14142 - Direct Test of the Brown Dwarf Evolutionary Models Through Secondary Eclipse Spectroscopy of LHS 6343

Cycle: 23, 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) LHS-6343	WFC3/IR	5	24-Jul-2015 21:52:51.0	yes

5 Total Orbits Used

ABSTRACT

As the number of field Brown Dwarfs counts in the thousands, interpreting their physical parameters (mass, temperature, radius, luminosity, age, metallicity) relies as heavily as ever on atmosphere and evolutionary models. Fortunately, models are largely successful in explaining observations (colors, spectral types, luminosity), so they appear well calibrated in a relative sense. However, an absolute model-independent calibration is still lacking. Eclipsing BDs systems are a unique laboratory in this respect but until recently only one such system was known, 2M0535-05 -- a very young (<3 Myr) binary Brown Dwarfs showing a peculiar temperature reversal (Stassun et al. 2006). Due to its young age, 2M0535-05 is an ill-suited test for Gyr-old field Brown Dwarfs whose population is by far the most common in the solar neighborhood. Recently, a second system -- an evolved

BD (>1 Gyr) -- was identified (62.1+/-1.2 MJup, 0.783+/-0.011 RJup) transiting LHS6343 with a 12.7-day period. We propose to use WFC3 in drift scan mode and 5 HST orbits to determine the spectral type (a proxy for temperature) as well as the near-infrared luminosity of this brown dwarf. We conducted simulations that predict a signal-to-noise ratio ranging between 10 and 30 per resolution element in the peaks of the spectrum. These measurements, coupled with existing luminosity measurements with Spitzer at 3.6 and 4.5 microns, will allow us to trace the spectral energy distribution of the Brown Dwarf and directly calculate its blackbody temperature. It will be the first field Brown Dwarfs with simultaneous measurements of its radius, mass, luminosity and temperature all measured independently of models.

OBSERVING DESCRIPTION

I want to use WFC3 in scan mode to measure the secondary eclipse of a brown dwarf (LHS6343 C) around LHS6343 A. There is a nearby (0.55") binary (LHS6343 B) that I want to position along the spectral dispersion axis so that A and B spectra overlap from the start of the scan. Also, to establish the respective individual spectra of A and B, I want to take staring spectra of each individual component. Finally, I also want to obtain a direct image at the start of every orbit to establish the wavelength solution zero-point.

Visit

Proposal 14142, LHS6343 (01) Sat Jul 25 01:52:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 133D TO 193 D; ORIENT 313D TO 13 D; Period 12.7137941 D AND ZERO-PHASE HJD2456947.114

Comments: I want to observe the secondary eclipse of a BD (component C) orbiting an M3 dwarf (component A). A second M3 (component B) star is found ~0.6 arcsec at a position angle of 118 degrees (East of North CCW) with respect to component A. The scanning spectroscopy will have all components blended. But I will want to obtain crude resolved spectroscopy and photometry of both stars.

At the begining of orbit 1, I obtain a direct image (F130N) and a staring grism spectrum, at each of 4 dither positions. That builds up to 48 sub-array (256x256) reads (the max that can then be dumped in parallel during the scanning exposure). At the very end of orbit 1, I insert a short direct imaging F130N at the same X,Y position as where my scans start (X=0.0",Y=-1.5"). My scanning exposures use 16 reads (NSAMP=15) and I itemize each forward then reverse scans. They are dumped every 3 scans (i.e. every time a cumulative 48 reads have been performed). My scans starts at X=0.0", Y=-1.5" to follow what Bean (13021) did on GJ1214b. For the 4 other orbits, I obtain a direct image in one filter then proceed with the scans, always at X=0.0",Y=-1.5" and finish with another direct image. I cycle through the available narrow-band filters (F126,F128,F130,F132,F164,F167).

*The start phase is very important. Needs to happen between 0.9840 and 0.9865 (***preference for 0.9845***). Phase=0.0 is corresponds to the middle of the secondary eclipse. Remember the period is large (12.7 days) so the apparent narrow range translates into a range of 45 minutes. The period is very precise (from Montet et al . 2014). The HJD given here is that of the secondary eclipse best fitted by Montet from Spitzer observations. It is equivalent to 0.186 days (4.46h) past the 0.5 phase between transits. The HJD was corrected from JD to heliocentric JD so it went from 2456947.112 to 2456947.114, a 183 seconds correction, well within the uncertainty.*

