15219 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Cycle: 25, Proposal Category: GO

(JWST Initative)

(Availability Mode: AVAILABLE)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:20.0	yes
02	(3) PSFSTAR2-HD-198939	STIS/CCD	1	18-Jun-2018 10:06:22.0	yes
03	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:24.0	yes
04	(2) PSFSTAR1-HD-191849	STIS/CCD	1	18-Jun-2018 10:06:26.0	yes
05	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:27.0	yes
11	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:29.0	yes
21	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:33.0	yes
22	(2) PSFSTAR1-HD-191849	STIS/CCD	1	18-Jun-2018 10:06:38.0	yes
23	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:42.0	yes
24	(2) PSFSTAR1-HD-191849	STIS/CCD	1	18-Jun-2018 10:06:48.0	yes
25	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:54.0	yes
31	(1) V-AU-MIC	STIS/CCD	1	18-Jun-2018 10:06:59.0	yes

12 Total Orbits Used

ABSTRACT

We found enigmatic, few-au-scale features in spatially resolved near-IR scattered light observations of the AU Mic debris disk system obtained with VLT/SPHERE in 2014. We recovered these structures in re-analysis of HST/STIS imagery from 2010/2011, and discovered that they are moving away from the star at super-Keplerian speeds, possibly escaping the system. To-date, these are the only moving features seen in resolved imagery of debris disks. To help diagnose the origin of this phenomenon and in concert with multi-wavelength diagnostics being pursued with other facilities, we propose to use 12 orbits of HST/STIS to re-image the AU Mic scattered light disk from 0.2" (2 au) to 13" (130 au) ~8 years after the previous epoch of HST/STIS imagery. HST/STIS provides the only means to trace the motion of structures that have already moved outside the FOV of ground-based extreme-AO imagers, the best means to accurately diagnose the morphological and kinematic evolution of these moving features, and the best means to trace the evolution of small grains in the system. Our optical STIS coronagraphy observations are critically needed to establish the locations and shapes of the blobs, establish their optical fluxes at high photometric fidelity, and therefore enable (IR - optical) colors of disk features to be measured in JWST's cycle-1, using NIRCAM's and MIRI's coronagraphs. These data will constrain the grain size distribution, hence mass, of the moving features and by extension the magnitude of the force that is expelling the features, enabling us to test whether mechanisms like the stellar wind or coronal-mass ejections are responsible for the newly observed phenomenon.

OBSERVING DESCRIPTION

OVERALL PROGRAM

This program will obtain two sets of visits of observations of AU Mic. The first set of 5 visits utilize Wedge A0.6 and Wedge A1.0 observations. All visits during this set MUST be executed in contiguous orbits. The second set of 5 visits utilize BAR5 observations. All visits during this set MUST be executed in contiguous orbits.

VISITS AND EXPOSURE DETAILS

1) WEDGE-A OBSERVATION SET

Guide Star Acquisitions: We require pointing and roll control with 2-FGS guiding. Single-FGS guiding does not offer sufficient target position stability for coronagraphy.

Each visit (after its Guide Star acquisition) begins with a mode-2 target acquisition, is followed by a sequence of repetitive "short" exposures (by CR-SPLIT or exposure replication) at the WedgeA0.6 position followed by a sequence of repetitive "long" exposures (also by CR-SPLIT or exposure replication) at the Wedge A1.0 position.

1) Target Acquisitions. We expose our TA images to a SNR > appx 100 using the STIS ETC. While robust target acquisition is enabled with SNR 40, we also use the TA images as a pre mode-2 astrometric anchor to assess the "behind the wedge" target position to high precision (separate from "diffraction spike" analysis, for which higher SNR for precision centroiding is required. We also use these F25ND3 filtered imagesto photometrically obtain target:PSF template brightness ratios in the broad STIS passband. The STIS Target Acquisition ETC was used to determine the eposure times for all acquisition images.

2) The "short" exposure times are designed to reach 90% of full-well depth, with the target coronagraphically occulted, at the edge of the wedge 0.3" from the star. We scale, using the ETC, this from observations predicated upon an A0 star with V = 3.55 reach 90% full well from the PSF halo in 1 second based upon preious STIS coronagraphic observations allowing for up to as much of 1/2 pixel of possible target decentering in acquisition

performance. We generally repeat these exposures to fill appx 35% of the target visibility interval after subtracting the time required for the preceding guide star and target acquisitions.

3) Following the short exposures we execute a Type-2 slew (by a change in instrument aperture to Wedge1.0) for the "long" exposure imaging.

Sub-Array Readouts. For most coronagraphic exposures we use subarray readouts (SIZEAXIS2) symmetrically centered on the target to fully read-out the region along the wedge (Axis2, image Y axis) to the edge of the FOV at the small end of the wedge taper, and symmetrically on the diametrically opposing side. For WedgeA1.0 the max SIZEAXIS2 (without displacing with an |unsupported| CENTERAXIS2) is 427 pixels. This implies that the A1.0 position is 10.82 from the edge of the FOV (whole sub-array centered on target symmetrically 21.65 along the wedge). For WedgeA0.6 is (without displacing with an |unsupported| CENTERAXIS2) is 137 pixels. This implies that the A0.6 position is 3.47 from the edge of the FOV (whole sub-array centered on target symmetrically 6.95 along the wedge).

VISIT LINKAGES (RELATIVE ORIENTATION CONSTRAINTS AND INTERLEAVED PSF OBSERVATIONS)
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We place an absolute orient request on VISIT 3 that constrain the AU Mic disk to align perpendicular to the long axis of occulting Wedge A. We place relative orient constraints on VISIT 1 (-30 to -20 degrees from VISIT 3) and on VISIT 5 (20 to 30 degrees from VISIT 3). No relative orient constraints are placed on VISIT 2 or VISIT 4.

We require all 5 visits within this observational be executed in contiguous orbits.

2) BAR5 OBSERVATION SET

Guide Star Acquisitions: We require pointing and roll control with 2-FGS guiding. Single-FGS guiding does not offer sufficient target position stability for coronagraphy.

Each visit (after its Guide Star acquisition) begins with a mode-2 target acquisition, is followed by a sequence of repetitive "short" exposures (by CR-SPLIT or exposure replication) at the nominal BAR5 position. To mitigate against target centering uncertainties behind BAR5, we also include one sequence of repetitive exposures with the target offset by 0.25 pixels ABOVE the nominal center of BAR5 and one sequence of repetitive exposures with the target offset by 0.25 pixels BELOW the nominal center of BAR5 (i.e. an effective dither about the center position of BAR5).

We achieve this dither pattern by using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = + 0.0024921 arcsec and y = + 0.0122491 for the PLUSDITHER position, and x = - 0.0024921 arcsec and y = - 0.0122491 for the MINUSDITHER position).

1) Target Acquisitions. We expose our TA images to a SNR > appx 100 using the STIS ETC. While robust target acquisition is enabled with SNR 40, we also use the TA images as a pre mode-2 astrometric anchor to assess the "behind the wedge" target position to high precision (separate from "diffraction spike" analysis, for which higher SNR for precision centroiding is required. We also use these F25ND3 filtered imagesto photometrically obtain target:PSF template brightness ratios in the broad STIS passband. The STIS Target Acquisition ETC was used to determine the eposure times for all acquisition images.

VISIT LINKAGES (RELATIVE ORIENTATION CONSTRAINTS AND INTERLEAVED PSF OBSERVATIONS)
==========

We place an absolute orient request on VISIT 23 that constrains the AU Mic disk to align perpendicular to the long axis of occulting BAR5. We place relative orient constraints on VISIT 23 (-30 to -20 degrees from VISIT 23) and on VISIT 25 (20 to 30 degrees from VISIT 3). No relative orient constraints are placed on VISIT 21 or VISIT 24.

We require all 5 visits within this observational be executed in contiguous orbits.

-------- Realtime Justification --------

We have no real-time requirments.

------ Calibration Justification -------

We ask for no SPECIAL calibrations for this proposal (and called none out in Phase 1). We did not because we ASSUME that STScI will acquire GAIN=4 (supported mode) bias, DARK, and flat-field frames (and derived hot/bad pixel maps) as part of their Cycle 25 calibration plan in support of approved Cycle 25 science programs. If this is NOT the case then we must obtain GAIN=4 calibration reference bias/dark data as part of our program using NON-POINTED (internal) orbits only. If STScI does not include acquiring for broader purposes the reference data we need, then we will need to add those internal calibrations to this program AFTER the Phase 2 deadline.

Proposal 15219 - Visit 01 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit

Proposal 15219, Visit 01, completed Mon Jun 18 14:07:01 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT -30D TO -20D FROM 03

Comments: AU MIC (V=8.61, B-V = + 1.45).

First of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses WedgeA.

This is the first AU MIC visit in the first set.

The five visits within each set MUST be executed sequentally in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable orientation to range from -30 deg to -20 degrees from Visit 3, to allow a sufficiently large scheduling window. NOTE TO PC: Our science is optimized if we can achieve an orient as close as possible to -30 degrees from the preferred absolute orient of 83.7 degrees in Visit 3. We ask that you please try to identify scheduling windows that enable us to get as close as possible to this orientation. IF the absolute orient of Visit 3 deviates from 83.7 degrees, PLEASE ask us for guidance as to the orientation range we prefer for Visit 1. We absolutely do NOT want the disk major axis (128.7 degrees) to align with the STIS diffration spikes in Visits 1, 3, or 5.

