12615 - Weighing the most luminous main-sequence star in the Galaxy

Cycle: 19, Proposal Category: GO

(Availability Mode: SUPPORTED)

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) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:01:52.0	yes
02	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:02:14.0	yes
03	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:02:33.0	yes
04	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:02:52.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET	STIS/CCD STIS/FUV-MAMA	1	20-Jul-2012 21:03:03.0	yes
06	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:03:23.0	yes
07	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:03:40.0	yes
08	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:03:57.0	yes
09	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:04:15.0	yes
10	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET	STIS/CCD STIS/FUV-MAMA	1	20-Jul-2012 21:04:26.0	yes
11	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:04:42.0	yes
12	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:05:03.0	yes
13	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:05:20.0	yes
14	(1) NGC3603-A1 (2) NGC3603-A1-OFFSET CCDFLAT	STIS/CCD	1	20-Jul-2012 21:05:37.0	yes

14 Total Orbits Used

ABSTRACT

It is believed that the most massive stars do not exceed ~150 Msol initially, as was derived from the observed cut-off of the initial-mass function (IMF) of the Arches cluster, the most massive, unevolved cluster in the Milky Way. However, recent results by Crowther et al. suggest that the cut-off occurs more likely around 300 Msol. A crucial role in their study plays NGC3603, the most massive, visible, Galactic starburst cluster, that harbors three stars with initial masses higher than any of the Arches stars. However, these findings rely entirely on A1, a binary whose components have very ill-constrained masses, 116 +/- 31 Msol and 89 +/- 16 Msol, respectively. While Crowther et al.'s conclusion thus are possibly wrong, A1 is the only known double-eclipsing system whose components potentially have masses >100 Msol, and whose nearly complete set of orbital and stellar parameters can be derived essentially model-independently. We therefore propose to use HST/STIS to obtain, for the first time, repeated, high-quality, far-ultraviolet and optical spectroscopy and photometry, to fully constrain, in the most self-consistent manner possible, masses, temperatures, radii, luminosities and distance of A1, with an accuracy of ~5-10%. Both components of A1 will be modeled using the latest atmosphere and evolutionary codes, to calibrate the mass-luminosity relation in the highest mass regime currently accessible to direct observations. Our study will also settle whether the Arches is suited to investigate the upper end, any putative cut-off, of the IMF, with far-reaching consequence for our understanding of massive-star formation.

OBSERVING DESCRIPTION

This program does phase, time-critical, repeated UV/VIS spectroscopy and VIS imaging of a very massive binary in the core NGC3603-A1. It is the brightest star in the field, and a WN6ha+WN6ha double-eclipsing binary with P=3.7723 days (or ~56.5845 HST orbits).

Observing strategy is to visit A1 every 4 +/- 1 HST orbits, to cover the binary phase as equidistantly as possible by ~1/14, i.e. ~0.07 in phase. This will allow to obtain both good RV and lightcurves. PHASE constraints have been given accordingly, allowing a phase margin that corresponds to a plus/minus ~1 HST orbit margin.

Since accumulated period and zero-phase (E0) uncertainties are an issue (also raised in the panel report), we have grouped visits 2 through 14 together so that they are observed during the visibility period that occurs in January 2012. Observing the binary within a very short time (rather than spreading out the phased visits over the whole of Cycle 19), combined with the ~equidistant sampling, should practically rid us of the impact of accumulated errors. However, this leads to pretty severe scheduling constraints. If they prove to be unfeasible, we accept to drop the BETWEEN and AFTER constraints for visits 02 through 14, since there is another, ~4-week long visibility period in June/July 2012, offering much more scheduling flexibility.

To also catch the two other WN6ha stars, B and C, the slit will be aligned using the ORIENT constraints (cf. Additional Comments). Star C is an SB1 binary with P~8.9 days, so the idea is to detect its hitherto unseen companion and (possibly shallow) eclipses. While B is observed only once (visit 01), C will be observed during visits 02 through 14.

Star B is the most luminous star in the cluster, but could be a long-period binary. Since there is an archival STIS spectrum from Cycle 17, we intend to take a spectrum during one visit (#1), to detect possible RV variations between the two spectra and thus have an indication of B's binary status on those timescales.

A 3(4)-position dithering is utilized for all spectroscopy (imaging), to improve CR and bad-pixel rejection, and increase the final S/N (flat-field quality). For imaging, we attempt an integer-pixel dither pattern.

CHANGES FROM PHASE I

a) Due to a mishap in Phase I, overheads were grossly mis-calculated. As a consequence, we had to adjust our observing stategy: rather than have optical + FUV spectroscopy in all 14 visits, we have now 2 dedicated UV visits (#6 and #11). Optical imaging precedes the FUV spectroscopy, and is well within the 30min time limit for same-orbit optical-UV observations. The remaining 12 visits are purely optical visits (imaging and spectroscopy).

b) Instead of the LP28x50 filter specified in Phase I, we employ the 50CCD filter. This allows us to couple our imaging to existing archival imaging. GAIN=1 has been selected for better quality (bias issues), and all count rates are within 70% of the full well (ETC-ID STIS.im.185745).

ISSUES WITH THE BRIGHT-TARGET LIMIT

For our three target stars, Crowther et al. (2010, MNRAS, 408, 731) recently have modeled the UV fluxes. From their Fig 2. follows that even the

UV-brightest target's flux does not exceed F(1640)~3.2e-14 erg/s/cm2/A.

Using a conservative throughput of the 52x0.2 aperture of 75%, we thus obtain a flux of 2.4e-14 erg/s/cm2/A on the detector, i.e. ~200 times below the limit for point sources which is 5.0e-12erg/s/cm2/A (from Table 13.44 of the STIS IHB). As can also be seen from Fig.2, the UV flux drops for longer wavelengths, thus effectively compensating for the increasing throughput of the aperture redwards of 1800 A.

However, issues with field stars remain. While all O stars in the field are visually fainter than our target stars by at least 1mag, they might be hotter, and thus effectively as UV-bright as (or brighter than). After deadline of Phase II, we will provide FUV flux estimates for the brightest of the hottest O stars in the field, by using CMFGEN model atmospheres, published B- and V-band magnitudes, and E(B-V)=1.39.

ADDITIONAL COMMENTS

All target coordinates where obtained from an archival STIS image (ob1505mbq_x2d.fits; Prog-ID 11626; PI Massey).

Position angles between

A1 and C: 123.5 / 303.5 pm 1.0 deg
A1 and B: 147.5 / 327.5 pm 1.5 deg

were calculated using this STIS frame and verified with the Aladin Previewer.

Visit

Proposal 12615, Visit 01, implementation Sat Jul 21 01:05:47 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 01 (optical A1 and B) from phase 0.053 to 0.088.

Scheduled to be executed on January 23, 2012, the only visibility in Cycle 19 that meets both PHASE and ORIENT constraints.

