13331 - Confirmation and characterization of young planetary companions hidden in the HST NICMOS archive

Cycle: 21, 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) RE0723+20	WFC3/IR	1	05-Mar-2014 21:40:05.0	yes
02	(1) RE0723+20	WFC3/IR	1	05-Mar-2014 21:40:45.0	yes
03	(2) HD160934	WFC3/IR	1	05-Mar-2014 21:41:26.0	yes
04	(2) HD160934	WFC3/IR	1	05-Mar-2014 21:42:02.0	yes
05	(3) HD146516	WFC3/IR	1	05-Mar-2014 21:42:37.0	yes
06	(3) HD146516	WFC3/IR	1	05-Mar-2014 21:43:06.0	yes
07	(4) V1121	WFC3/IR	1	05-Mar-2014 21:43:33.0	yes
08	(4) V1121	WFC3/IR	1	05-Mar-2014 21:44:01.0	yes
09	(5) GJ3631	WFC3/IR	1	05-Mar-2014 21:44:43.0	yes
10	(5) GJ3631	WFC3/IR	1	05-Mar-2014 21:45:20.0	yes
11	(6) 2M1852-37	WFC3/IR	1	05-Mar-2014 21:45:58.0	yes
12	(6) 2M1852-37	WFC3/IR	1	05-Mar-2014 21:46:36.0	yes

12 Total Orbits Used

ABSTRACT

We propose to conduct WFC3 high contrast observations of six faint planetary candidates orbiting young (1 to 100 Myrs) stars identified in archival HST NICMOS coronagraphic data as part of our team's program AR-12652. Such rare objects are of the utmost importance to comparative exo-planetology as their physical properties reflect the initial conditions of still poorly constrained planetary formation mechanisms. Moreover directly imaged systems are precious artifacts in the expanding exo-planetary treasure trove as they are readily available for spectroscopic characterization. Our statistical analysis, which combines population synthesis models and empirical inspections of the entire NICMOS field of view for all sources observed in coronaraphic mode, almost guarantees that one of these six faint candidates is associated with its putative host star. We will conduct our observation in four near infrared filter, F125W, F160W to establish the baseline luminosity of our candidates and in F127M and F139M in order to probe the depth their water absorption features, characteristic of substellar /exo-planetary like atmospheres. Because of the youth of our targets, this program, which only requires a modest 12 HST orbits, will almost certainly identify and image a young or adolescent exo-planet.

OBSERVING DESCRIPTION

General observing strategy:

Our goal is to identify with WFC3 six sub-stellar companions candidates detected via re-processing of the HST NICMOS archive. Our targets were selected based on their faint V magnitude, which makes them difficult to observe with the depth of contrast required to detect our candidates using ground based adaptive optics. Our observing rationale can be described as follows:

- we will dedicate two orbits to each putative host star. This will allow us to observe each source with two distinct HST roll angles, a method that has been proven very useful in order to discriminate astrophysical point sources from telescope and/or instrumental speckles.

- we will observe each candidate companion in four filters. We will use two wide band filters (F125W and F160W) which will provide a photometric baseline to put in perspective the properties of the sub-stellar companions detected by this program with the ensemble of sub-stellar companions already detected from the ground. We will use two narrow band filters (F127M and F139M, not accessible from the ground) in order to further characterize the bulk physical properties and the atmospheric chemistry of the companions we will detect.

- we will reduce our data using the Karhunen-Loeve Image Processing (KLIP) algorithm described in Soummer, Pueyo and Larking 2012, that is at the algorithm underlying our NICMOS detections. This algorithm uses a library of reference PSF in order to build a set of eigen-mnodes representative of the statistical properties of the telescope+instrument quasi-static response.

- the KLIP algorithm works optimally on Nyquist samples PSFs, which will not be the case for the raw WFC3 data. We will thus use dithers in order to obtain a set of PSFs realizations for which the stellar location varies within a WFC3 pixel. We will recombine there dither using an optimized Fourier based image recombination algorithm which will yield a Nyquist sampled dataset at half the WFC3 plate scale.

- the KLIP algorithm only works on images that are not saturated and whose quasi-static PSF structures exhibit roughly the same level of photon noise statistics. Because of the absence of a coronagraph on WFC3 we will need to saturate the inner 0.5" of the WFC3 PSF in order to obtain sufficient exposure depth to detect our six candidates (all located at least 1" beyond their star).

We predict that the F127M and F139M PSFs of this present program added to F127M and F139M PSFs from GO-12511 will be sufficient to detect and confirm/rule out common proper motion for all of our candidates. The characterization in the wide band filters will the require us to optimize the number of dithered images used to generate in each "super-sample" Nyquist PSF. Since our the observing sequence in the wide band filters will yield in average 8 wide band PSFs and since each Nyquist sampled image can be generated using four raw PSFs we will have ~22 reference PSFs to analyze each wide band images. We believe that given the stability of WFC3 this number of references is sufficient to characterize the sub stellar companions we will detect.