Diagnostics

(Visit 01) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR

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Fixed Targets

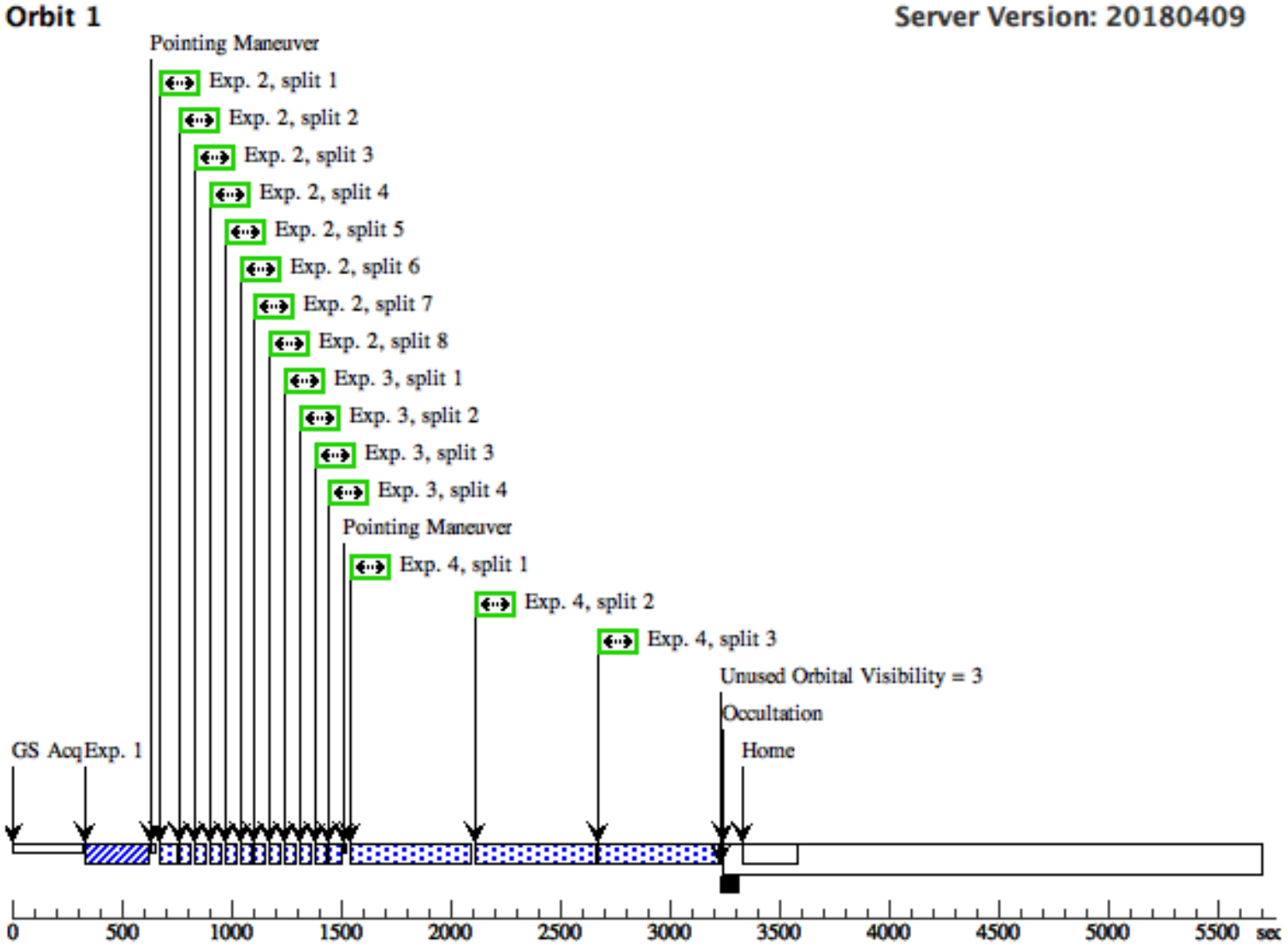
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC Alt Name1: HD197481	RA: 20 45 9.5315 (311.2897146d) Dec: -31 20 27.24 (-31.34090d) Equinox: J2000	Proper Motion RA: 280.37 mas/yr Proper Motion Dec: -360.09 mas/yr Parallax: 0.10059" Epoch of Position: 2000	V=8.627 B-V = +1.45	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 01	0.40 Secs (0.4 Secs) *[==>]*	 ***[1]***
	Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second								
2	AUMIC_SHORTS_1	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 01	364 Secs (364 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
3	AUMIC_SHORTS_2	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=4; GAIN=4		Sequence 1-4 Non-Int in Visit 01	182 Secs (182 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
4	AUMIC_LONG	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=3; GAIN=4		Sequence 1-4 Non-Int in Visit 01	1592 Secs (1592 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. For long exposures at WedgeA1.0 go > 10x deeper in each that will fit into remainer ofvisibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. Th is setup for the "long" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.*								

Orbit Structure



Proposal 15219 - Visit 02 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit	**Proposal 15219, Visit 02, completed** Mon Jun 18 14:07:01 GMT 2018 **Diagnostic Status: Warning** Scientific Instruments: STIS/CCD Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 01 BY 0.5 Orbits TO 1.2 Orbits *Comments: PSF02 (HD1989399). Second PSF calibration target for AU MIC.* *First of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses WedgeA.* *The five visits within each set MUST be executed sequentally in contiguous orbits interrupted only for Earth occultation.* *Orientation: NOTE TO OUR PC: Our PSF star visits (#2 and #4) have no absolute or relative orientation constraints. However, all other things being equal, when scheduled, we would request that both be observed with roll angles as close to Visit 3 as possible. This is not a hard requirement and we do not constrain, but a request this if possible to optimize the science return through likely better PSF calibration.* *Relative Timing: This visit (2) MUST immediately follow visit 1. I.e., They MUST be executed sequentially in "back-to-back" orbits.*
Diagnostics	(Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR (Visit 02) Warning (Orbit Planner): SUBARRAY OFF OF DETECTOR

Fixed Targets

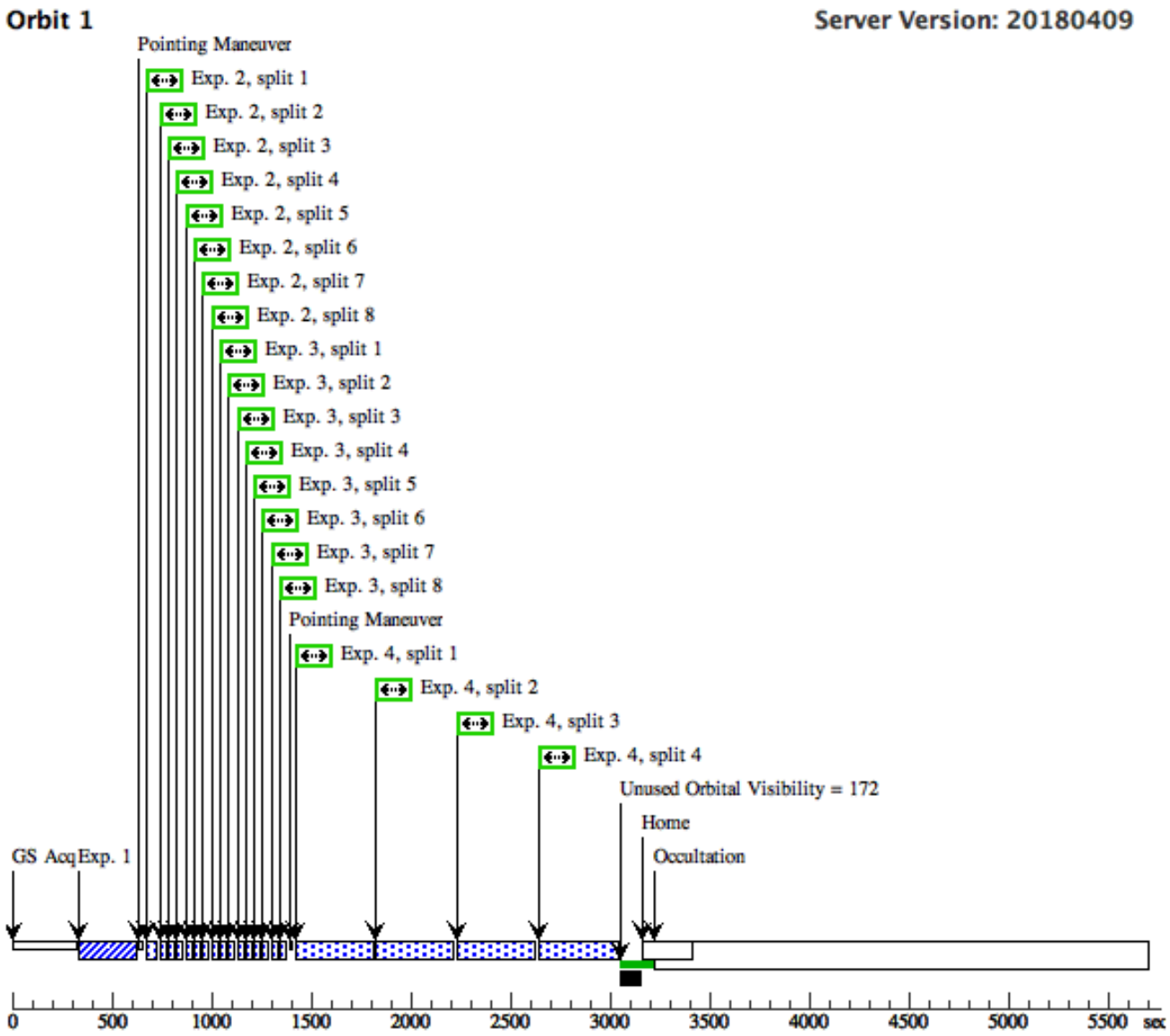
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	PSFSTAR2-HD-198939	RA: 20 54 35.9293 (313.6497054d) Dec: -27 55 49.82 (-27.93051d) Equinox: J2000	Proper Motion RA: 11.77 mas/yr Proper Motion Dec: 5.57 mas/yr Parallax: 0.00115" Epoch of Position: 2000	V=7.66 B-V=1.42, 3.98 degrees from AU Mic; second PSF star	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSF2-ACQ	(3) PSFSTAR2-HD-198939	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 02	0.25 Secs (0.25 Secs) *[==>]*	*[1]*
Comments: SNR = 100, V = 7.66, sp = M0V, Exptime from STIS ETC									
2	PSF2_SHORTS_1	(3) PSFSTAR2-HD-198939	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 02	166 Secs (166 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	*[1]*
Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. Since HD198939 exhibits 32% less flux than our other PSF star (HD 191849, also observed in GO-12228), we scale our exposure times for HD 198939 to be 32% less than HD191849. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.								
3	PSF2_SHORTS_2	(3) PSFSTAR2-HD-198939	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 02	166 Secs (166 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	*[1]*
Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. Since HD198939 exhibits 32% less flux than our other PSF star (HD 191849, also observed in GO-12228), we scale our exposure times for HD 198939 to be 32% less than HD191849. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.								
4	PSF2_LONG	(3) PSFSTAR2-HD-198939	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=4; GAIN=4		Sequence 1-4 Non-Int in Visit 02	1508 Secs (1508 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	*[1]*
Comments: V = 6.26 so saturation in 12.1s. So 90% full well in appx 10.9s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. For long exposures at WedgeA1.0 go <=20x deeper in each that will fit into remainer of visibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. Since HD198939 exhibits 32% less flux than our other PSF star (HD 191849, also observed in GO-12228), we scale our exposure times for HD 198939 to be 32% less than HD191849. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.								

Orbit Structure



Proposal 15219 - Visit 03 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit

Proposal 15219, Visit 03, completed Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 73.7D TO 93.7 D; AFTER 02 BY 0.5 Orbits TO 1.2 Orbits

Comments: AU MIC (V=8.61, B-V = + 1.45).

First of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses WedgeA.

This is the second AU MIC visit in the first set.

The five visits within each set MUST be executed sequentally in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable absolute orientation to range from 73.7 deg to 93.7 degrees, to allow a sufficiently large scheduling window. NOTE TO PC: AU Mic's disk has a PA of 128.7 degrees. Our science is optimized if we can achieve an absolute orient that places the major axis of AU Mic's disk perpendicular to the long axis of WEDGEA. We need our absolute orient to be as close as possible to (128.7 degrees + 315 degrees = 83.7 degrees; or equivalently ok 128.7 degrees + 135 degrees = 263.7 degrees). We ask that you please try to identify scheduling windows that enable us to get as close as possible to either of these absolute orientations. These orientiations place the circumstellar disk axis perpendicular to the long-axis of WEDGEA. We have allowed a +/-10 degree window about this strong preference to aid scheduled and GS acquisition.

Relative Timing: This visit (3) MUST immediately follow Visit 2 and immediately preceed Visit 4 in back-to-back orbits.

Diagnostics

(Visit 03) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

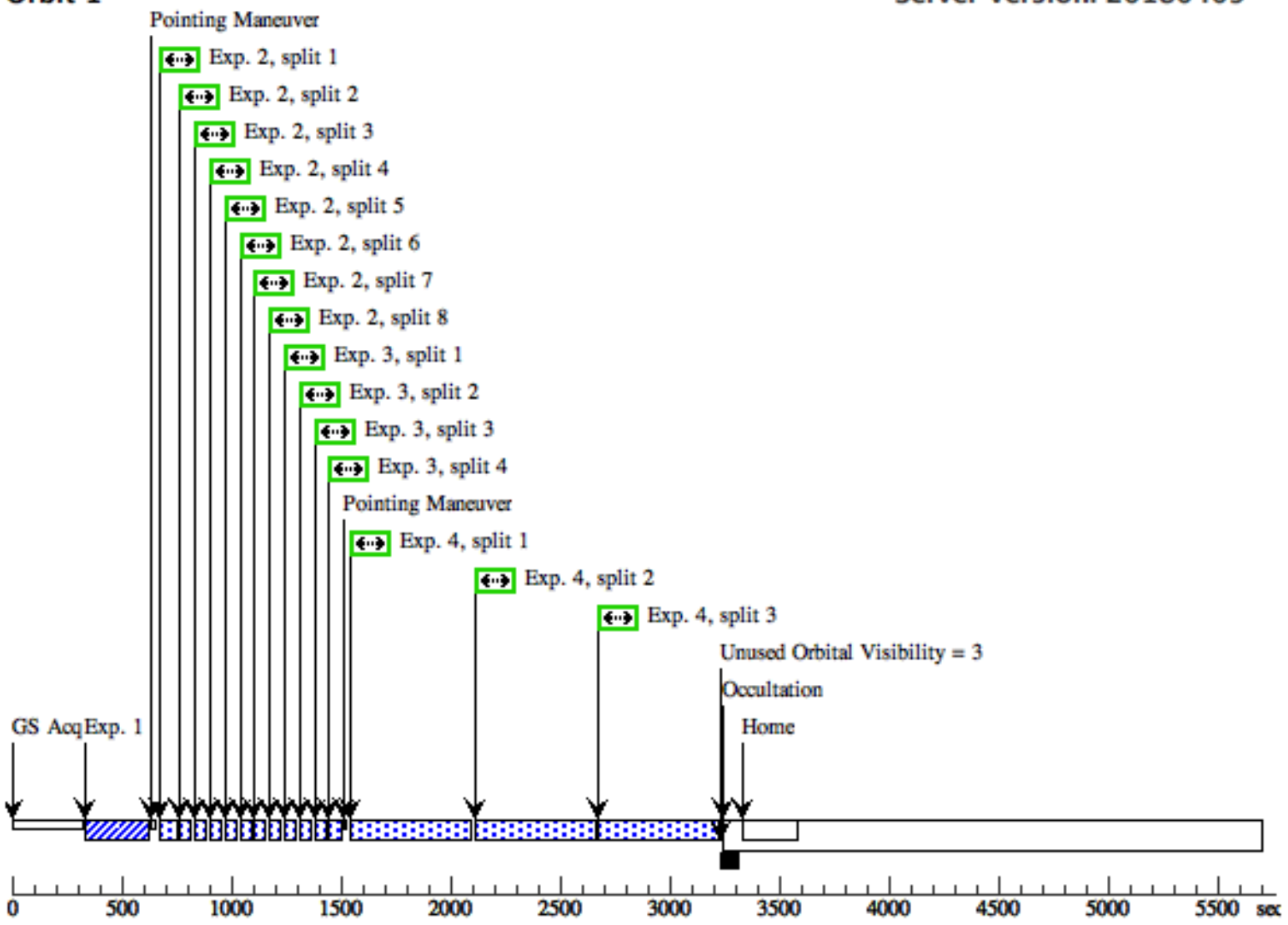
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC Alt Name1: HD197481	RA: 20 45 9.5315 (311.2897146d) Dec: -31 20 27.24 (-31.34090d) Equinox: J2000	Proper Motion RA: 280.37 mas/yr Proper Motion Dec: -360.09 mas/yr Parallax: 0.10059" Epoch of Position: 2000	V=8.627 B-V = +1.45	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 03	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
	Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second								
2	AUMIC_SHORTS_1	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 03	364 Secs (364 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. *AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.* *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")* *For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target* *to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the* *Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
3	AUMIC_SHORTS_2	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=4; GAIN=4		Sequence 1-4 Non-Int in Visit 03	182 Secs (182 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. *AU MIC is V = 8.61 so saturation in 50.6s.* *So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.* *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")* *For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target* *to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the* *Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
4	AUMIC_LONG	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=3; GAIN=4		Sequence 1-4 Non-Int in Visit 03	1592 Secs (1592 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. *AU MIC is V = 8.61 so saturation in 50.6s.* *So 90% full well in appx 45.5s. For long exposures at WedgeA1.0 go > 10x deeper in each that will fit into remainer of* *visibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. This setup for the "long" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.* *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")* *For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target* *to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the* *Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.*								

Orbit Structure



Proposal 15219 - Visit 04 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit

Proposal 15219, Visit 04, completed Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 03 BY 0.5 Orbits TO 1.2 Orbits

Comments: PSF1 (HD191849). PSF calibration target for AU MIC. V = 7.97. B-V = +1.46.

First of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses WedgeA.

The five visits within each set MUST be executed sequentally in contiguous orbits interrupted only for Earth occultation.

Orientation: NOTE TO OUR PC: Our PSF star visits (#2 and #4) have no absolute or relative orientation constraints. However, all other things being equal, when scheduled, we would request that both be observed with roll angles as close to Visit 3 as possible. This is not a hard requirement and we do not constrain, but a request this if possible to optimize the science return through likely better PSF calibration.

Relative Timing: This visit (4) MUST immediately follow visit 3 and immediately precede visit 5. I.e., They should be executed sequentially in "back-to-back" orbits.

Diagnostics

(Visit 04) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	PSFSTAR1-HD-191849	RA: 20 13 53.3976 (303.4724900d)	Proper Motion RA: 778.26 mas/yr	V=7.966	Reference Frame: ICRS
	Alt Name1: GJ784	Dec: -45 09 50.47 (-45.16402d)	Proper Motion Dec: -159.54 mas/yr	B-V = +1.46	
		Equinox: J2000	Parallax: 0.16118"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M0V

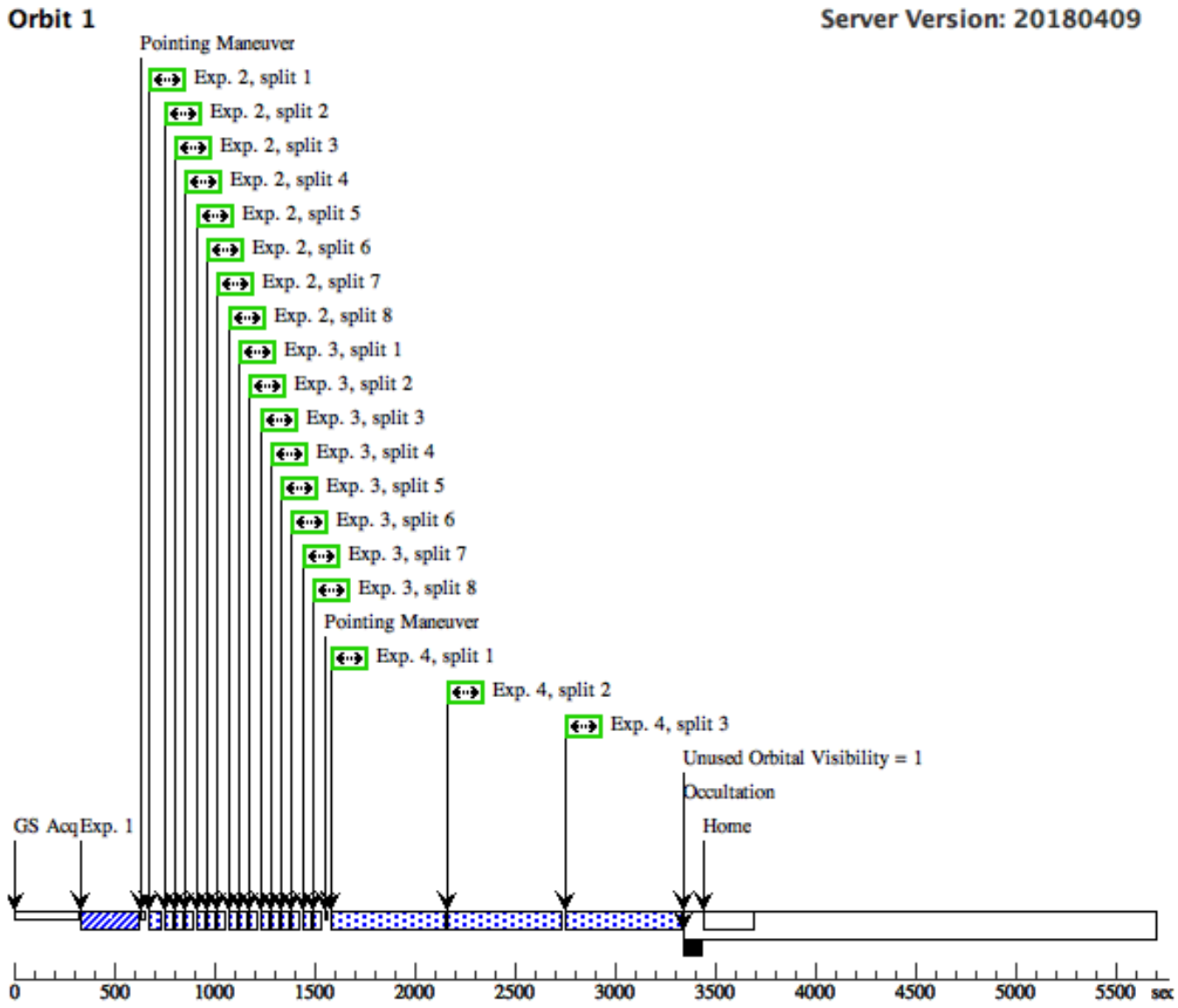
USNO-2: R=15.1 @ r = 0.39'; 6 stars R=15.1-17.9 @ 0.39' < r < 0.92'

HST/ACS-coron perigree: Graham et al 2007
HST/NICMOS 7240 Verified Suitable from HST Images
Used as AU Mic PSF reference sta in GO-12228
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSF1-ACQ	(2) PSFSTAR1-HD-191849	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 04	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: SNR = 100, V = 7.97, sp = M0Ve, Exptime rounded to nearest 0.1 second									
2	PSF1_SHORTS_1	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 04	244.8 Secs (244.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	*[1]*
Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. V = 7.97 so saturation in 34.0s. So 90% full well in appx 30.6s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for or this target and WEDGE observations. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.								
3	PSF1_SHORTS_2	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 04	244.8 Secs (244.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	*[1]*
Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. V = 7.97 so saturation in 34.0s. So 90% full well in appx 30.6s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.								
4	PSF1_LONG	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=3; GAIN=4		Sequence 1-4 Non-Int in Visit 04	1666 Secs (1666 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	*[1]*
Comments: V = 6.26 so saturation in 12.1s. So 90% full well in appx 10.9s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. For long exposures at WedgeA1.0 go <=20x deeper in each that will fit into remainer of visibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. This setup for the "long" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.								

Orbit Structure



Proposal 15219 - Visit 05 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit

Proposal 15219, Visit 05, completed Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 20D TO 30D FROM 03; AFTER 04 BY 0.5 Orbits TO 1.2 Orbits

Comments: AU MIC (V=8.61, B-V = + 1.45).

First of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses WedgeA.

This is the third AU MIC visit in the first set.

The five visits within each set MUST be executed sequentally in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable orientation to range from 20 deg to 30 degrees from Visit 3, to allow a sufficiently large scheduling window. NOTE TO PC: Our science is optimized if we can achieve an orient as close as possible to +30 degrees from the preferred absolute orient of 83.7 degrees in Visit 3. We ask that you please try to identify scheduling windows that enable us to get as close as possible to this orientation. IF the absolute orient of Visit 3 deviates from 83.7 degrees, PLEASE ask us for guidance as to the orientation range we prefer for Visit 5. We absolutely do NOT want the disk major axis (128.7 degrees) to align with the STIS diffration spikes in Visits 1, 3, or 5.

Relative Timing: This visit (5) MUST immediately follow Visit 4. I.e., They should be executed sequentially in "back-to-back" orbits.

Diagnostics

(Visit 05) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
(Visit 05) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

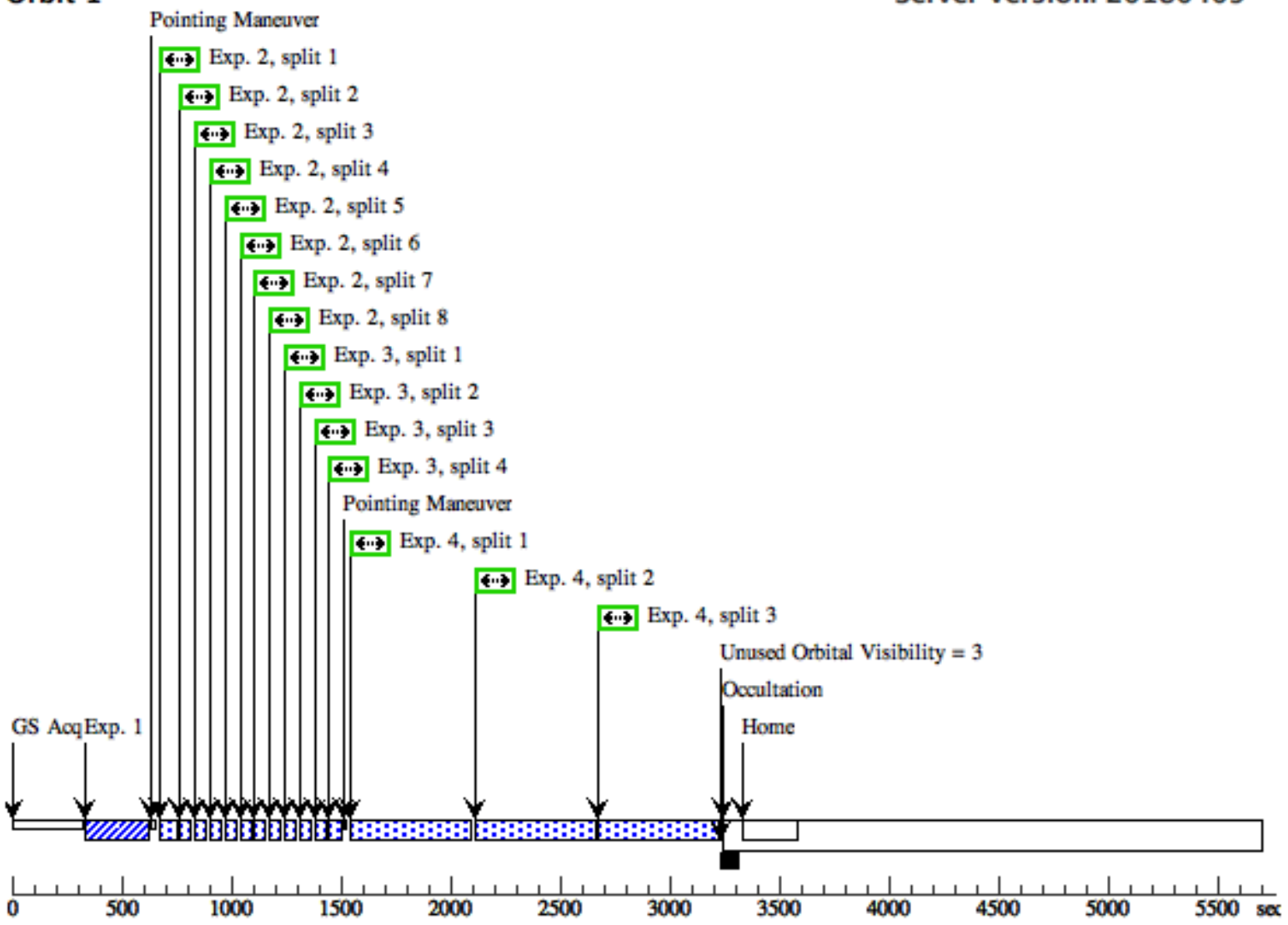
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC Alt Name1: HD197481	RA: 20 45 9.5315 (311.2897146d) Dec: -31 20 27.24 (-31.34090d) Equinox: J2000	Proper Motion RA: 280.37 mas/yr Proper Motion Dec: -360.09 mas/yr Parallax: 0.10059" Epoch of Position: 2000	V=8.627 B-V = +1.45	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 05	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
	Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second								
2	AUMIC_SHORTS_1	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 05	364 Secs (364 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
3	AUMIC_SHORTS_2	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=4; GAIN=4		Sequence 1-4 Non-Int in Visit 05	182 Secs (182 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.*								
4	AUMIC_LONG	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=3; GAIN=4		Sequence 1-4 Non-Int in Visit 05	1592 Secs (1592 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
	Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55. AU MIC is V = 8.61 so saturation in 50.6s. So 90% full well in appx 45.5s. For long exposures at WedgeA1.0 go > 10x deeper in each that will fit into remainer of visibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. This setup for the "long" exposures replicates the setup used for GO-12228 for this target and WEDGE observations. *SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5") For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.*								

Orbit Structure



Proposal 15219 - Visit 11 - Super-Keplerian Motions in the AU Mic Circumstellar Debris System

Visit

Proposal 15219, Visit 11, scheduling Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 353.7D TO 353.7 D; ORIENT 173.7D TO 173.7 D

Comments: AU MIC (V=8.61, B-V = + 1.45).

This visit uses WedgeA.

Orientation: To achive optical chromatic calibration, this visit places the circumstellar disk of AU Mic along the long-axis of WEDGEA. The PA of AU Mic's disk is 128.7 degrees. This visit thus MUST have EITHER the abolute orientation of 353.7 degrees or 173.7 degrees.

Diagnostics

(Visit 11) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

#	**Name**	**Target Coordinates**	**Targ. Coord. Corrections**	**Fluxes**	**Miscellaneous**
(1)	V-AU-MIC	RA: 20 45 9.5315 (311.2897146d)	Proper Motion RA: 280.37 mas/yr	V=8.627	Reference Frame: ICRS
	Alt Name1: HD197481	Dec: -31 20 27.24 (-31.34090d)	Proper Motion Dec: -360.09 mas/yr	B-V = +1.45	
		Equinox: J2000	Parallax: 0.10059"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-4 Non-Int in Visit 11	0.40 Secs (0.4 Secs) *[==>]*	 ***[1]***

Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	AUMIC_SHORTS_1	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 11	364 Secs (364 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***

Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55.
AU MIC is V = 8.61 so saturation in 50.6s.
So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.

SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")
For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target
to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the
Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	AUMIC_SHORTS_2	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA0.6	MIRROR	SIZEAXIS2=137; CR-SPLIT=8; GAIN=4		Sequence 1-4 Non-Int in Visit 11	182 Secs (182 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***

Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55.
AU MIC is V = 8.61 so saturation in 50.6s.
So 90% full well in appx 45.5s. Use this for the "short" exposures, repeated (8x) with multiple CR Splits. This setup for the "short" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.

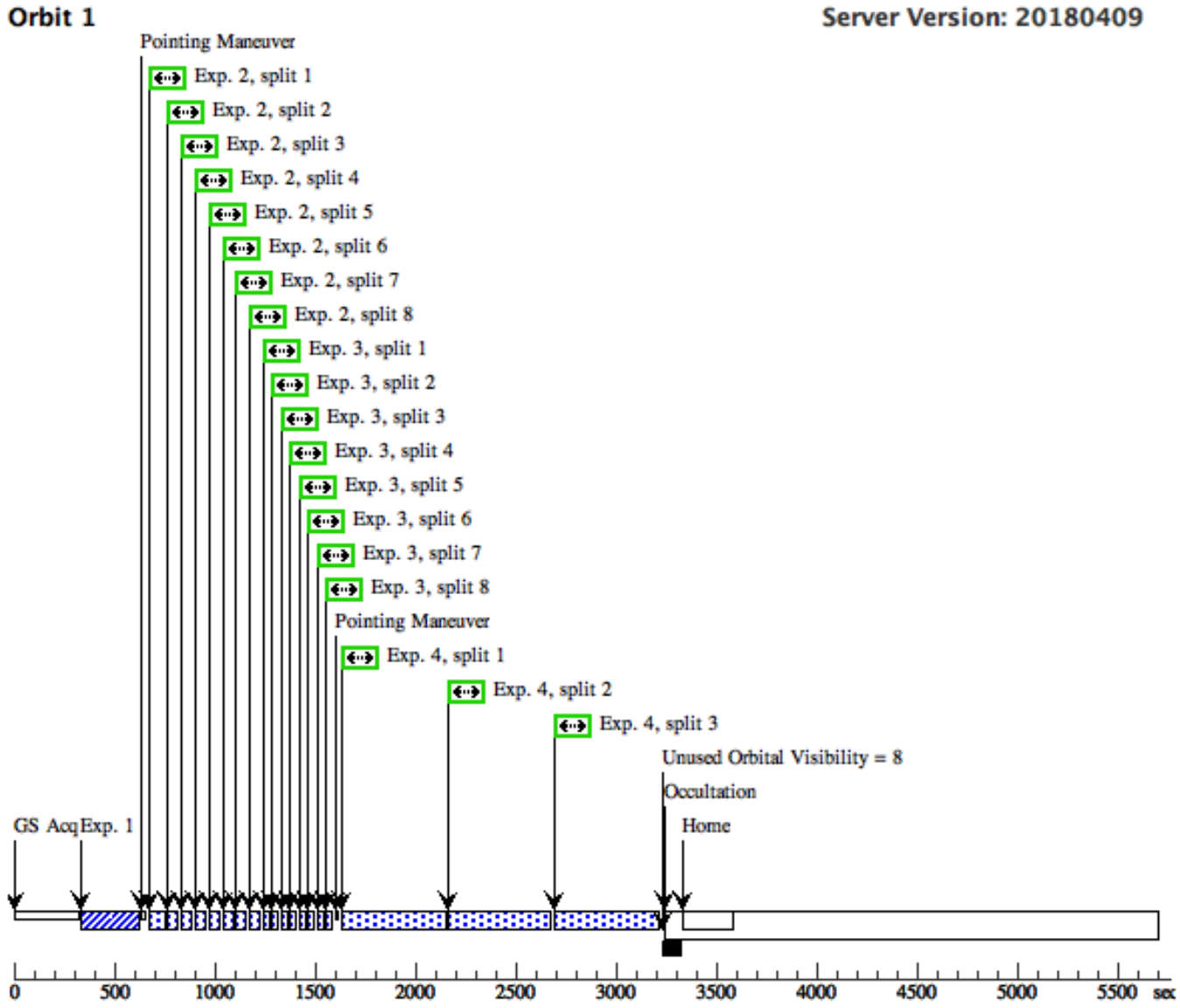
SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")
For these "short" exposures we will image perpendicular to the wedge (symmetrically) centered on the target
to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the
Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 137, appropriate for the WedgeA0.6 position.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	AUMIC_LONG	(1) V-AU-MIC	STIS/CCD, ACCUM, WEDGEA1.0	MIRROR	SIZEAXIS2=427; CR-SPLIT=3; GAIN=4		Sequence 1-4 Non-Int in Visit 11	1500 Secs (1500 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***

Comments: SCALABLE BENCHMARK: We expect full-well at r=0.3" from wings of stellar PSF in 1 second for V=3.55.
AU MIC is V = 8.61 so saturation in 50.6s.
So 90% full well in appx 45.5s. For long exposures at WedgeA1.0 go > 10x deeper in each that will fit into remainer of
visibility period CR-SPLIT at least 3 times - and trim exposure time to fit in visibility window. This setup for the "long" exposures replicates the setup used for GO-12228 for this target and WEDGE observations.

SCALABLE PARAMETER FOR SUB-ARRAY Readout: SIZEAXIS2 = 20 is 1" in full extent (r = 0.5")
For these "long" exposures we will image perpendicular to the wedge (symmetrically) centered on the target
to the maximum extent permitted by the limits of the FOV (edge of the detector) on the "small" side of the
Wedge A taper. Thus, for these short exposures we use SIZEAXIS12 = 427, appropriate for the WedgeA1.0 position.

Orbit Structure



Visit

Proposal 15219, Visit 21, implementation Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT -6.5D TO -6.5D FROM 23

Comments: AU MIC (V=8.61, B-V = + 1.45).

Second of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses BAR5.

This is the first AU MIC visit in the second set.

The five visits within each set MUST be executed sequentially in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable orientation to range from -6.5 deg to -6.5 degrees from Visit 23, to allow a sufficiently large scheduling window. NOTE TO PC: Our science is optimized if we can achieve an orient as close as possible to -6.5 degrees from the preferred absolute orient of 353.7 degrees in Visit 23. We ask that you please try to identify scheduling windows that enable us to get as close as possible to this orientation. IF the absolute orient of Visit 23 deviates from 353.7 degrees, PLEASE ask us for guidance as to the orientation range we prefer for Visit 21. We absolutely do NOT want the disk major axis (128.7 degrees) to align with the STIS diffration spikes in Visits 21, 23, or 25.

Diagnostics

(Visit 21) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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(Visit 21) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.5315 (311.2897146d)	Proper Motion RA: 280.37 mas/yr	V=8.627	Reference Frame: ICRS
	Alt Name1: HD197481	Dec: -31 20 27.24 (-31.34090d)	Proper Motion Dec: -360.09 mas/yr	B-V = +1.45	
		Equinox: J2000	Parallax: 0.10059"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-10 Non-Int in Visit 21	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
	Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second								
2	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
	Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*								
3	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
	Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*								
4	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 21	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	 ***[1]***
	Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*								

5	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

6	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

7	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 21	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

8	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

9	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 21	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

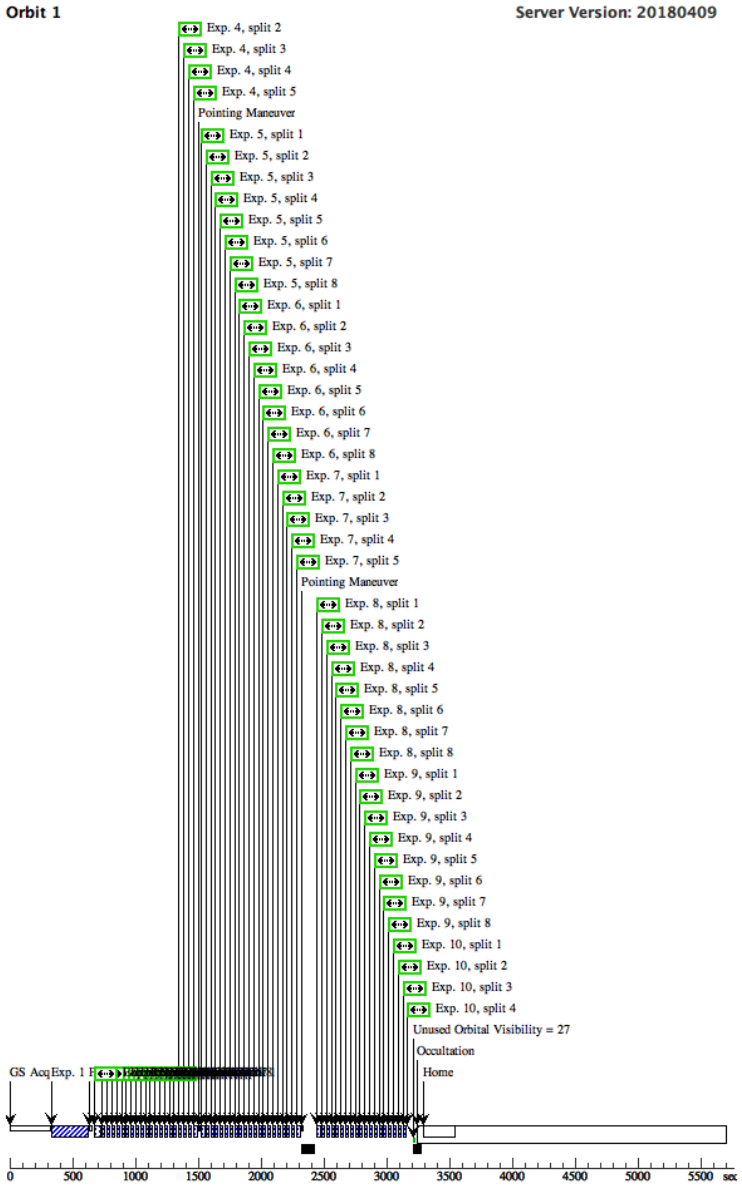
SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

10	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=4; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 21	66.8 Secs (66.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

Orbit Structure



Visit

Proposal 15219, Visit 22, implementation Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 25 BY .8 Orbits TO 1.5 Orbits

Comments: PSF1 (HD191849). PSF calibration target for AU MIC. V = 7.97. B-V = +1.46.

Second of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses BAR5.

The five visits within each set MUST be executed sequentially in contiguous orbits interrupted only for Earth occultation.

Orientation: NOTE TO OUR PC: Our PSF star visits (#22 and #24) have no absolute or relative orientation constraints. However, all other things being equal, when scheduled, we would request that both be observed with roll angles as close to Visit 23 as possible. This is not a hard requirement and we do not constrain, but a request this if possible to optimize the science return through likely better PSF calibration.

Relative Timing: This visit (22) MUST immediately follow visit 25 and immediately precede visit 24. I.e., They should be executed sequentially in "back-to-back" orbits.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	PSFSTAR1-HD-191849	RA: 20 13 53.3976 (303.4724900d)	Proper Motion RA: 778.26 mas/yr	V=7.966	Reference Frame: ICRS
	Alt Name1: GJ784	Dec: -45 09 50.47 (-45.16402d)	Proper Motion Dec: -159.54 mas/yr	B-V = +1.46	
		Equinox: J2000	Parallax: 0.16118"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M0V

USNO-2: R=15.1 @ r = 0.39'; 6 stars R=15.1-17.9 @ 0.39' < r < 0.92'

HST/ACS-coron perigree: Graham et al 2007
HST/NICMOS 7240 Verified Suitable from HST Images
Used as AU Mic PSF reference sta in GO-12228
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSF1-ACQ	(2) PSFSTAR1-HD-191849	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-7 Non-Int in Visit 22	0.3 Secs (0.3 Secs) *[==>]*	 ***[1]***
Comments: SNR = 100, V = 7.97, sp = M0Ve, Exptime rounded to nearest 0.1 second									
2	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700		Sequence 1-7 Non-Int in Visit 22	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									
3	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CENTERAXIS2=700; CR-SPLIT=3		Sequence 1-7 Non-Int in Visit 22	34.5 Secs (34.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									
4	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG 0.0024921,0.0122491	Sequence 1-7 Non-Int in Visit 22	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. *Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)* *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									

5	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CENTERAXIS2=700; CR-SPLIT=3	POS TARG 0.0024921,0.0122491	Sequence 1-7 Non-Int in Visit 22	34.5 Secs (34.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*		***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

6	PSF1_BAR5_MINUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-7 Non-Int in Visit 22	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*		***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

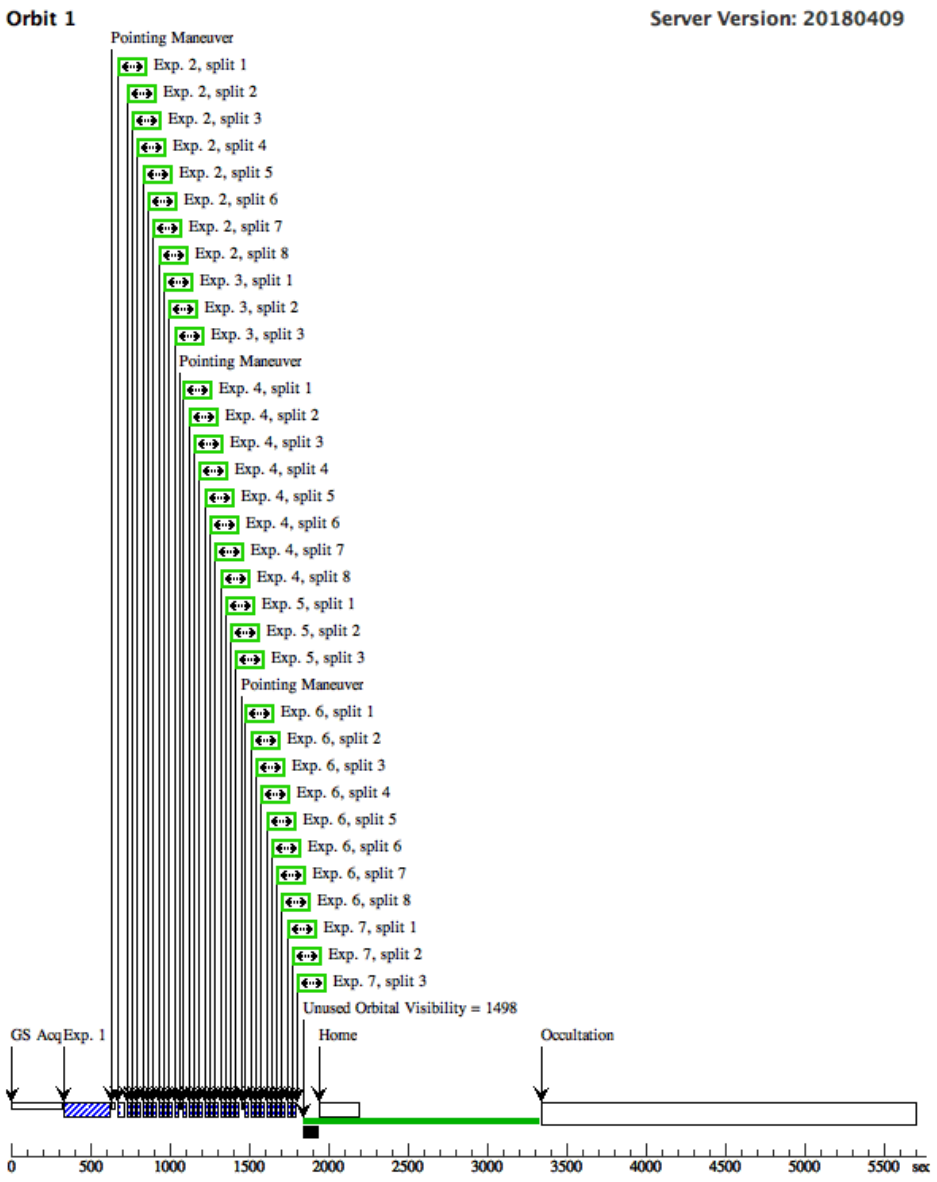
SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

7	PSF1_BAR5_MINUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CENTERAXIS2=700; CR-SPLIT=3	POS TARG -0.0024921,-0.0122491	Sequence 1-7 Non-Int in Visit 22	34.5 Secs (34.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*		***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

Orbit Structure



Visit

Proposal 15219, Visit 23, implementation Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 343.7D TO 3.7 D; AFTER 21 BY 0.5 Orbits TO 1.2 Orbits

Comments: AU MIC (V=8.61, B-V = + 1.45).

Second of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses BAR5.

This is the second AU MIC visit in the second set.

The five visits within each set MUST be executed sequentially in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable absolute orientation to range from 343.7 deg to 3.7 degrees, to allow a sufficiently large scheduling window. NOTE TO PC: AU Mic's disk has a PA of 128.7 degrees. Our science is optimized if we can achieve an absolute orient that places the major axis of AU Mic's disk perpendicular to the long axis of BAR5. We need our absolute orient to be as close as possible to (128.7 degrees + 45 degrees = 173.7 degrees; or equivalently ok 128.7 degrees + 225 degrees = 353.7 degrees). We ask that you please try to identify scheduling windows that enable us to get as close as possible to either of these absolute orientations. These orientiations place the circumstellar disk axis perpendicular to the long-axis of BAR5. We have allowed a +/-10 degree window about this strong preference to aid scheduled and GS acquisition.

Relative Timing: This visit (23) MUST immediately follow Visit 21 and immediately preceed Visit 25 in back-to-back orbits.

Diagnostics

(Visit 23) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
(Visit 23) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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(Visit 23) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.5315 (311.2897146d)	Proper Motion RA: 280.37 mas/yr	V=8.627	Reference Frame: ICRS
	Alt Name1: HD197481	Dec: -31 20 27.24 (-31.34090d)	Proper Motion Dec: -360.09 mas/yr	B-V = +1.45	
		Equinox: J2000	Parallax: 0.10059"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-10 Non-Int in Visit 23	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second									
2	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
3	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
4	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 23	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									

5	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

6	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

7	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 23	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

8	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

9	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 23	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

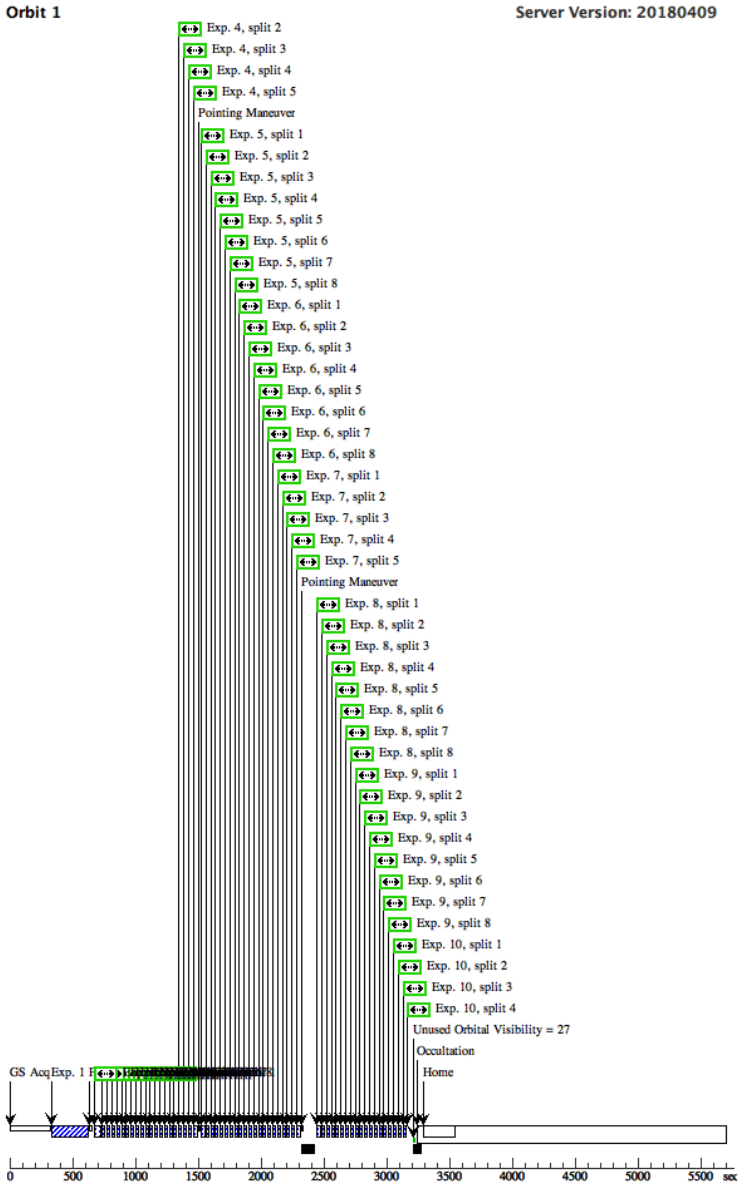
SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

10	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=4; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 23	66.8 Secs (66.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

Orbit Structure



Visit

Proposal 15219, Visit 24, implementation Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; AFTER 22 BY 0.5 Orbits TO 1.2 Orbits

Comments: PSF1 (HD191849). PSF calibration target for AU MIC. V = 7.97. B-V = +1.46.

Second of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses BAR5.

The five visits within each set MUST be executed sequentially in contiguous orbits interrupted only for Earth occultation.

Orientation: NOTE TO OUR PC: Our PSF star visits (#22 and #24) have no absolute or relative orientation constraints. However, all other things being equal, when scheduled, we would request that both be observed with roll angles as close to Visit 23 as possible. This is not a hard requirement and we do not constrain, but a request this if possible to optimize the science return through likely better PSF calibration.

Relative Timing: This visit (24) MUST immediately follow visit 22. I.e., They should be executed sequentially in "back-to-back" orbits.

Diagnostics

(Visit 24) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 24) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	PSFSTAR1-HD-191849	RA: 20 13 53.3976 (303.4724900d)	Proper Motion RA: 778.26 mas/yr	V=7.966	Reference Frame: ICRS
	Alt Name1: GJ784	Dec: -45 09 50.47 (-45.16402d)	Proper Motion Dec: -159.54 mas/yr	B-V = +1.46	
		Equinox: J2000	Parallax: 0.16118"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M0V

USNO-2: R=15.1 @ r = 0.39'; 6 stars R=15.1-17.9 @ 0.39' < r < 0.92'

HST/ACS-coron perigree: Graham et al 2007
HST/NICMOS 7240 Verified Suitable from HST Images
Used as AU Mic PSF reference sta in GO-12228
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSF1-ACQ	(2) PSFSTAR1-HD-191849	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-12 Non-Int in Visit 24	0.3 Secs (0.3 Secs) *[==>]*	 ***[1]***
Comments: SNR = 100, V = 7.97, sp = M0Ve, Exptime rounded to nearest 0.1 second									
2	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700		Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									
3	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700		Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									
4	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700		Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.*									

5	PSF1_BAR5_CENTER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CENTERAXIS2=700; CR-SPLIT=2		Sequence 1-12 Non-Int in Visit 24	23 Secs (23 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

6	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG 0.00249,0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

7	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG 0.00249,0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

8	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG 0.0024921,0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

9	PSF1_BAR5_PLUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CENTERAXIS2=700	POS TARG 0.0024921,0.0122491	Sequence 1-12 Non-Int in Visit 24	11.5 Secs (11.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

10	PSF1_BAR5_MINUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

11	PSF1_BAR5_MINUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

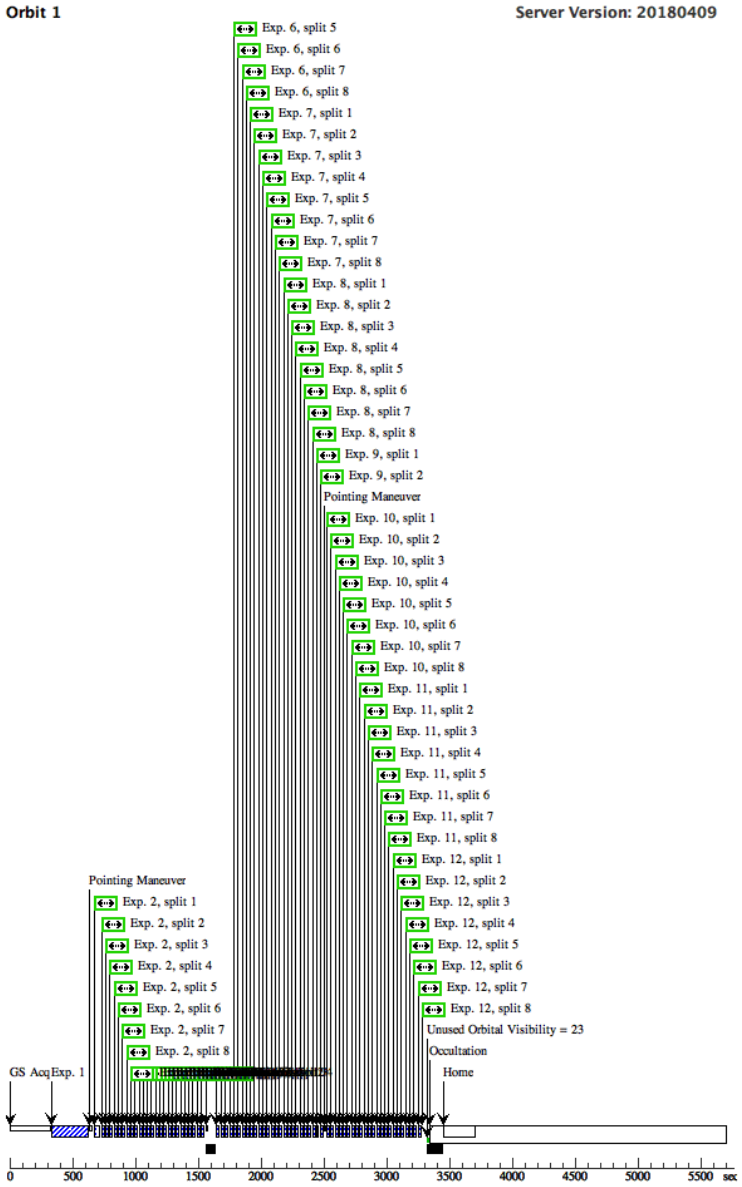
SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

12	PSF1_BAR5_MINUSDITHER	(2) PSFSTAR1-HD-191849	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; GAIN=4; CR-SPLIT=8; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-12 Non-Int in Visit 24	92 Secs (92 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 11.5 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 11.5 second exposures.

Orbit Structure



Visit

Proposal 15219, Visit 25, implementation Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 6.5D TO 6.5D FROM 23; AFTER 23 BY 0.5 Orbits TO 1.2 Orbits

Comments: AU MIC (V=8.61, B-V = + 1.45).

Second of two sets of visits, each containing three visits of AU MIC at different relative orientations with two PSF calibration observations interleaved. This set of visits uses BAR5.

This is the third AU MIC visit in the second set.

The five visits within each set MUST be executed sequentially in contiguous orbits interrupted only for Earth occultation.

Orientation: We have set the allowable orientation to range from +6.5 deg to +6.5 degrees from Visit 23, to allow a sufficiently large scheduling window. NOTE TO PC: Our science is optimized if we can achieve an orient as close as possible to +6.5 degrees from the preferred absolute orient of 353.7 degrees in Visit 23. We ask that you please try to identify scheduling windows that enable us to get as close as possible to this orientation. IF the absolute orient of Visit 23 deviates from 353.7 degrees, PLEASE ask us for guidance as to the orientation range we prefer for Visit 25. We absolutely do NOT want the disk major axis (128.7 degrees) to align with the STIS diffration spikes in Visits 21, 23, or 25.

Relative Timing: This visit (25) MUST immediately follow Visit 23. I.e., They should be executed sequentially in "back-to-back" orbits.

Diagnostics

(Visit 25) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
(Visit 25) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.5315 (311.2897146d)	Proper Motion RA: 280.37 mas/yr	V=8.627	Reference Frame: ICRS
	Alt Name1: HD197481	Dec: -31 20 27.24 (-31.34090d)	Proper Motion Dec: -360.09 mas/yr	B-V = +1.45	
		Equinox: J2000	Parallax: 0.10059"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-10 Non-Int in Visit 25	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second									
2	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
3	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
4	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 25	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									

5	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

6	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

7	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 25	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly above the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = 0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

8	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

9	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 25	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

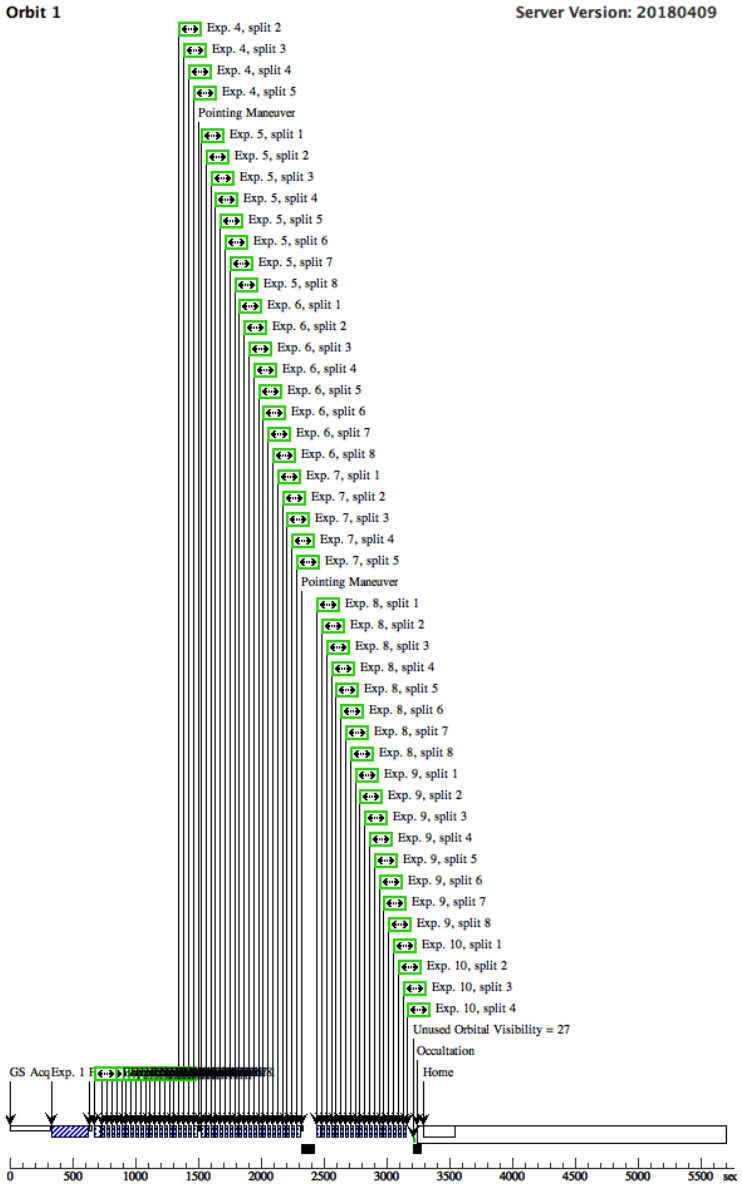
SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

10	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=4; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 25	66.8 Secs (66.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
Here we attempt to place the target slightly below the mid-line of BAR5, using a 0.25 pixel dither perpendicular to the BAR5 long-axis (via POS TARG offsets of x = 0.0024921 arcsec and y = -0.0122491). We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786)

SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

Orbit Structure



Visit

Proposal 15219, Visit 31, scheduling Mon Jun 18 14:07:02 GMT 2018

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; GUID TOL 0.005"; GYRO MODE 3GOBAD; ORIENT 263.7D TO 263.7 D; ORIENT 83.7D TO 83.7 D

Comments: AU MIC (V=8.61, B-V = + 1.45).

This visit uses BAR5.

Orientation: To achive optical chromatic calibration, this visit places the circumstellar disk of AU Mic along the long-axis of BAR5. The PA of AU Mic's disk is 128.7 degrees. This visit thus MUST have EITHER the abolute orientation of 263.7 degrees or 83.7 degrees.

Diagnostics

(Visit 31) Warning (Orbit Planner): STIS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS
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Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.5315 (311.2897146d)	Proper Motion RA: 280.37 mas/yr	V=8.627	Reference Frame: ICRS
	Alt Name1: HD197481	Dec: -31 20 27.24 (-31.34090d)	Proper Motion Dec: -360.09 mas/yr	B-V = +1.45	
		Equinox: J2000	Parallax: 0.10059"		
			Epoch of Position: 2000		

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Spec M1V
Category=STAR
Description=[M V-IV]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AUMIC-ACQ	(1) V-AU-MIC	STIS/CCD, ACQ, F25ND3	MIRROR		GS ACQ SCENARIO BASE1B3	Sequence 1-10 Non-Int in Visit 31	0.4 Secs (0.4 Secs) *[==>]*	 ***[1]***
Comments: SNR = 100, V = 8.61, sp = M1Ve, Exptime rounded to nearest 0.1 second									
2	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
3	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									
4	AUMIC_BAR5_CENTER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700		Sequence 1-10 Non-Int in Visit 31	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	 ***[1]***
Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923. Here we attempt to place the target on the mid-line of BAR5. We then use a subarray readout of CENTYERAXIS2 = 700 appopriate for BAR5 with a SIZEAXIS2 = 100 (the same that we used for GO program 13786) *SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.*									

5	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
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SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

6	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

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SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

7	AUMIC_BAR5_PLUS DITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=5; GAIN=4; CENTERAXIS2=700	POS TARG 0.00249 21,0.0122491	Sequence 1-10 Non-Int in Visit 31	83.5 Secs (83.5 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
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SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

8	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
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9	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=8; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 31	133 Secs (133 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
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SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

10	AUMIC_BAR5_MINUSDITHER	(1) V-AU-MIC	STIS/CCD, ACCUM, BAR5	MIRROR	SIZEAXIS2=100; CR-SPLIT=4; GAIN=4; CENTERAXIS2=700	POS TARG -0.0024921,-0.0122491	Sequence 1-10 Non-Int in Visit 31	66.8 Secs (66.8 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[1]***

Comments: NOTE TO PC/CS: Here we use the BAR5 occulter (Aperture) that we comissioned in GO program 12923.
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SCALABLE BENCHMARK: We scale our exposure times from GO-12923. We expect that 16.7 seconds per exposure will yield 75% to saturation in the brightest pixel. Our exposures are thus comprised of CR-SPLITS in integral units of 16.7 second exposures.

Orbit Structure