I constrained the visit orient such that the two stars in the system are within 30 degrees from being parallel to the detector X axis.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LHS-6343	RA: 19 10 14.3540 (287.5598083d) Dec: +46 57 26.14 (46.95726d) Equinox: J2000	Proper Motion RA: -145 mas/yr Proper Motion Dec: -401 mas/yr Parallax: 0.025" Epoch of Position: 2000.0	V=13.1+/-0.1 J=9.57 H=8.97 K=8.70	Reference Frame: ICRS

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

LHS6343 A is an M3 dwarf around which a Brown Dwarf (LHS 6343 C) orbits on a 12.7 day period. It is an eclipsing brown dwarf. At 0.6 arcsec is a second M3 dwarf (LHS 6343 B), bound to the system. The B component has a position angle of 118 degrees (east of north, CCW) relative to the A component.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Staring Direct Image	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-3; PHASE 0.9840 TO 0.9865	Sequence 1-21 Non-Int in LHS6343 (01) Pattern 1, Exps 1-2 in Sequence 1-21 Non-Int in LHS6343 (01) (1)	0.833445 Secs (3.334 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	Staring Spectroscopy	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=RAPID	POS TARG 0,-3	Sequence 1-21 Non-Int in LHS6343 (01) Pattern 1, Exps 1-2 in Sequence 1-21 Non-Int in LHS6343 (01) (1)	1.944705 Secs (7.779 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
4	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
5	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
6	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
7	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
8	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
9	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
10	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
11	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***
12	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[1]***

13	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
14	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
15	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
16	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
17	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
18	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
19	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
20	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 1-21 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[1]***
21	Direct Imaging F130N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-1.5	Sequence 1-21 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs)	
								[==>]	***[1]***
22	Direct Imaging F126N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F126N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 22-44 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs)	
								[==>]	***[2]***
23	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[2]***
24	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[2]***
25	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	
								[==>]	***[2]***

26	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
27	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
28	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
29	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
30	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
31	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
32	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
33	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
34	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
35	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
36	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
37	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***
38	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs)	*[==>]*	***[2]***

39	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[2]***
40	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[2]***
41	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[2]***
42	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[2]***
43	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 22-44 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[2]***
44	Direct Imaging F128N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F128N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 22-44 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[2]***
45	Direct Imaging F132N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 45-67 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[3]***
46	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
47	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
48	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
49	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
50	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
51	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***

52	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
53	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
54	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
55	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
56	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
57	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
58	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
59	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
60	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
61	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
62	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
63	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
64	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***

65	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
66	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 45-67 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[3]***
67	Direct Imaging F164N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F164N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 45-67 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[3]***
68	Direct Imaging F167N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F167N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 68-90 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[4]***
69	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
70	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
71	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
72	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
73	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
74	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
75	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
76	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
77	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***

78	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
79	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
80	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
81	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
82	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
83	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
84	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
85	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
86	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
87	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
88	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
89	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 68-90 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[4]***
90	Direct Imaging F126N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F126N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 68-90 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[4]***

91	Direct Imaging F132N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 91-113 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[5]***
92	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
93	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
94	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
95	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
96	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
97	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
98	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
99	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
100	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
101	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
102	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
103	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***

104	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
105	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
106	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
107	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
108	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
109	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
110	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
111	Scan Reverse	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Reverse	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
112	Scan Forward	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS 10; NSAMP=15	POS TARG 0,-1.5; SPATIAL SCAN 0.12,90.0 Degrees,Forward	Sequence 91-113 Non-Int in LHS6343 (01)	103.128633 Secs (103.129 Secs) *[==>]*	***[5]***
113	Direct Imaging F164N	(1) LHS-6343	WFC3/IR, MULTIACCUM, GRISM256	F164N	NSAMP=3; SAMP-SEQ=RAPID	SAME POS AS 21	Sequence 91-113 Non-Int in LHS6343 (01)	0.833445 Secs (0.833 Secs) *[==>]*	***[5]***