Diagnostics

(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

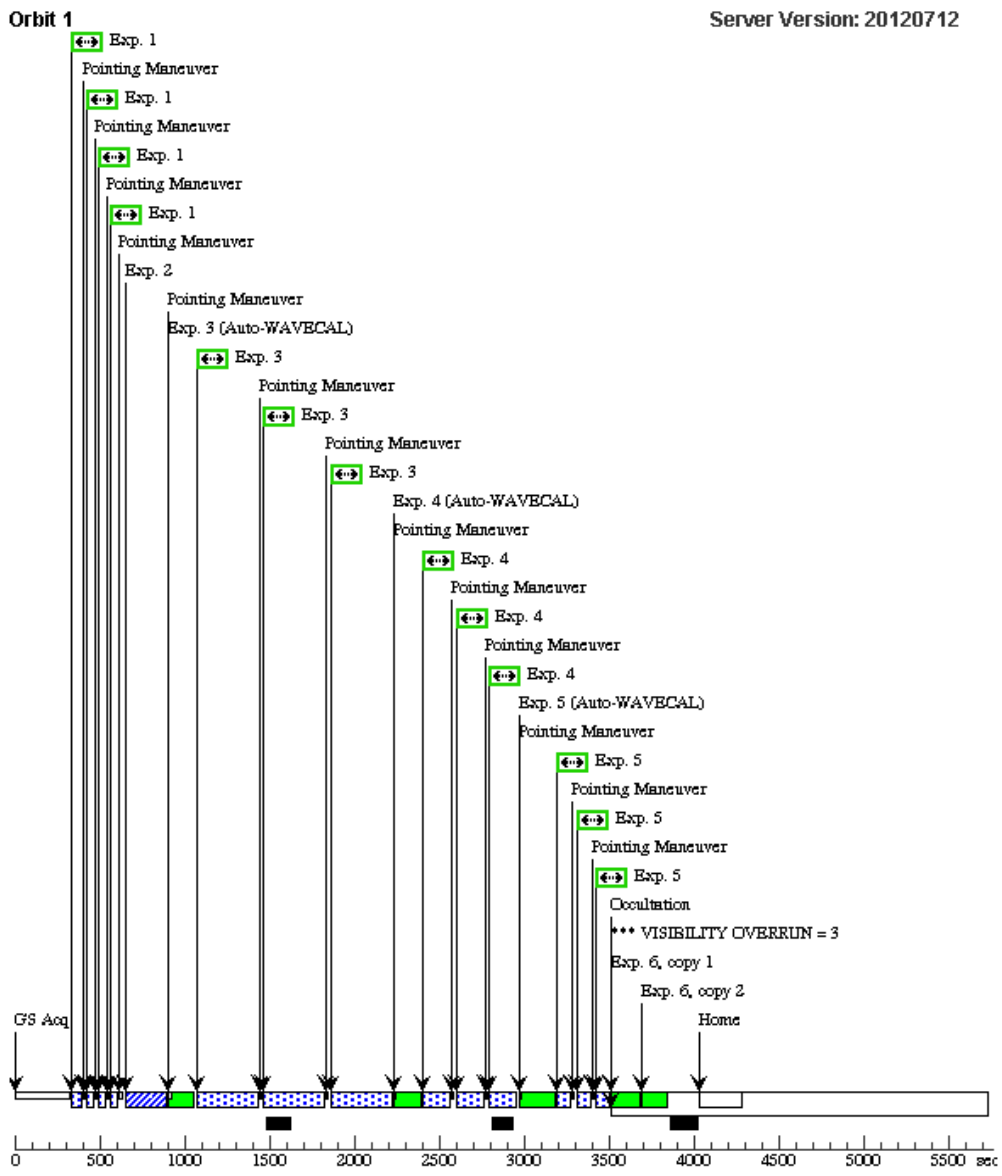
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.053 TO 0.088; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 01 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 01 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 01 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 01 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 02, completed Sat Jul 21 01:05:50 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 02 (optical A1 and C) from phase 0.088 to 0.124

Visits 2 through 13 are to be executed within the 4-week visibility period in June/July 2012. THese visits are thus grouped together.

Diagnostics

(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

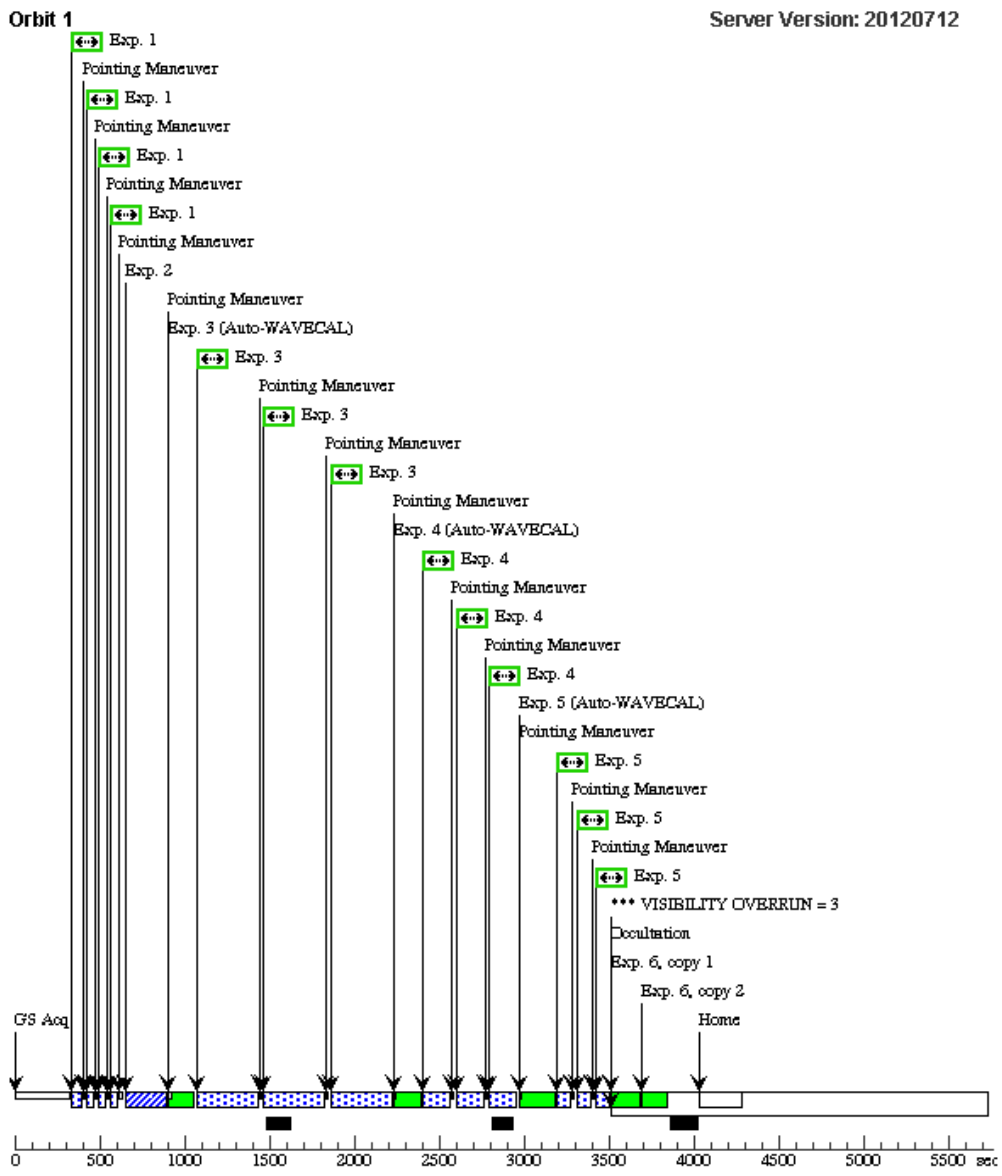
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.088 TO 0.124; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 02 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 02 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 02 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 02 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 03, completed Sat Jul 21 01:05:52 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 03 (optical A1 and C) from phase 0.159 to 0.194