Orbit packing:

Requirements

Each orbit will consist of a single roll. For each orbit we designed observing sequences under the following hard requirements:
- HR1: the inner ~0.5" (pm 0.1") of each exposure is saturated.
- HR2: the exposure time of each single dither is sufficient for a "raw detector" SNR of at least 5 for each of our candidates in each filter.
- HR3: the total number of images in the program is large enough to yield at least 20 Nyquist "super sampled" PSFs after dither recombination for each source in each filter.

Moreover in order to facilitate astrometric calibration for common proper motion we added the following soft requirement:

-SR1 the first read of at least one exposure in one filter ought to yield an unsaturated stellar PSF. Note that in principle stellar location can be derived using the unsaturated diffraction spikes associated with secondary support structures, albeit at a precision level inferior to the case of having an unsaturated stellar PSF. This requirement is only important for the sources that exhibit less than 0.5" proper motion since the NICMOS epoch.

Orbit packing

Based on the characteristics of our target stars and of the candidates detect with NICMOS these requirements flow down to three types of orbit packing

- "bright sources", J ~ 7.5 mag: RE0723+20 and HD160934,

For all filters three WFC3-IR-DITHER-BOX-Min dither patterns of 4 exposures each. A total of 12 exposures per source, per orbit, per filter. A total of 3 Nyquist sampled images per source, per orbit, per filter.

- "medium sources", J ~ 8.5 mag: HD146516 and V1121 Oph,

For all filters one 1 SPIRAL dither patterns of 9 exposures each. A total of 9 exposures per source, per orbit, per filter. A conservative total of 2 Nyquist sampled images per source, per orbit, per filter.

- "faint sources", J ~ 9.8 mag: GJ3631 and RXJ18521730-3700119.

For all filters one 2 SPIRAL dither patterns of 6 exposures each. A total of 6 exposures per source, per orbit, per filter. A conservative total of 1 Nyquist sampled images per source, per orbit, per filter.

These observations meet almost all the requirements (see below). The orbits were finally packed with extra exposures (without the dither patterns) in order to reach deeper exposures.

Verification of requirements

- HR1 was verified using our custom PSF saturation modeling tool developed as part of GO-12511. Preliminary dat from GO-12511 shows that our modeling tool is well calibrated and we expect the saturation region in the final images to be adequate.

- HR2: using the WFC3 ETC we checked that all candidates in all filter will exhibit a "raw SNR" (without speckles) of more than 5 in every single exposure except for the candidate around RE0723+20 in F139M. Given that this filter probes a water absorption band for which sub-stellar companions are faint and usually not detected from the ground we decided that t was acceptable to take the risk of only obtain an upper limit in this particular on this source instead of increasing the exposure time (e.g the saturation radius) which would in turn comprise the uniformity of our PSF library for this filter.

- HR3: based on the numbers derive above the number of Nyquist sampled references will be for each type of sources:

"bright sources": 21 reference PSFs
"medium sources": 22 reference PSFs
"faint sources": 23 reference PSFs

-SR1: see below for the saturation of the first read in F127M. All wide band filters are saturated

RE0723+20 Saturated pm ~1.6" --> No need for precise astrometry
HD160934 Saturated pm ~0.5"--> No need for precise astrometry
HD146516 Saturated pm~0.1" --> We added a short exposure in 128 sub-array for astrometric calibration
V1121 Oph Saturated pm~0.2" -> We added a short exposure in 128 sub-array for astrometric calibration
GJ3631 Not saturated pm~10"
RXJ18521730-3700119 Not saturated pm~0.15"

We additionally packed the orbits with extra exposures (outside dither patterns) in the medium band filters in order to maximize efficency.

ADDITIONAL COMMENTS
Roll angles

In order to simplify our data-reduction we are asking for a range of the telescope orients that prevents our candidates from being hidden behind the spiders. These were derived based on the PA of the candidates on the NICMOS detector, rotated back to the sky. We set exclusion zones of ~45 degrees at the first visit around each spiders so that the candidates lies are between the spiders. For each source we defined roll angles for the second visits with respect to the first visits which a) is sufficently large, b) ensures that the candidates are still between spiders, c) provides schedulable observations.

Time constraint

We are asking for observations of our three candidates with the least proper motion as late as schedulable in the cycle (e.g after June 14 after

checking schedulability).