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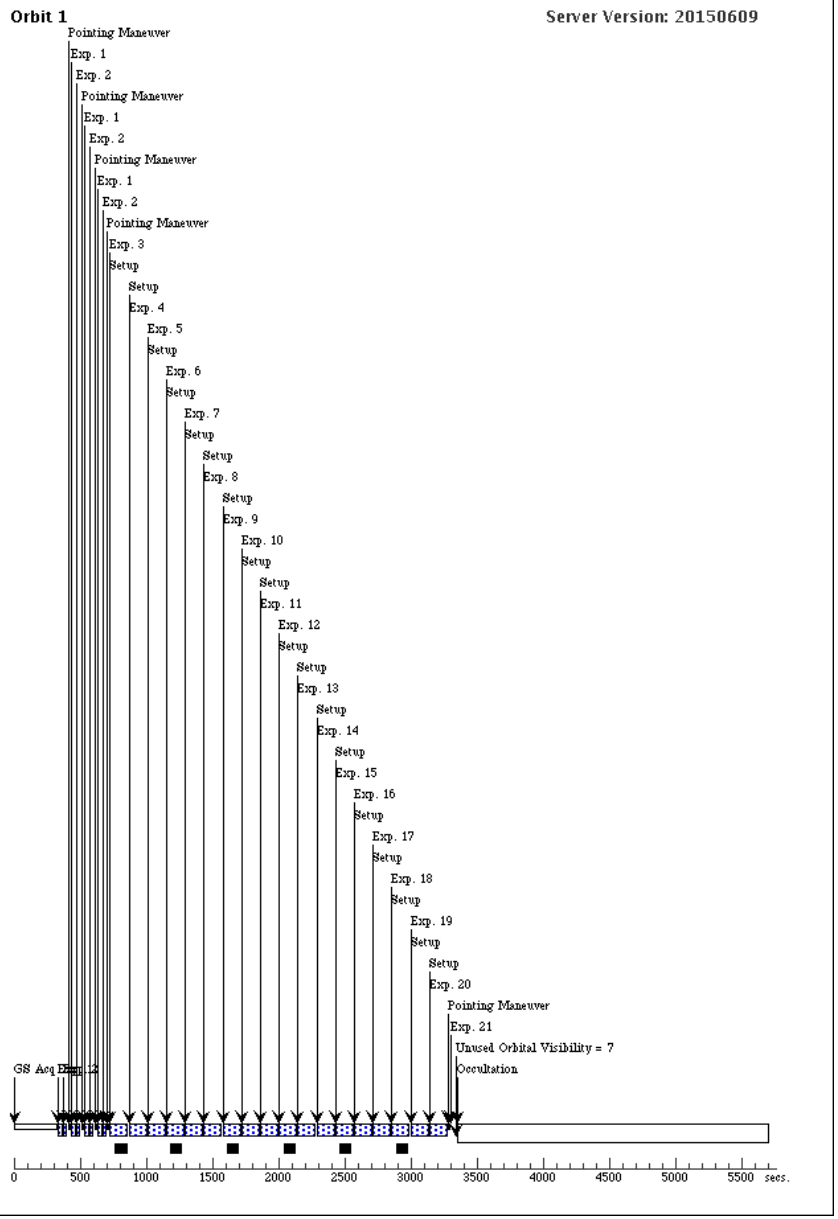

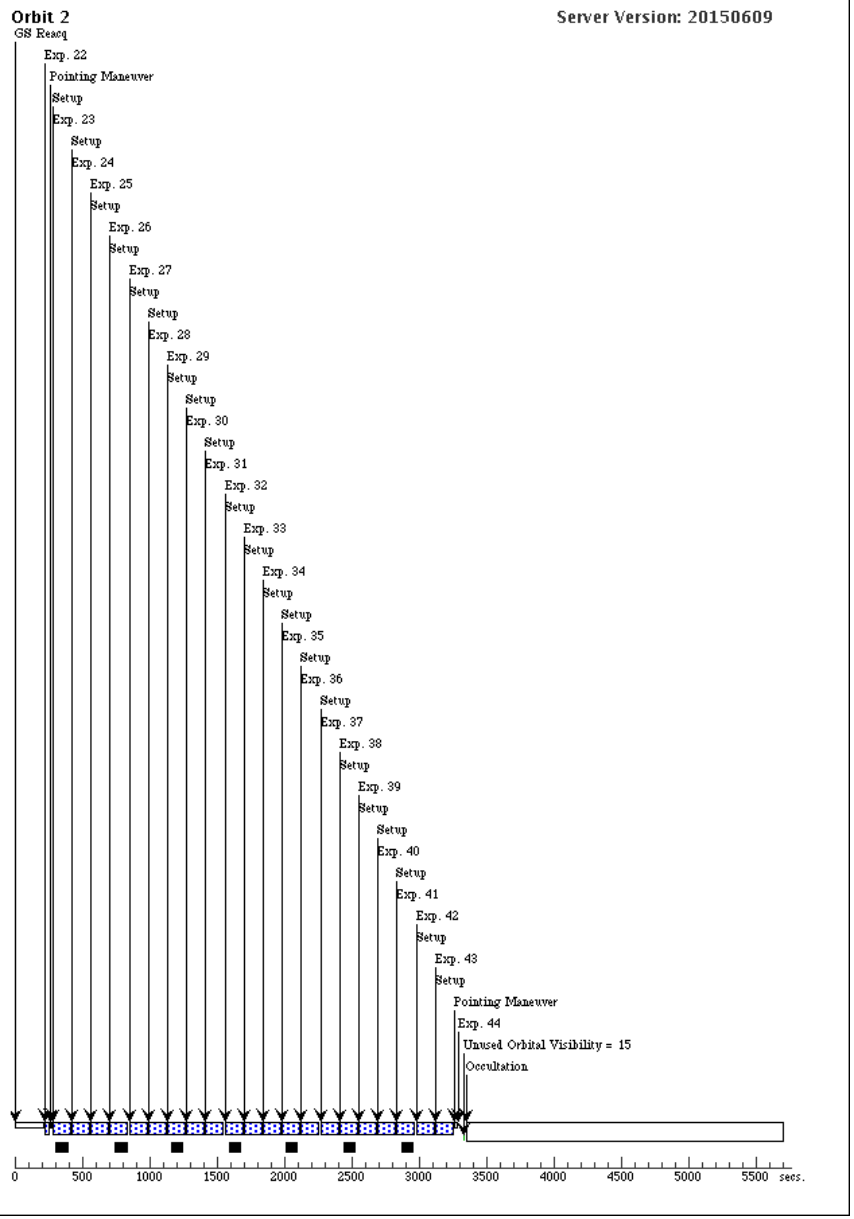
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Exp. 27
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Exp. 28
Exp. 29
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Setup
Exp. 30
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Exp. 34
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Exp. 35
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Exp. 37
Exp. 38
Setup
Exp. 39
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Setup
Exp. 40
Setup
Exp. 41
Exp. 42
Setup
Exp. 43
Setup
Pointing Maneuver
Exp. 44
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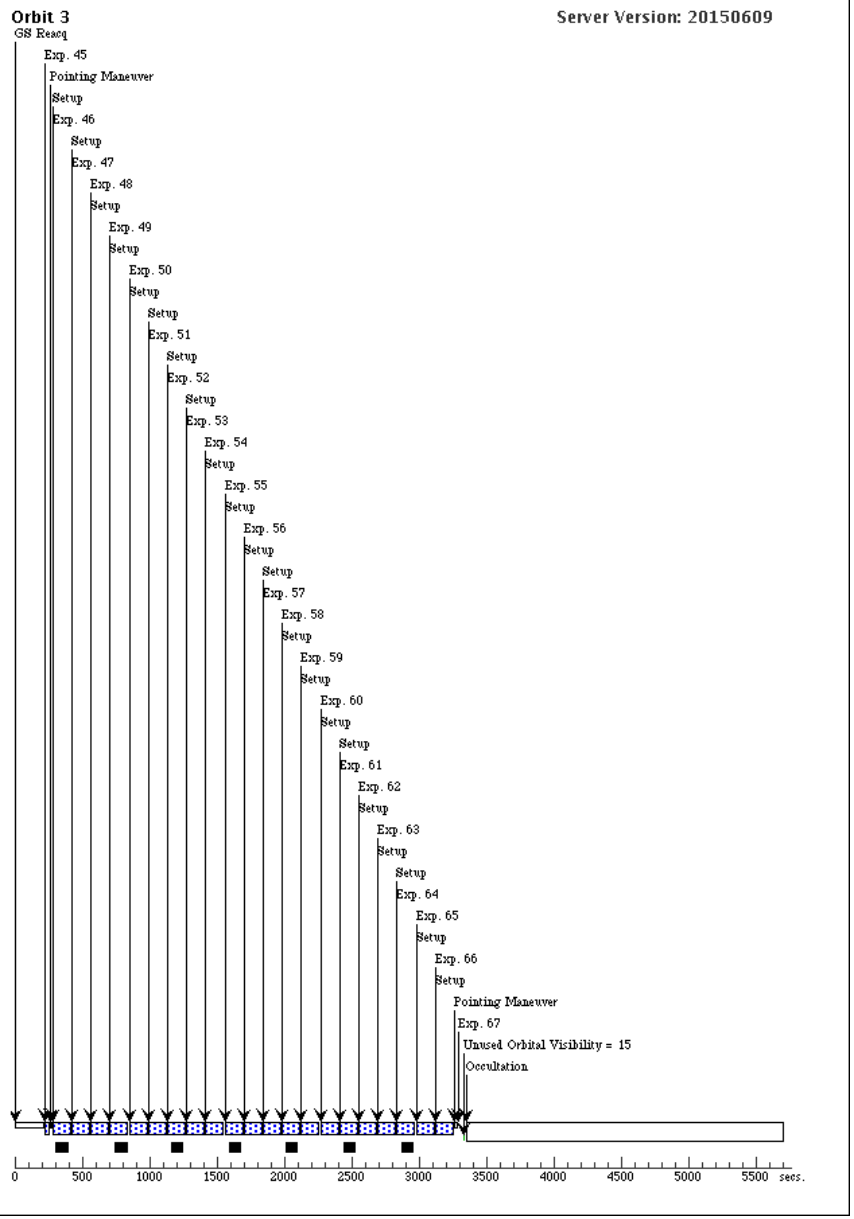
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Pointing Maneuver
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Exp. 60
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Exp. 61
Exp. 62
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Exp. 63
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Setup
Exp. 64
Exp. 65
Setup
Exp. 66
Setup
Pointing Maneuver
Exp. 67
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Occultation
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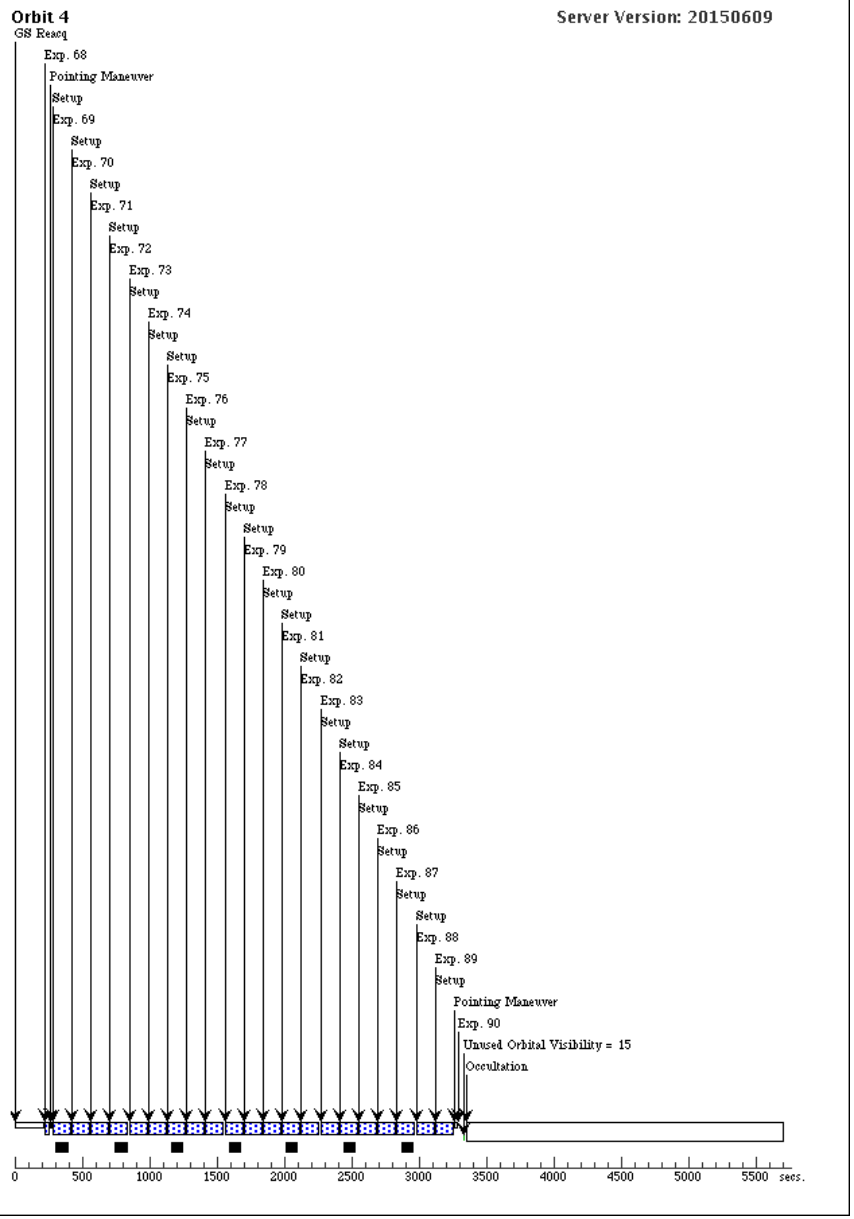
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Setup
Exp. 70
Setup
Exp. 71
Setup
Exp. 72
Exp. 73
Setup
Exp. 74
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Setup
Exp. 75
Exp. 76
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Exp. 77
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Exp. 78
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Exp. 79
Exp. 80
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Exp. 81
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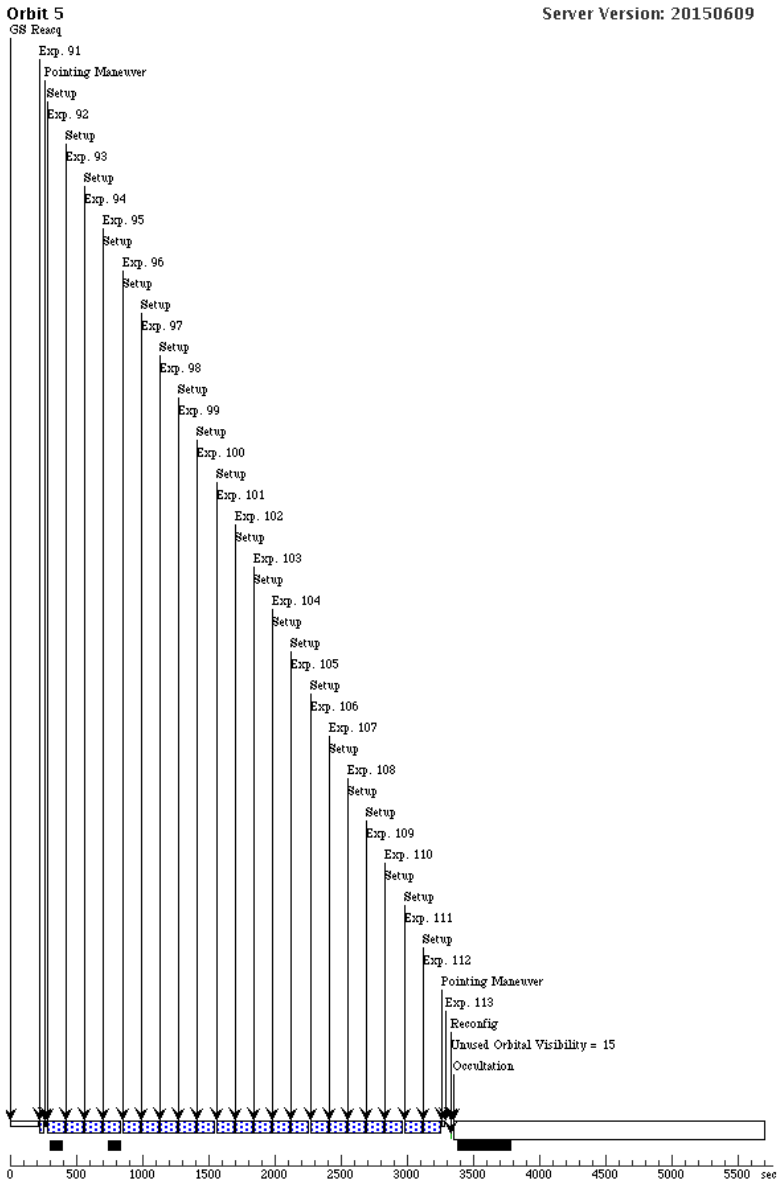
Exp. 82
Exp. 83
Setup
Setup
Exp. 84
Exp. 85
Setup
Exp. 86
Setup
Exp. 87
Setup
Setup
Exp. 88
Exp. 89
Setup
Pointing Maneuver
Exp. 90
Unused Orbital Visibility = 15
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 5
Server Version: 20150609
GS Reacq
Exp. 91
Pointing Maneuver
Setup
Exp. 92
Setup
Exp. 93
Setup
Exp. 94
Exp. 95
Setup
Exp. 96
Setup
Setup
Exp. 97
Setup
Exp. 98
Setup
Exp. 99
Setup
Exp. 100
Setup
Exp. 101
Exp. 102
Setup
Exp. 103
Setup
Exp. 104
Setup
Setup
Exp. 105
Setup
Exp. 106
Exp. 107
Setup
Exp. 108
Setup
Setup
Exp. 109
Exp. 110
Setup
Setup
Exp. 111
Setup
Exp. 112
Pointing Maneuver
Exp. 113
Reconfig
Unused Orbital Visibility = 15
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec