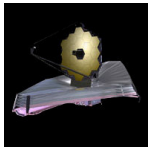

4481 - Acquire PSF calibrator images with filter and subpixel location diversity with deep images to improve AMI calibration

Cycle: 2, Proposal Category: CAL/NIRISS

INVESTIGATORS

Name	*Institution*
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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1		NIRISS Aperture Masking Interferometry	(1) HD-41094

ABSTRACT

A reference star HD 41094 is observed with the 5-point subpixel dither: POS1 (nominally at pixel center), and 4 points in a half-pixel side square around the pixel center POS1. Each of the 5 subdither positions is exposed to a depth of 2E9 e-. The primary data analysis method planned is amiGO+dLux software, which recovers several detector, electronics, and optics calibration quantities using a Bayesian joint estimation of the sky scene (assumed to be a point source) and modelled calibration quantities. Raw pixel data is analysed diectly in this approach. The data can also be analysed using the JWST AMI pipeline, to improve e.g. charge migration treatment by the Detector 1 pipeline step, and to improve other steps (e.g. , 1/f noise identification).

Technical comments:

Note on target acquisition: The f480m AMIBRIGHT TA single frame read should have ~1000e- peak pixel. Suggest TA_NG ~10-15 to get 10,000-

15,000e- peak - avoid too strong a CM effect in centering the target at POS1. ETC Workbook ID:

TA Notes: ETC for AMI TA gives extracted SNR = 202:

5x5 pixel aperture TA ETC; F480M
HD 41094 W2=6 K0 II/III
used K0III Phoenix modeli in ETC
ETC Workbook ID: 191259

f480m ng 11 nint 1
texp 5.00e-01s = 0.0m
extracted flux e/s 1.5e+05
peak pixel rate e/s 2.5e+04
EXTRACTED FLUX TOTAL e 7.4e+04
PEAKPIXEL e after 11 groups 1.3e+04

OBSERVING DESCRIPTION

One visit to the target executing A 5-point subpixel dither around POS1 in each of the filters should be perfoprmed with no interruptions. Peak pixzels are to be ~5e4 electrons, and the total depth ~2e9 electrons at each dither. One successful target acquisition is needed.

Observation 1: HD41094
2 arcsec aperture in ETC
HD 41094 W2=6 K0 II/III
used K0III Phoenix model in ETC
ETC Workbook ID: 190529

f480m ng 30 nint 760
texp 1.72e+03s = 28.7m =? Kevin: t480m = 1436s 24m 0.4h
extracted flux e/s 1.2e+06

peak pixel rate e/s 2.2e+04
EXTRACTED FLUX TOTAL e 2.0e+09
PEAKPIXEL e after 30 groups 5.0e+04

f380m ng 11 nint 1060
texp 8.80e+02s = 14.7m =? Kevin: t380m = 899s 15m 0.2h
extracted flux e/s 2.3e+06
peak pixel rate e/s 6.3e+04
EXTRACTED FLUX TOTAL e 2.1e+09
PEAKPIXEL e after 11 groups 5.3e+04

f430m ng 20 nint 905
texp 1.37e+03s = 22.8m =? Kevin: t430m = 1359s 23m 0.4h
extracted flux e/s 1.5e+06
peak pixel rate e/s 3.4e+04
EXTRACTED FLUX TOTAL e 2.0e+09
PEAKPIXEL e after 20 groups 5.1e+04

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	HD-41094	RA: 05 58 21.1679 (89.5881996d) Dec: -64 09 39.85 (-64.16107d) Equinox: J2000	Proper Motion RA: 0.0010994791606899256 sec of time/yr Proper Motion Dec: 0.102541 arcsec/yr Parallax: 0.00313" Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[Point spread function]
Extended=NO

Observation

Proposal 4481, Observation 1

Mon Feb 19 19:01:46 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRISS Aperture Masking Interferometry

Diagnostics

(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
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Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[Point spread function]
Extended=NO

Acquisition

#	Target	Acquisition Mode	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	1 HD-41094	AMIBRIGHT	F480M	NISRAPID	11	1	1	0.566	191259

Template

Subarray	Direct Image
SUB80	false

Dithers

#	Primary Dithers	Subpixel Positions
1	NONE	5

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F480M	NISRAPID	30	760	5	3800	8964.656	191487
2	F380M	NISRAPID	11	1060	5	5300	4906.528	191487
3	F430M	NISRAPID	20	905	5	4525	7261.358	191487

PSF References	PSF Reference: true
Special Requirements	No Parallel Attachments