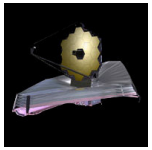

1534 - Geometric Distortion and Scale

Cycle: 1, Proposal Category: CAL/FGS

INVESTIGATORS

Name	*Institution*
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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Cycle 1 Epoch 1				
	1	FGS1	FGS External Calibration	(1) LMC-ASTROMETRIC
	2	FGS2	FGS External Calibration	(1) LMC-ASTROMETRIC
Cycle 1 Epoch 2				
	3	FGS1	FGS External Calibration	(1) LMC-ASTROMETRIC
	4	FGS2	FGS External Calibration	(1) LMC-ASTROMETRIC

ABSTRACT

This proposal monitors the geometric distortion & pixel scale of both FGS Guide channels. The LMC astrometric field is imaged via FGS in calibration mode, obtaining full frame images at 5 different positions within the astrometric field for each of the two channels. The mid-point of the catalog will be placed at the center of the FGS channel being calibrated (the other channel will be guiding). This will ensure that (1) the same stars are used to calibrate FGS1 and FGS2, and (2) we will thus obtain an accurate measure of the relative sensitivity of Guiders 1 & 2. This program is similar to CAR-FGS-011. Epoch 1 observations should be done within 5-7 months of the end of commissioning. Epoch 2 observations should be

done within 5-7 months of the epoch 1 observations.

This calibration program is provisional and may change in response to system developments and final science program.

OBSERVING DESCRIPTION

FGS geometric calibration images: the mid-point of the catalog will be placed at the center of the FGS channel being calibrated (the other channel will be executing the guide function on a single guide star, which need not be an entry in the LMC catalog). This will assure that:
(1) the same stars are used to calibrate FGS1 and FGS2,
(2) we will thus obtain an accurate measure of the relative sensitivity of guiders 1 & 2

The imaging channel will operate in 'calibration mode' using the FGS External Calibration APT template. A 5-point primary dither pattern is used to acquire full frame images of the star field.

Since NIRCam and NIRISS will also be using the LMC astrometric field for the same purpose, it would be of benefit to FGS if they observed the same stars as FGS, as this would provide color information to the FGS team that can be used to refine our understanding of the FGS sensitivity.

TIMING CONSTRAINTS

Observations 1 & 2 should be done within 5-7 months of the end of commissioning.
Observations 1 & 2 should be grouped within 2 days.
Observations 3 & 4 should be done within 5-7 months of the epoch 1 observations.
Observations 3 & 4 should be grouped within 2 days.

Proposal 1534 - Targets - Geometric Distortion and Scale

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	LMC-ASTROMETRIC	RA: 05 22 40.0000 (80.6666667d) Dec: -69 32 0.00 (-69.53333d) Equinox: J2000		

Comments: This location in LMC was taken from earlier HST observations to establish an astrometric calibration field common to HST and JWST missions [REFERENCE proposal or paper]
Category=Calibration
Description=[Astrometric]

Observation

Proposal 1534, Observation 1: FGS1 Mon Feb 27 15:01:47 GMT 2023

Diagnostic Status: Warning

Observing Template: FGS External Calibration

Comments: For this observation, the mid-point of the catalog will be placed at the center of the FGS1 channel (FGS2 will be executing the guide function on a single guide star, which need not be an entry in the LMC catalog).

Diagnostics

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

(Visit 1:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 1:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 1:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	LMC-ASTROMETRIC	RA: 05 22 40.0000 (80.6666667d) Dec: -69 32 0.00 (-69.53333d) Equinox: J2000		

Comments: This location in LMC was taken from earlier HST observations to establish an astrometric calibration field common to HST and JWST missions [REFERENCE proposal or paper]
Category=Calibration
Description=[Astrometric]

Template

Pointing Type	Target type	Detector
PRIME	IMAGE	GUIDER1

Dithers

#	Primary Dithers	Subpixel Positions
1	5	1

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FGSRAPID	20	2	5	10	2254.722	

Special Requirements

Between Dates 01-DEC-2022 and 28-FEB-2023
Sequence Visits , Non-interruptible
Visits Same PA

Group Observations 1, 2 within 2 Days

Observation

Proposal 1534, Observation 2: FGS2 Mon Feb 27 15:01:47 GMT 2023

Diagnostic Status: Warning

Observing Template: FGS External Calibration

Comments: For this observation, the mid-point of the catalog will be placed at the center of the FGS2 channel (FGS1 will be executing the guide function on a single guide star, which need not be an entry in the LMC catalog).

Diagnostics

(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 2:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 2:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 2:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	LMC-ASTROMETRIC	RA: 05 22 40.0000 (80.6666667d) Dec: -69 32 0.00 (-69.53333d) Equinox: J2000		

Comments: This location in LMC was taken from earlier HST observations to establish an astrometric calibration field common to HST and JWST missions [REFERENCE proposal or paper]
Category=Calibration
Description=[Astrometric]

Template

Pointing Type	Target type	Detector
PRIME	IMAGE	GUIDER2

Dithers

#	Primary Dithers	Subpixel Positions
1	5	1

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FGSRAPID	20	2	5	10	2254.722	

Special Requirements

Sequence Visits , Non-interruptible
Visits Same PA

Group Observations 1, 2 within 2 Days

Observation

Proposal 1534, Observation 3: FGS1 Mon Feb 27 15:01:47 GMT 2023

Diagnostic Status: Warning

Observing Template: FGS External Calibration

Comments: For this observation, the mid-point of the catalog will be placed at the center of the FGS1 channel (FGS2 will be executing the guide function on a single guide star, which need not be an entry in the LMC catalog).

Diagnostics

(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 3:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 3:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 3:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	LMC-ASTROMETRIC	RA: 05 22 40.0000 (80.6666667d) Dec: -69 32 0.00 (-69.53333d) Equinox: J2000		

Comments: This location in LMC was taken from earlier HST observations to establish an astrometric calibration field common to HST and JWST missions [REFERENCE proposal or paper]
Category=Calibration
Description=[Astrometric]

Template

Pointing Type	Target type	Detector
PRIME	IMAGE	GUIDER1

Dithers

#	Primary Dithers	Subpixel Positions
1	5	1

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FGSRAPID	20	2	5	10	2254.722	

Special Requirements

Between Dates 05-MAY-2023:00:00:00 and 03-JUL-2023:00:00:00
Sequence Visits , Non-interruptible
Visits Same PA

Group Observations 3, 4 within 2 Days

Observation

Proposal 1534, Observation 4: FGS2 Mon Feb 27 15:01:47 GMT 2023

Diagnostic Status: Warning

Observing Template: FGS External Calibration

Comments: For this observation, the mid-point of the catalog will be placed at the center of the FGS2 channel (FGS1 will be executing the guide function on a single guide star, which need not be an entry in the LMC catalog).

Diagnostics

(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 4:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 4:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.

(Visit 4:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	LMC-ASTROMETRIC	RA: 05 22 40.0000 (80.6666667d) Dec: -69 32 0.00 (-69.53333d) Equinox: J2000		

Comments: This location in LMC was taken from earlier HST observations to establish an astrometric calibration field common to HST and JWST missions [REFERENCE proposal or paper]
Category=Calibration
Description=[Astrometric]

Template

Pointing Type	Target type	Detector
PRIME	IMAGE	GUIDER2

Dithers

#	Primary Dithers	Subpixel Positions
1	5	1

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FGSRAPID	20	2	5	10	2254.722	

Special Requirements

Sequence Visits , Non-interruptible
Visits Same PA

Group Observations 3, 4 within 2 Days