Diagnostics

(Visit 03) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

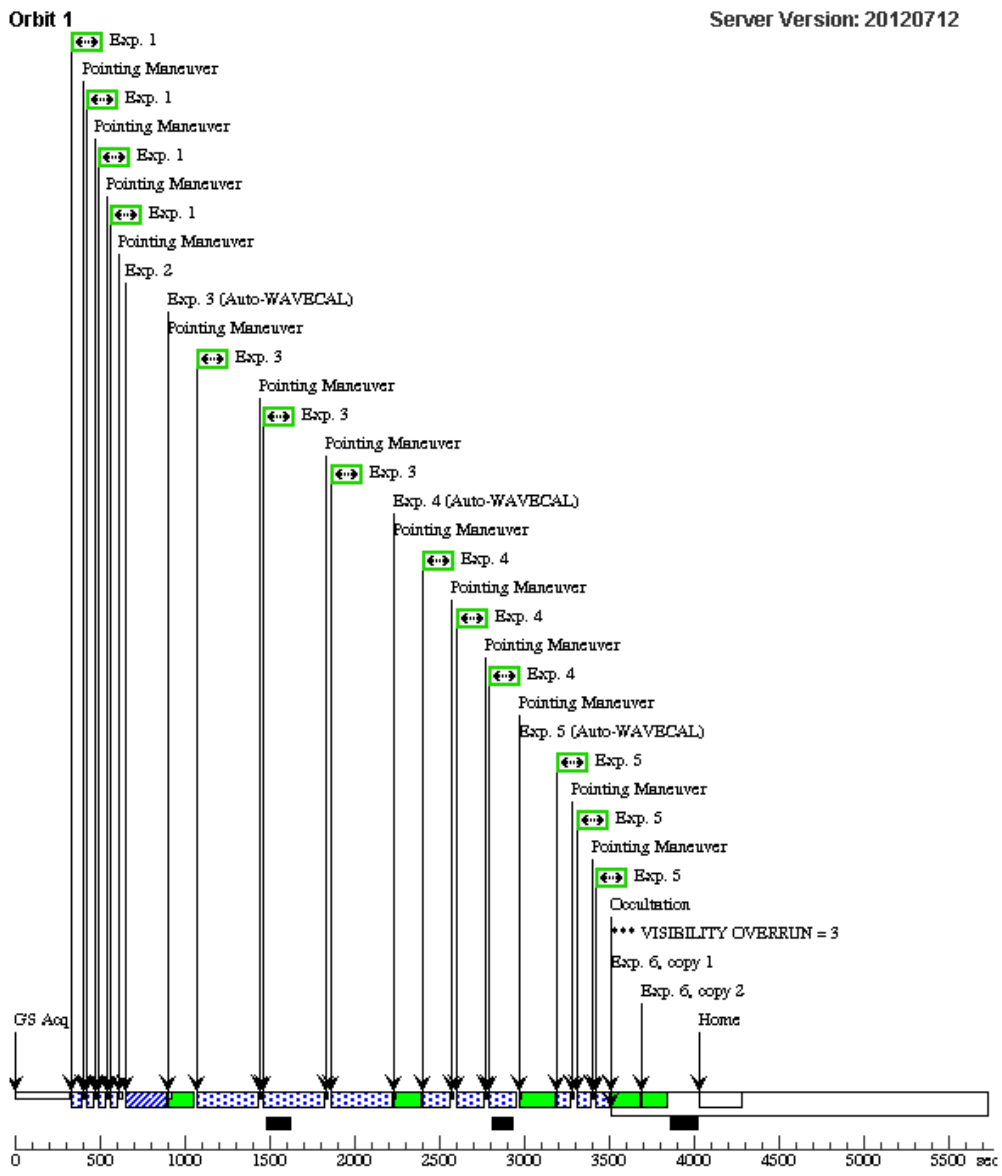
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.159 TO 0.194; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 03 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 03 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 03 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 03 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 04, completed Sat Jul 21 01:05:53 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 04 (optical A1 and C) from phase 0.230 to 0.265

Diagnostics

(Visit 04) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

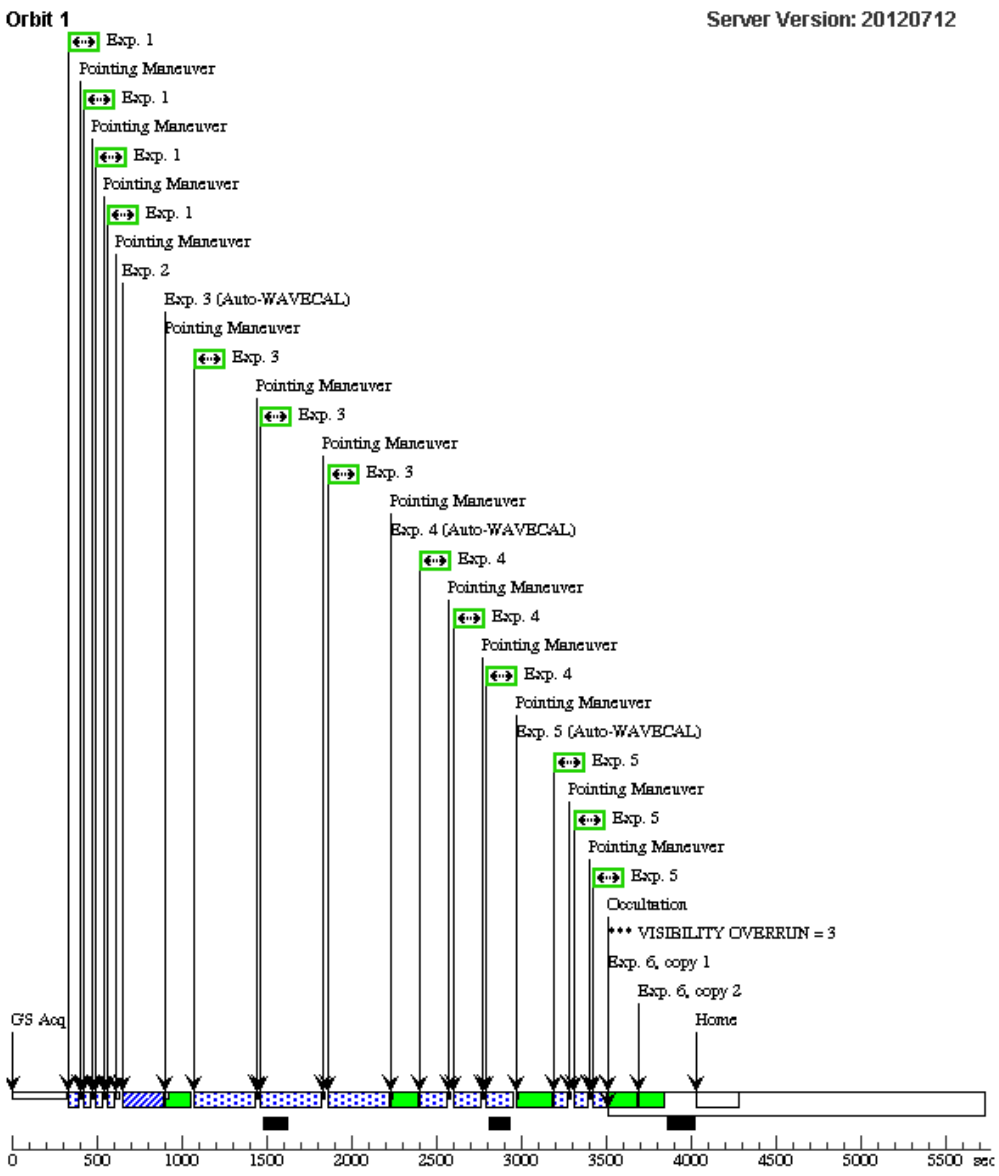
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.230 TO 0.265; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 04 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 04 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 04 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 04 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 05, completed Sat Jul 21 01:05:55 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 05 (ultraviolet A1 and C) from phase 0.300 to 0.336 (after quadrature)

Diagnostics

(Visit 05) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

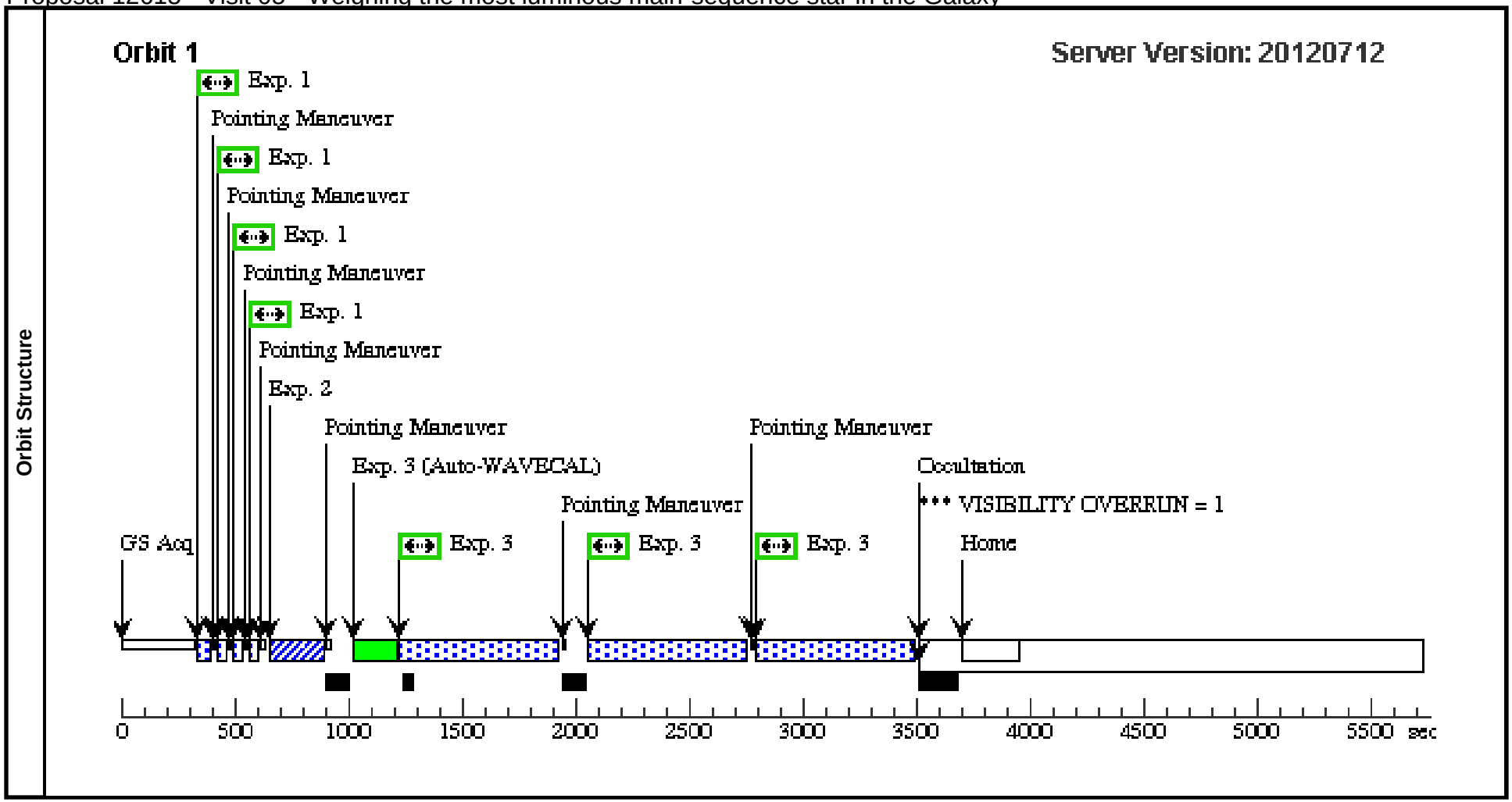
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.300 TO 0.336; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 05 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	FUV (STIS.sp.185341)	(1) NGC3603-A1	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A			Pattern 1, Exps 3-3 in Visit 05 (1)	688 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20120712
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 2
Pointing Maneuver
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Occultation
*** VISIBILITY OVERRUN = 1
GS Acq
Exp. 3
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12615, Visit 06, completed Sat Jul 21 01:05:56 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 06 (optical A1 and C) from phase 0.371 to 0.406

Diagnostics

(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

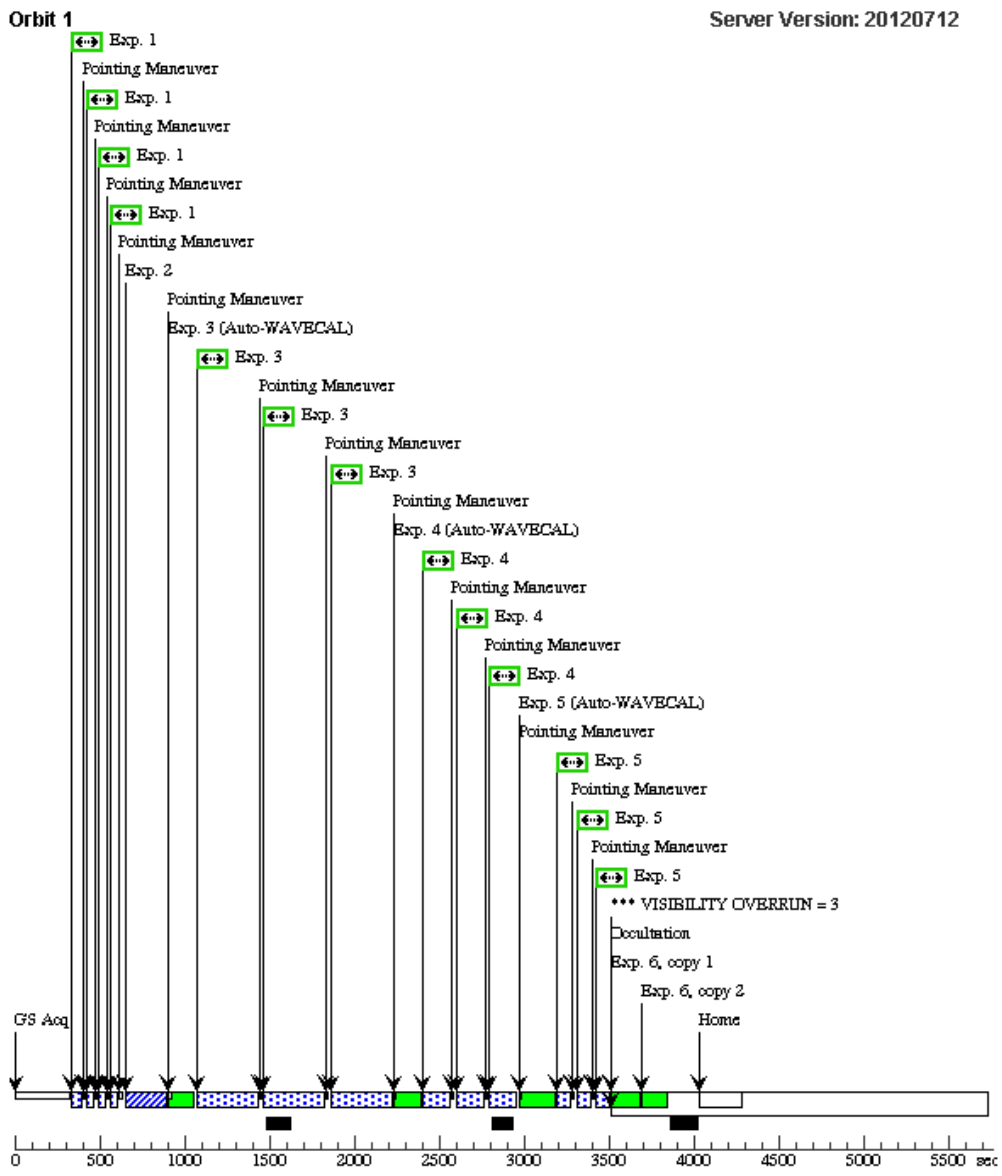
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.371 TO 0.406; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 06 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 06 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 06 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 06 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 07, completed Sat Jul 21 01:05:57 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 07 (optical A1 and C) from phase 0.442 to 0.477

Diagnostics

(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

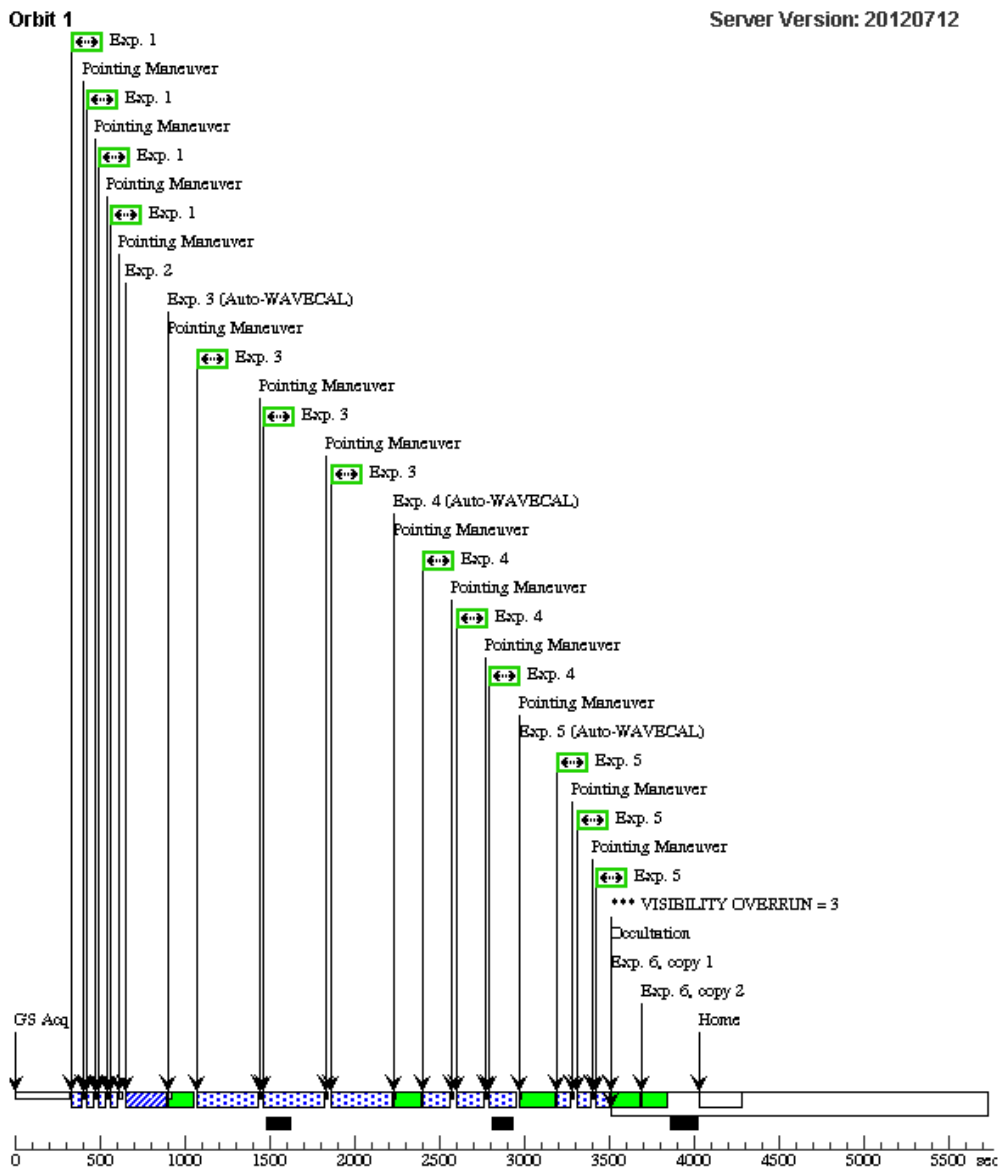
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.422 TO 0.477; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 07 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 07 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 07 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 07 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 08, completed Sat Jul 21 01:05:59 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 08 (optical A1 and C) from phase 0.513 to 0.548

Diagnostics

(Visit 08) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

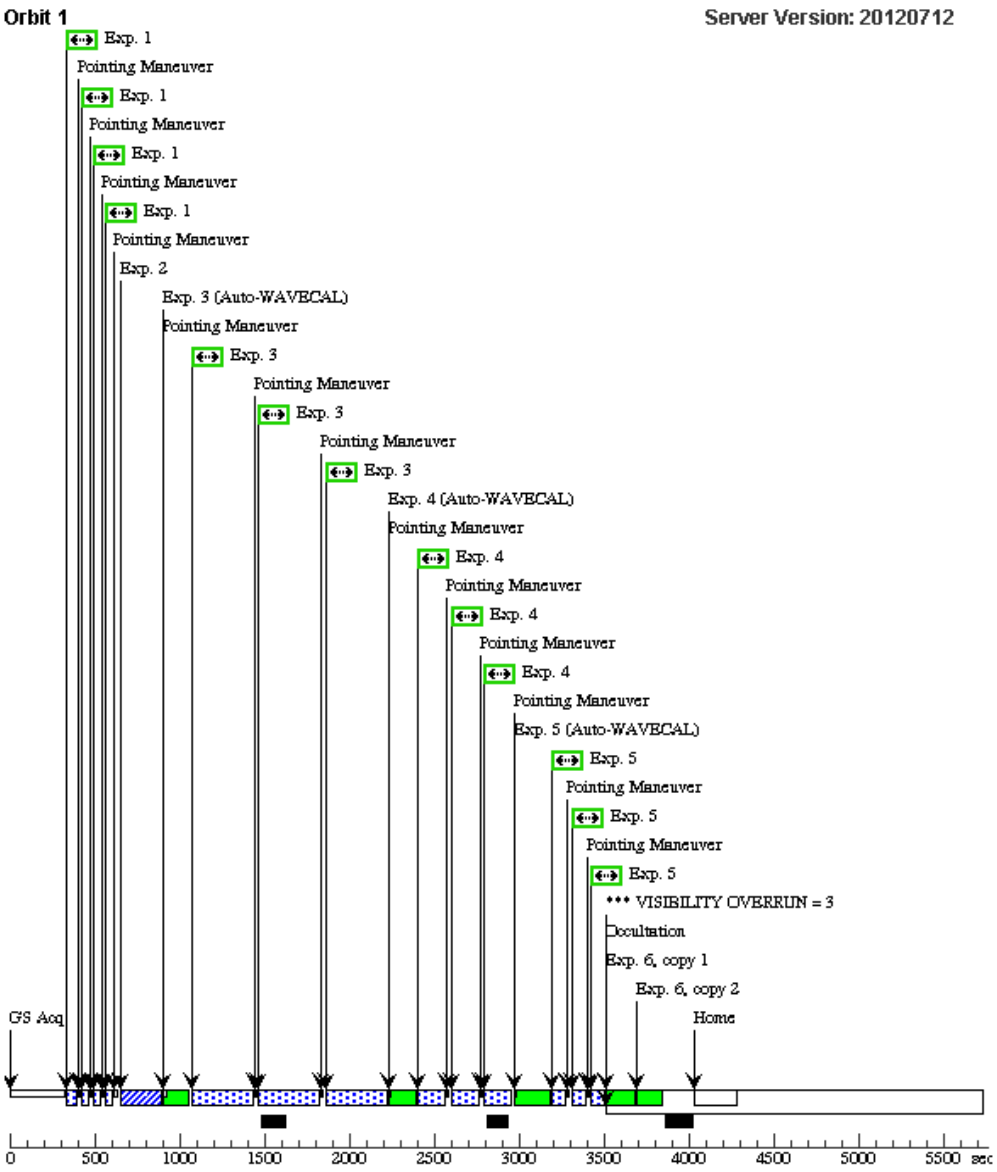
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.513 TO 0.548; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 08 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 08 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 08 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 08 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 09, completed Sat Jul 21 01:06:00 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 09 (optical A1 and C) from phase 0.583 to 0.612

Diagnostics

(Visit 09) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			

Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.

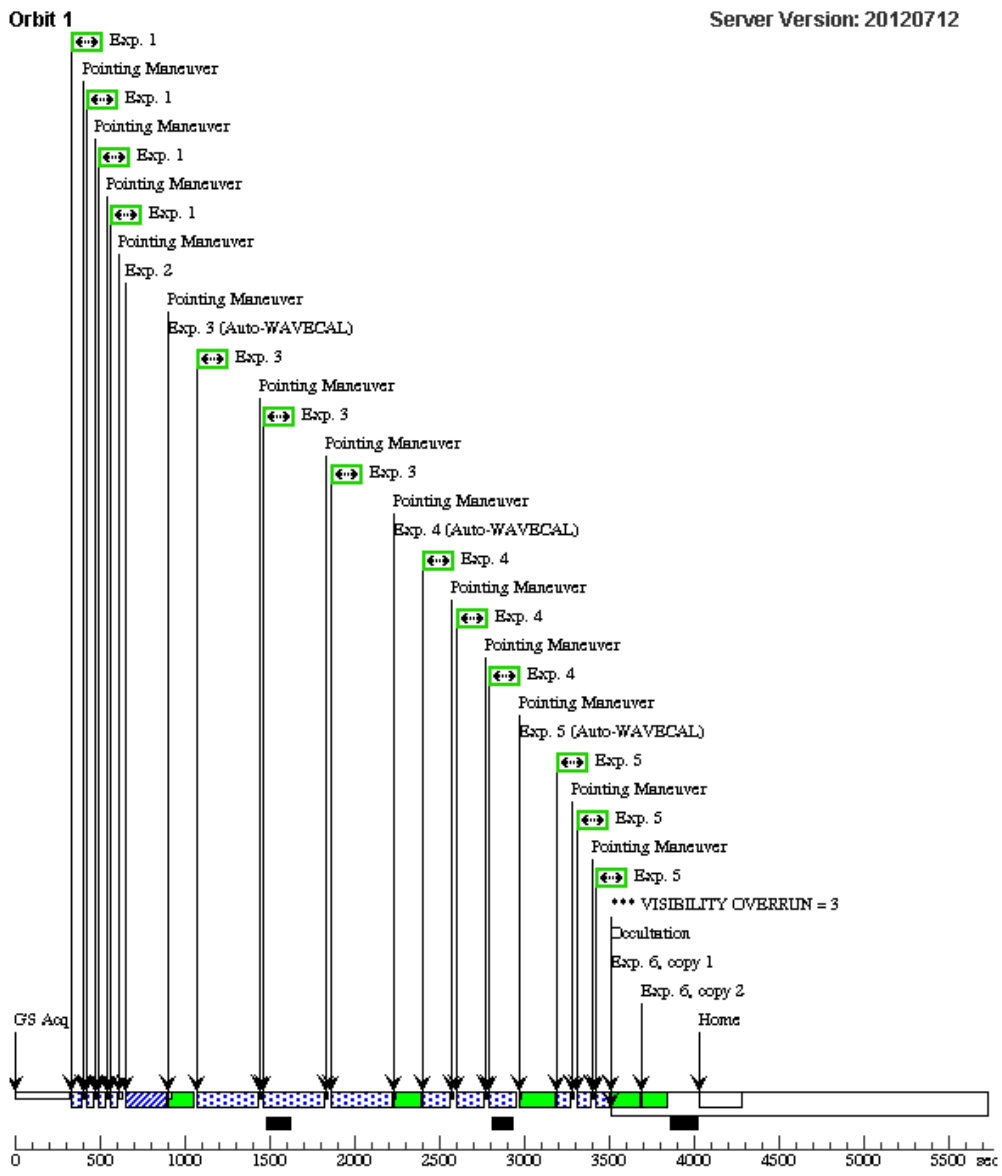
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			

Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.583 TO 0.612; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 09 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 09 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 09 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 09 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 10, completed Sat Jul 21 01:06:01 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 10 (ultraviolet A1 and C) from phase 0.654 to 0.689 (before quadrature)

Diagnostics

(Visit 10) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			

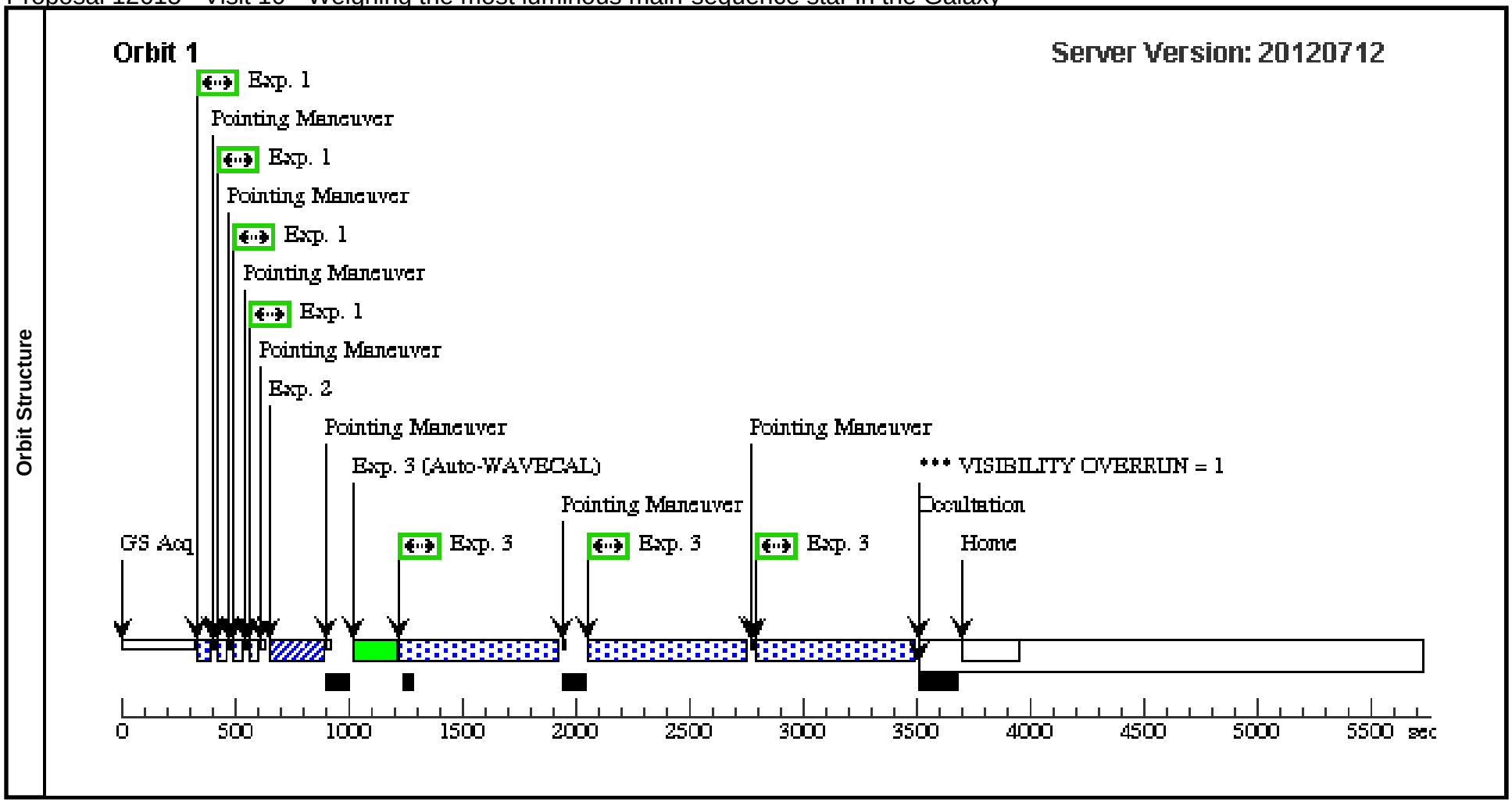
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.

(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			

Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.654 TO 0.689; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 10 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	FUV (STIS.sp.185341)	(1) NGC3603-A1	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A			Pattern 1, Exps 3-3 in Visit 10 (1)	688 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20120712
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 1
Pointing Maneuver
Exp. 2
Pointing Maneuver
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
*** VISIBILITY OVERRUN = 1
Occultation
GS Acq
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12615, Visit 11, completed Sat Jul 21 01:06:03 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 11 (optical A1 and C) from phase 0.725 to 0.760

Diagnostics

(Visit 11) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

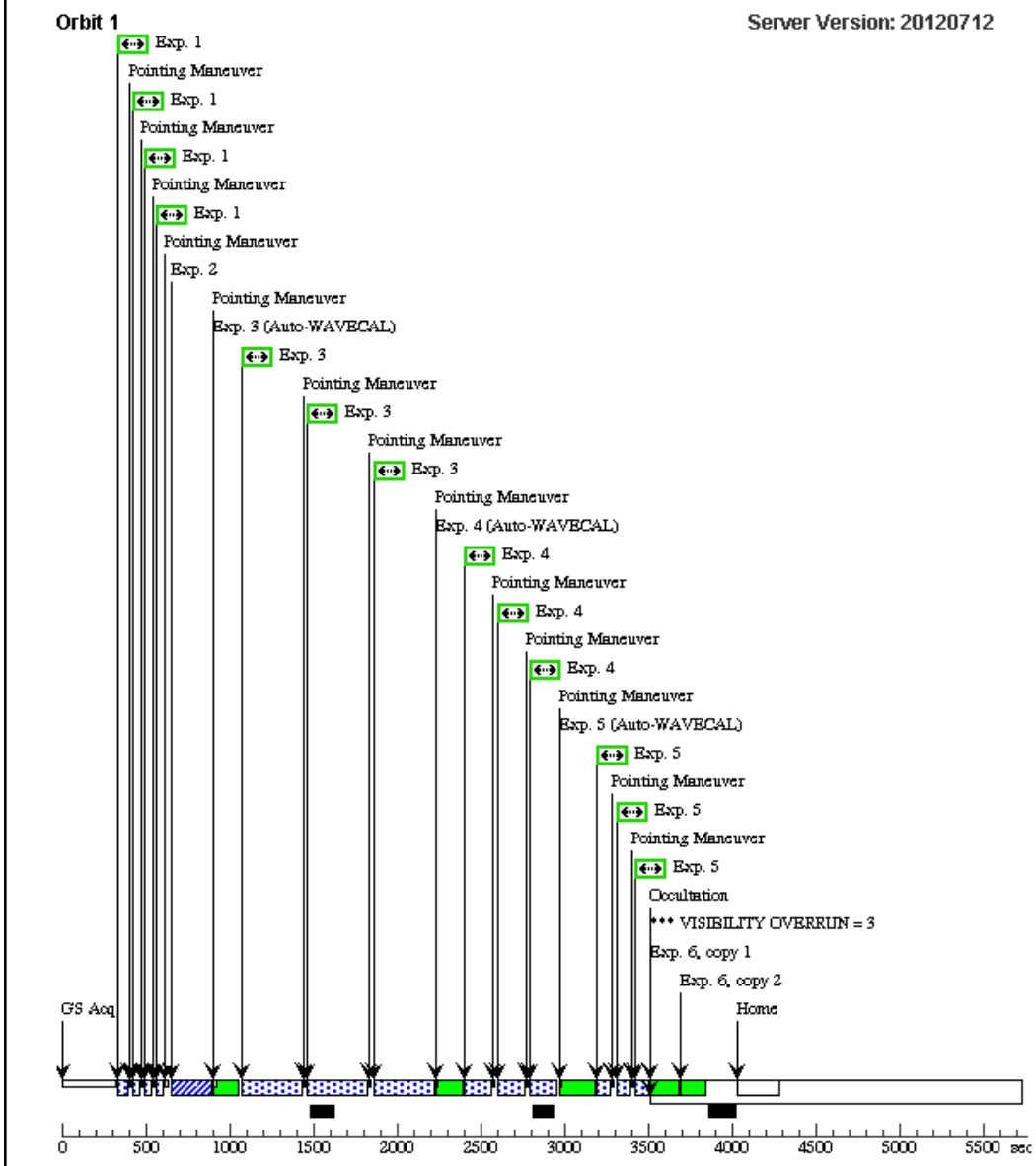
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.725 TO 0.760; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 11 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 11 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 11 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 11 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 12, completed Sat Jul 21 01:06:04 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 12 (optical A1 and C) from phase 0.795 to 0.831

Diagnostics

(Visit 12) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

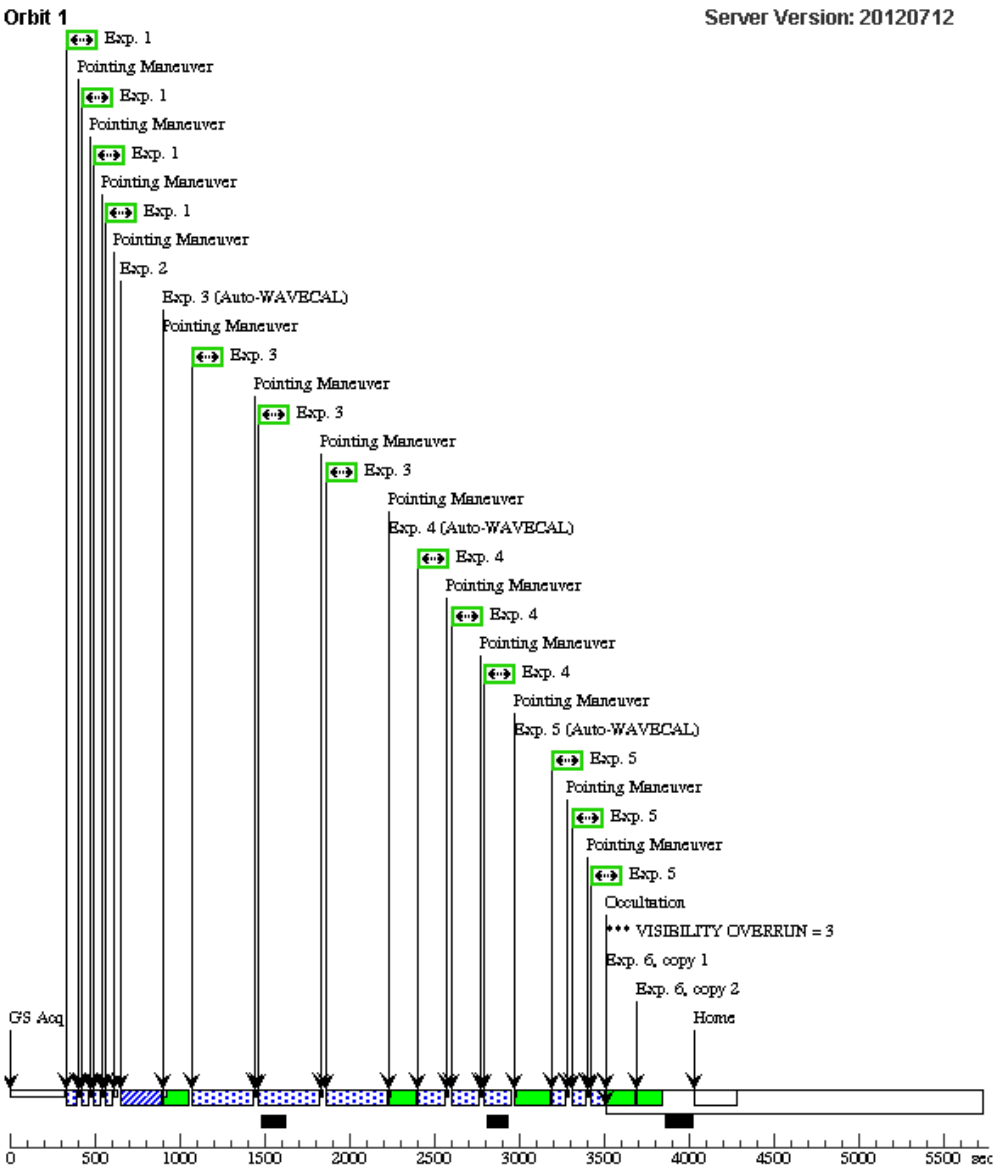
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.795 TO 0.831; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 12 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 12 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 12 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 12 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 13, completed Sat Jul 21 01:06:05 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 13 (optical A1 and C) from phase 0.866 to 0.901

Diagnostics

(Visit 13) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

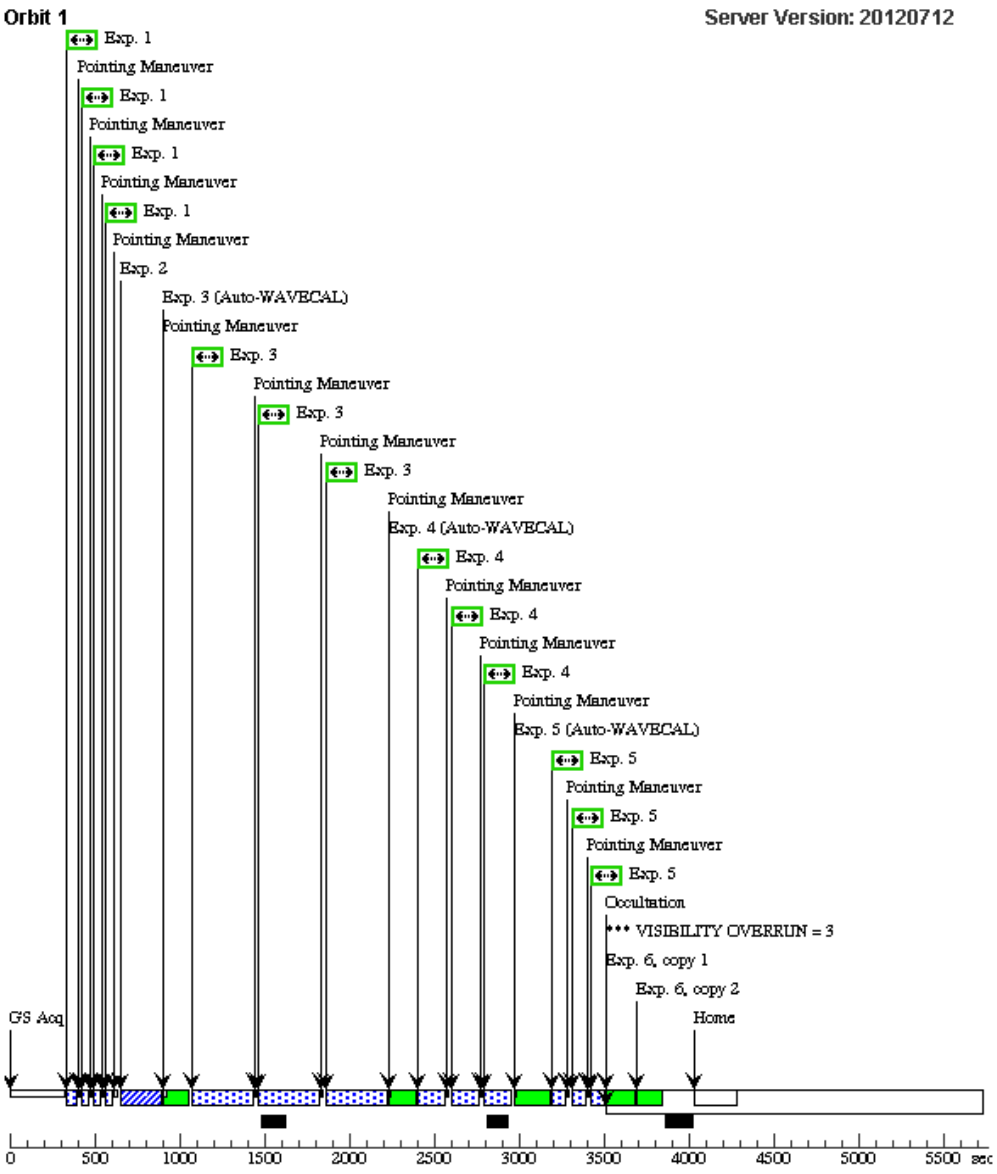
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.866 TO 0.901; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 13 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 13 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 13 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 13 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 12615, Visit 14, completed Sat Jul 21 01:06:07 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 122.5D TO 124.5 D; ORIENT 302.5D TO 304.5 D; Period 3.7723 D AND ZERO-PHASE HJD2453765.75

Comments: Visit 14 (optical A1 and C) from phase 0.937 to 0.972

Diagnostics

(Visit 14) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3), (4), (5)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=3	Center Pattern=false		
	Line Spacing=			
(3)	Pattern Type=STIS-CCD-BOX	Coordinate Frame=POS-TARG		(1)
	Purpose=DITHER	Pattern Orientation=26.6		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.567	Center Pattern=false		
	Line Spacing=0.567			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC3603-A1	RA: 11 15 7.2910 (168.7803792d)		V=11.18+/-0.03	Reference Frame: ICRS
		Dec: -61 15 38.52 (-61.26070d)			
		Equinox: J2000			
Comments: Target star in a crowded field, hence acquired by SAM after peak-up of an offset star (Sher 25).All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					
(2)	NGC3603-A1-OFFSET	RA: 11 15 7.6320 (168.7818000d)		V=12.26+/-0.03	Reference Frame: ICRS
	Alt Name1: SHER25	Dec: -61 15 17.67 (-61.25491d)			
		Equinox: J2000			
Comments: Offset star for peak-up acquisition. All coordinates are retrieved from a STIS frame (ob1505mbq_x2d.fits, ProgID 11626, PI: Massey) to ensure maximum consistency for small-angle manoeuver.					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Imaging field (STIS.im.185745)	(1) NGC3603-A1	STIS/CCD, ACCUM, 50CCD	MIRROR	CR-SPLIT=NO; GAIN=1	PHASE 0.937 TO 0.972; GS ACQ SCENARIO BASE1B3	Pattern 3, Exps 1-1 in Visit 14 (3)	0.1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	Comments: Snapshot exposures with very good S/N for high-precision differential photometry. All count rates OK.								
2	Sher-25 ACQ OFFSET	(2) NGC3603-A1-OFFSET	STIS/CCD, ACQ, F28X50LP	MIRROR				0.1 Secs *[==>]*	***[1]***
	Comments: Acquisition of Sher 25								
3	430M-3936	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 3936 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 3-3 in Visit 14 (1)	320 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
4	430M-4706	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G430M 4706 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 4-4 in Visit 14 (1)	120 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
5	750M-7283	(1) NGC3603-A1	STIS/CCD, ACCUM, 52X0.2	G750M 7283 A	CR-SPLIT=NO; GAIN=1		Pattern 1, Exps 5-5 in Visit 14 (1)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
6	Fringe Flat	CCDFLAT	STIS/CCD, ACCUM, 0.3X0.09	G750M 7283 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure