2017-05-18 TrEX WG Meeting notes

Date

18 May 2017

Attendees

- Kevin Stevenson
- Sarah Kendrew
- Jonathan Fraine
- David Lafreniere
- Unknown User (eas342@email.arizona.edu)
- Unknown User (jarronl@email.arizona.edu)
- Unknown User (jason@astro.umontreal.ca)
- Loïc Albert
- Pierre-Olivier Lagage
- John Stansberry
- Unknown User (tom.greene@nasa.gov)

Goals

Discussion items

<table>
<tr><th>Time</th><th>Item</th><th>Who</th><th>Notes</th></tr>
<tr><td></td><td>Simulated Data</td><td></td><td>

Deadline is May 31st
Need Level1b data

There is a tool available in the JWST pipeline called create_data that converts FITSWRITER files to DMS level 1b
Convert FITSWRITER file to DMS level 1b

"Small" data sets in all TSO modes (simple, noise free)
"Medium" data set containing simulated transit with realistic uncertainties
"Large" data set for memory management and archival distribution purposes
Need matching APT files
See below for PDF of required header keywords
Place files on central storage

/grp/jwst/dms/TSO

Everett presented update on NIRCam simulated data (see slides below)

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<tr><td></td><td>Bright Target Acquisition (TA)</td><td></td><td>

NIRCam TA uses medium filter (F335M) and NGROUPS=3
Saturation limit is K=7.02
4 GTO targets exceed this limit (HD 189733, HD 209458, HD 149026, GJ 436)
Implementation of a narrow filter for TA improves limit by ~2.5 mag, but won't likely be possible until Cycle 2
Option A: TA on offset target

Positive: Requires no additional capabilities
Negative: Limited to < 30" separation, requires both positions be know very precisely, faintness limits

Option B: TA on saturated target

Positive: No offset uncertainty, better pointing consistency, doesn't require nearby offset star
Negative: May require changes to flag saturated pixels
John Stansberry to test how far into saturation we can reasonably go
Faint offset targets aren't an issue, K=18.5 using DEEP8 and NGROUPS=65

Option C: Add TA through a narrow-band filter to APT and OSS

Positive: Improves saturation limit to ~K=5.5
Negatives:

Requires changes to APT, PPSDB, OPGS, OSS
May require separate 'apertures' to be defined for TA in the 2 filters (calibration issue).

Option D: Allow TA using NGROUPS=1, 2

Positive: Improves saturation limit by ~1.2 mag
Negative: Requires bigger changes to OSS than Option C, and APT changes (at least).

<table>
<tr><th>System</th><th>Offset Distance (")</th><th>Offset Jmag</th></tr>
<tr><td>HD 189733</td><td>11.5</td><td>10.1</td></tr>
<tr><td>HD 209458</td><td>32.9</td><td>15.7</td></tr>
<tr><td>HD 149026</td><td>20.4</td><td>13.9</td></tr>
<tr><td>GJ 436</td><td>26.4</td><td>16.4</td></tr>
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	Proposal Instructions for JWST		• Waiver for exposure limit on MIRI TSO imaging • Implement new Special Requirement "Time Series Observation" for some JWST templates • Sarah Kendrew working on table of TSO modes (mandatory, optional, not available), may include in JDox
	JWST Documentation		• Many JDox pages are going live tomorrow (May 19th) • Instrument team members should review relevant pages and supply feedback if changes are needed • Still working on TSO landing page that provides a broad overview and directs users to additional pages for more detailed information
	Best NIRISS Observing Practices	Loic	• Loic recommends using F277 filter to measure position of first order trace (without second order overlap) • Filter/grism combination not currently supported in APT for science observations • Loïc Albert to look into prioritizing this change with respect to other tasks

Attachments

Required+Heade...+Exposures.pdf

2017_05_18_nirc..._tso_update.pdf

Action items

- [ ]