in temperature) - John Stansberry has had success getting CV3 data to check temperature stability of FPE - Will discuss results next month - Duration of "second" isn't always constant during an observation - Offset may be applied during contact to correct drift in s/c clock - Use engineering telemetry data to determine timing offset correction - Current plan is to flag exposures in which an offset occurs - Users will need to access engineering data to determine which integrations were affected - Will need to write technical memo (TM) describing spacecraft clock correction, engineering mnemonic SCTA_OFFSET, and how to access engineering data to see where within the exposure the correction was applied
	MIRI		- Working on generating simulated data for TSO MIRI Direct imaging Full Array mode, not high priority - Still reviewing results of passing simulated data through pipeline
	Target fluence recommendations		- NIRCAM: - Recommend ~35K ADU - NIRISS: - Mean bias = 11.6k ADU - Mean soft saturation = 50.5 ADU above bias (range is 43k-59k) - Recommend ~35k ADU??? (~75% of saturation)
	Data Segmentation		- Files need to be segmented into chunks if they are too large - Baseline version of segmentation code works, but doesn't optimize for different values of NGROUPS - In some cases, the choice of 2GB per segment results in large level-2a products (e.g. 6 GB in size). The 2GB segment size is fine for a single level-1b FITS file. In the case that NGROUPS=3 though, there's very little "compression" due to ramp fitting in the level-2a products, and because the level-2a products inflate the original raw data from int16 to float32, as well as add several more float32 data arrays of the same size (ERR, DQ, ...), resulting in the level-2a products that were ~6 GB in size. **Decision: Use size_level1b = size_level2a * ngroups / 10. Pick what the size_level2a we want, and then L1b and segment size will follow from there via the equation** - Work hasn't started on new version - Will need to briefly discuss file segments in JDox TSO strategy pages and link to more detailed discussion

Action items

- [ ] Daniel Dicken: Target fluence recommendation for MIRI
- [ ] Maria Pena-Guerrero: Target fluence recommendation for NIRSpec