Visit

Proposal 13331, RE0723+20 (01), completed Thu Mar 06 02:46:53 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 0D TO 47 D; ORIENT 90D TO 137 D; ORIENT 181D TO 223 D; ORIENT 270D TO 313 D

Comments: The PA of the the candidate is ~21.5 degrees East of North. We define the orient ranges accordingly so that the candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

Diagnostics

(RE0723+20 (01)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3-8), (9-14)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	RE0723+20 Alt Name1: V-V429-GEM	RA: 07 23 43.5920 (110.9316333d) Dec: +20 24 58.66 (20.41629d) Equinox: J2000	Proper Motion RA: -65.8 mas/yr Proper Motion Dec: -228.1 mas/yr Epoch of Position: 2000.0	V=9.93 J = 7.643	Reference Frame: ICRS

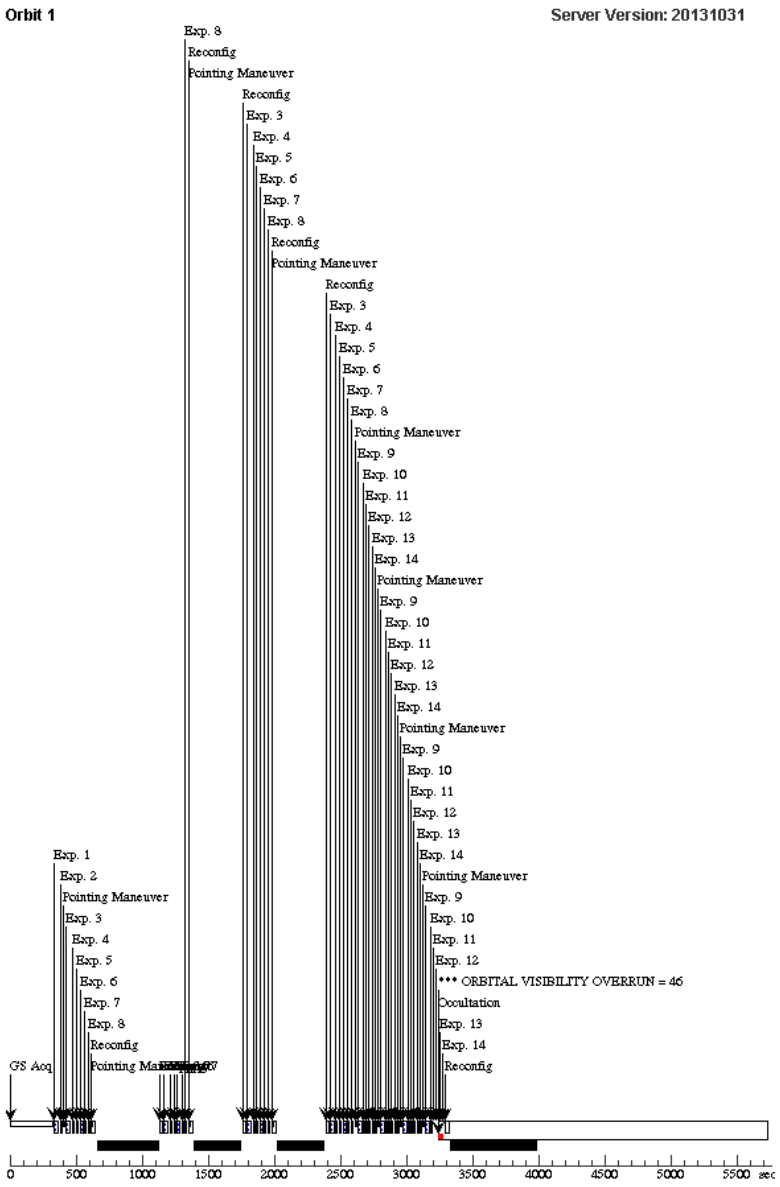
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
2	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
3	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 3-8 in RE0723+20 (01) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	10	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	11	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	12	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	14	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 9-14 in RE0723+20 (01) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, RE0723+20 (02), scheduling Thu Mar 06 02:46:58 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 170D TO -170D FROM 01

Comments: An orient of 180 degrees pm 10 with respect to visit 01 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

Diagnostics

(RE0723+20 (02)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(3-8), (9-14)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	RE0723+20 Alt Name1: V-V429-GEM	RA: 07 23 43.5920 (110.9316333d) Dec: +20 24 58.66 (20.41629d) Equinox: J2000	Proper Motion RA: -65.8 mas/yr Proper Motion Dec: -228.1 mas/yr Epoch of Position: 2000.0	V=9.93 J = 7.643	Reference Frame: ICRS

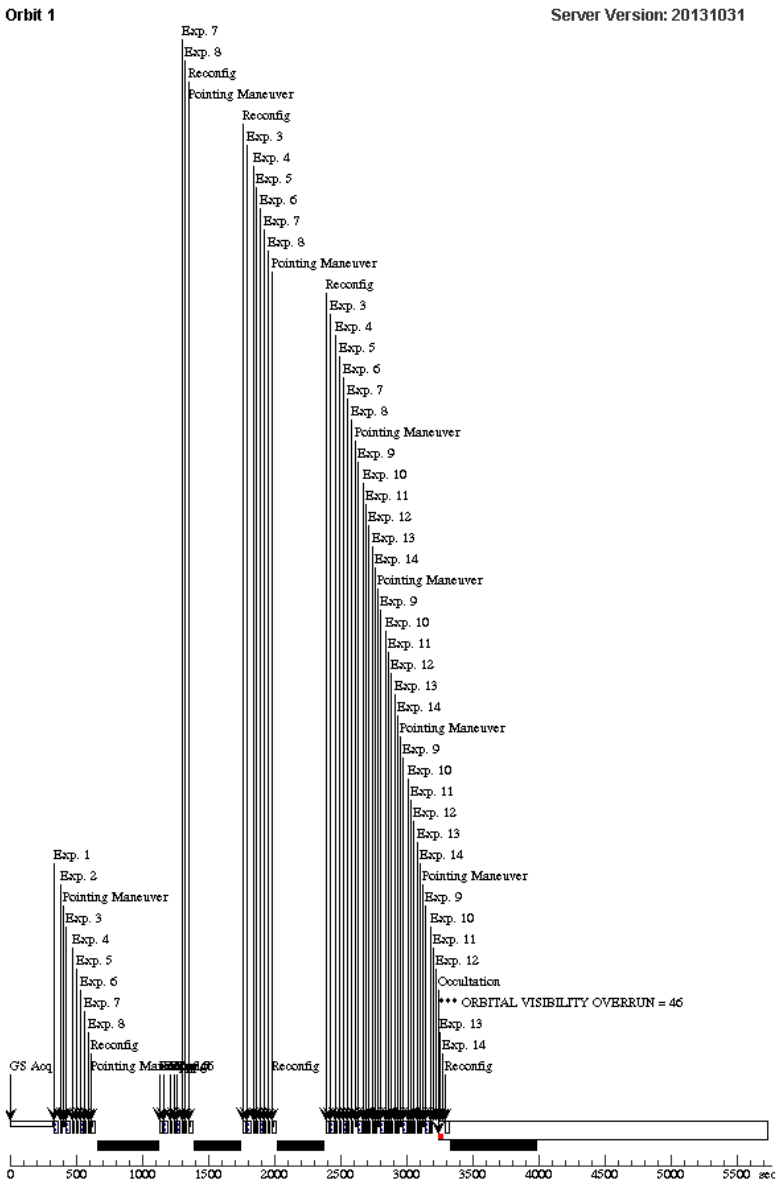
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
2	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
3	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F127M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F139M	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in RE0723+20 (02) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	10	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	11	F125W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	12	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	14	F160W	(1) RE0723+20	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-14 in RE0723+20 (02) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, HD160934 (03), scheduling Thu Mar 06 02:47:00 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 37D TO 81 D; ORIENT 128D TO 177 D; ORIENT 221D TO 260 D; ORIENT 309D TO 353 D

Comments: The PA of the the candidate is ~347 degrees East of North. We define the orient ranges accordingly so that the candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

Diagnostics

(HD160934 (03)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(6-11), (12-17)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD160934	RA: 17 38 39.6343 (264.6651429d)	Proper Motion RA: -23.30 mas/yr	V=10.15	Reference Frame: ICRS
	Alt Name1: HD-160934	Dec: +61 14 16.03 (61.23779d)	Proper Motion Dec: 47.71 mas/yr	J = 7.618	
		Equinox: J2000	Parallax: 0.03019"		
			Epoch of Position: 2000.0		

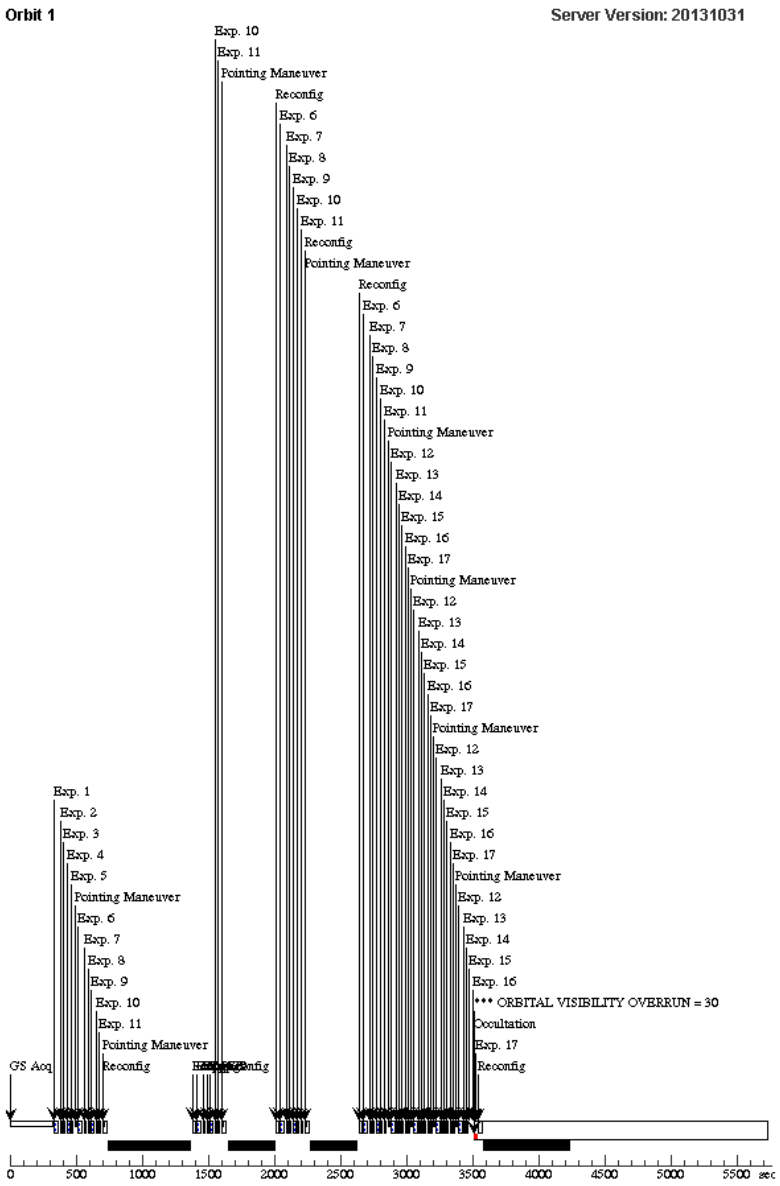
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
2	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
3	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
4	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
5	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
6	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
10	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
11	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 6-11 in HD160934 (03) (4)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	12	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	14	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	15	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	16	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	17	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 12-17 in HD160934 (03) (4)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, HD160934 (04), scheduled Thu Mar 06 02:47:02 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 80D TO 100D FROM 03

Comments: An orient of 90 degrees pm 10 with respect to visit 03 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

Diagnostics

(HD160934 (04)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(6-11), (12-17)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HD160934	RA: 17 38 39.6343 (264.6651429d)	Proper Motion RA: -23.30 mas/yr	V=10.15	Reference Frame: ICRS
	Alt Name1: HD-160934	Dec: +61 14 16.03 (61.23779d)	Proper Motion Dec: 47.71 mas/yr	J = 7.618	
		Equinox: J2000	Parallax: 0.03019"		
			Epoch of Position: 2000.0		

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
2	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
3	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
4	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
5	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		8.53027 Secs (8.53 Secs) *[==>]*	***[1]***
6	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F127M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
10	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
11	F139M	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 6-11 in HD160934 (04) (3)	8.53027 Secs (34.121 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	12	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	14	F125W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F125W	NSAMP=11; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	3.055965 Secs (12.224 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	15	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	16	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	17	F160W	(2) HD160934	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 3, Exps 12-17 in HD160934 (04) (3)	1.66689 Secs (6.668 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure

Visit

Proposal 13331, HD146516 (05), scheduling Thu Mar 06 02:47:04 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 61D TO 108 D; ORIENT 155D TO 201 D; ORIENT 244D TO 297 D; ORIENT 331D TO 16 D; AFTER 01-JUN-2014:00:00:00

Comments: The PA of the the candidate is ~228.4 degrees East of North. We define the orient ranges accordingly so that the candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

The timing requirements are placed on a few targets to ensure sufficient separation from our first epoch to enable proper motion studies.

Diagnostics

(HD146516 (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(5-10), (11-13)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD146516	RA: 16 17 31.4090 (244.3808708d)	Proper Motion RA: -13.8 mas/yr	V=10.14	Reference Frame: ICRS
	Alt Name1: HD-146516	Dec: -23 03 36.06 (-23.06002d)	Proper Motion Dec: -16.1 mas/yr	J = 8.51	
		Equinox: J2000	Epoch of Position: 2000.0		

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F139M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
2	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
3	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F139M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
4	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
5	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F125W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
10	F125W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (05) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	11	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (05) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	12	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (05) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (05) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure

Visit

Proposal 13331, HD146516 (06), scheduling Thu Mar 06 02:47:06 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 170D TO -170D FROM 05; AFTER 05

Comments: An orient of 180 degrees pm 10 with respect to visit 05 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

Diagnostics

(HD146516 (06)) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(5-10), (11-13)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD146516	RA: 16 17 31.4090 (244.3808708d)	Proper Motion RA: -13.8 mas/yr	V=10.14	Reference Frame: ICRS
	Alt Name1: HD-146516	Dec: -23 03 36.06 (-23.06002d)	Proper Motion Dec: -16.1 mas/yr	J = 8.51	
		Equinox: J2000	Epoch of Position: 2000.0		

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F139M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
2	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
3	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F139M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
4	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	***[1]***
5	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F139M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F127M	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
9	F125W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
10	F125W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-10 in HD146516 (06) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

	11	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (06) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	12	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (06) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	13	F160W	(3) HD146516	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 11-13 in HD146516 (06) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure

Visit

Proposal 13331, V1121 (07), implementation Thu Mar 06 02:47:07 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 77D TO 122 D; ORIENT 171D TO 214 D; ORIENT 256D TO 307 D; ORIENT 345D TO 35 D; AFTER 01-JUN-2014:00:00:00

Comments: The PA of the the candidate is ~212.4 degrees East of North. We define the orient ranges accordingly so that the candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

The timing requirements are placed on a few targets to ensure sufficient separation from our first epoch to enable proper motion studies.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(3-8), (9-11)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	V1121 Alt Name1: V-V1121-OPH	RA: 16 49 15.3032 (252.3137633d) Dec: -14 22 8.63 (-14.36906d) Equinox: J2000	Proper Motion RA: -7.69 mas/yr Proper Motion Dec: -22.84 mas/yr Parallax: .00763" Epoch of Position: 2000.0	V=11.28 J = 8.302	Reference Frame: ICRS

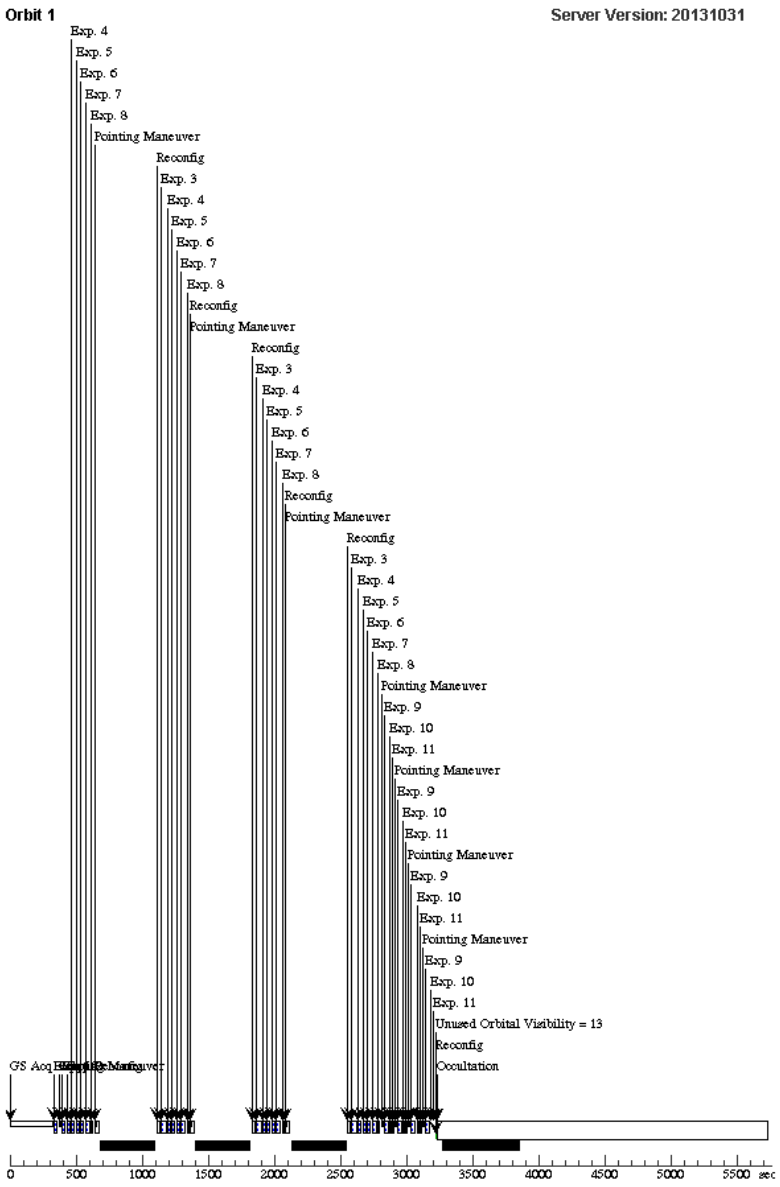
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835; GS ACQ SCENARIO BASE1B3		0.243096 Secs (0.243 Secs) *[==>]*	 ***[1]***
2	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	 ***[1]***
3	F139M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
4	F139M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
5	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
6	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
7	F125W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
8	F125W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (07) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
9	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (07) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***

	10	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (07) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
	11	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (07) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***

Orbit Structure



Visit

Proposal 13331, V1121 (08), implementation Thu Mar 06 02:47:09 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 170D TO -170D FROM 07; AFTER 07

Comments: An orient of 180 degrees pm 10 with respect to visit 07 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(3-8), (9-11)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	V1121 Alt Name1: V-V1121-OPH	RA: 16 49 15.3032 (252.3137633d) Dec: -14 22 8.63 (-14.36906d) Equinox: J2000	Proper Motion RA: -7.69 mas/yr Proper Motion Dec: -22.84 mas/yr Parallax: .00763" Epoch of Position: 2000.0	V=11.28 J = 8.302	Reference Frame: ICRS

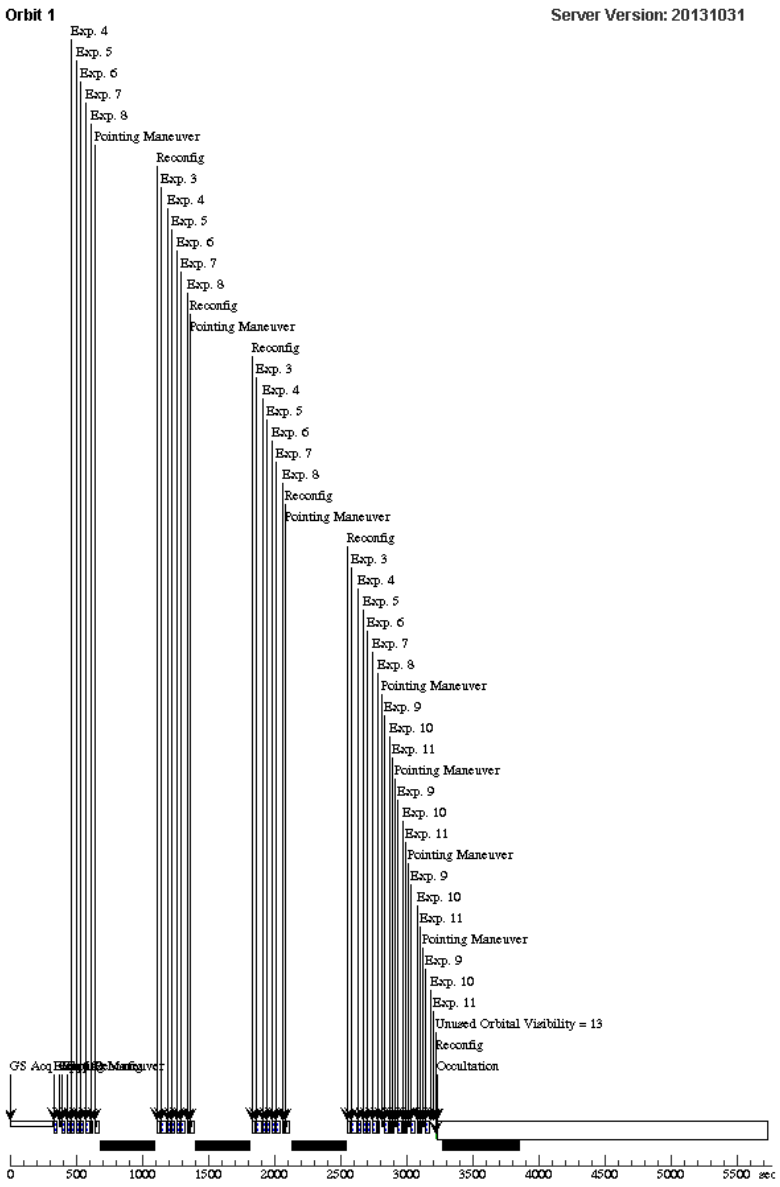
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.835,3.835; GS ACQ SCENARIO BASE1B3		0.243096 Secs (0.243 Secs) *[==>]*	 ***[1]***
2	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F127M	NSAMP=4; SAMP-SEQ=RAPID	POS TARG 3.9,3.9		0.243096 Secs (0.243 Secs) *[==>]*	 ***[1]***
3	F139M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
4	F139M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F139M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
5	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
6	F127M	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F127M	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
7	F125W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
8	F125W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 3-8 in V1121 (08) (4)	5.118162 Secs (20.473 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***
9	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (08) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	 ***[1]***

	10	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (08) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
	11	F160W	(4) V1121	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 9-11 in V1121 (08) (4)	2.77815 Secs (11.113 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, GJ3631 (09), scheduling Thu Mar 06 02:47:10 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 75D TO 95 D; ORIENT 168D TO 205 D; ORIENT 256D TO 301 D; ORIENT 350D TO 31 D

Comments: The PA of the the candidate is ~126.3 degrees East of North. We define the orient ranges accordingly so thatthe candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

We've limited the Orientation requirements based on secheduling constraints (75-95), which appears to be the only overlapping region of orient range AND target visibility.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN	Coordinate Frame=POS-TARG		(1-4), (5-8)
	Purpose=DITHER	Pattern Orientation=0		
	Number Of Points=4	Angle Between Sides=0		
	Point Spacing=0.065	Center Pattern=false		
	Line Spacing=0.065			

Fixed Targets

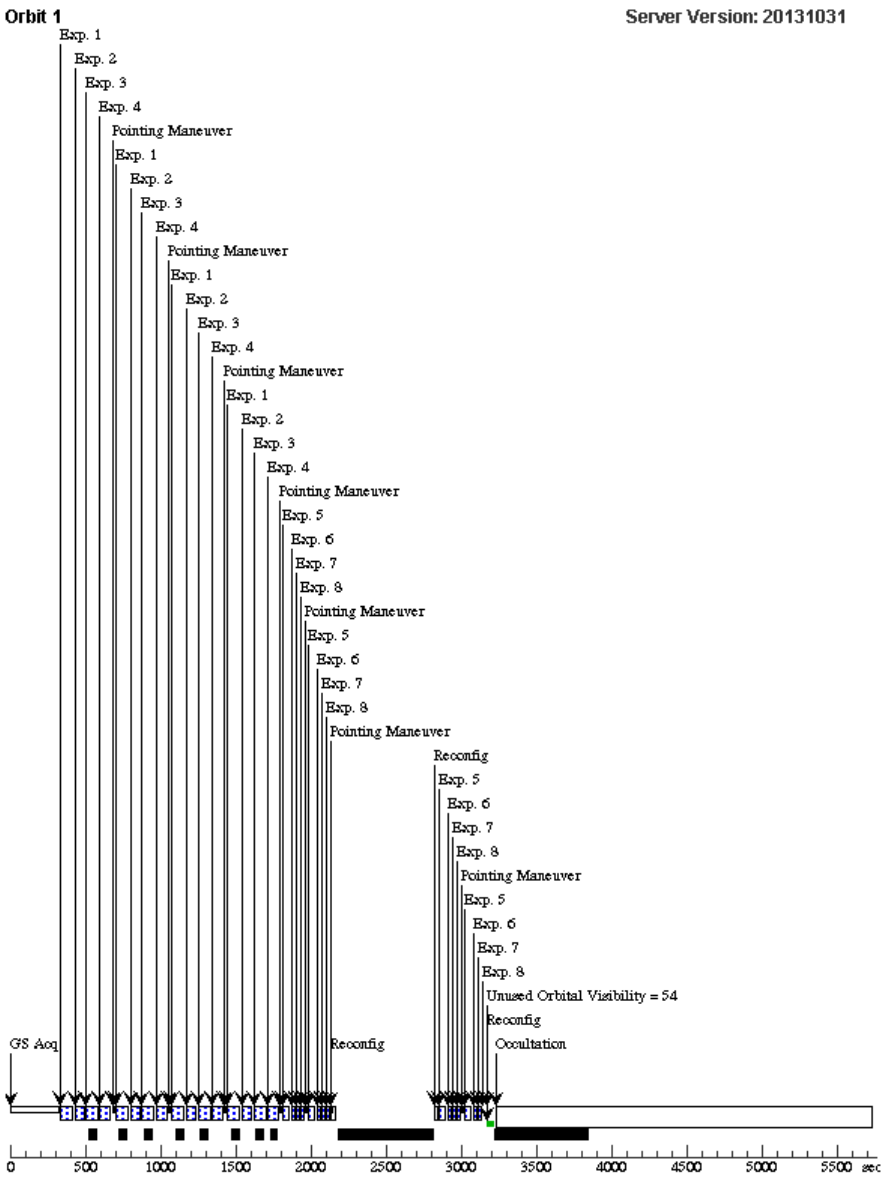
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GJ3631	RA: 10 52 14.2320 (163.0593000d)	Proper Motion RA: -706 mas/yr	V=14.4	Reference Frame: ICRS
	Alt Name1: GJ-3631	Dec: +05 55 9.85 (5.91940d)	Proper Motion Dec: -65 mas/yr	J = 9.834	
		Equinox: J2000	Parallax: 0.046"		
			Epoch of Position: 2000.0		

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=9; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9; GS ACQ SCENARIO BASE1B3	Pattern 4, Exps 1-4 in GJ3631 (09) (4)	59.049711 Secs (236.199 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F139M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=9; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (09) (4)	59.049711 Secs (236.199 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F127M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (09) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (09) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F125W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (09) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F125W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (09) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (09) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F160W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (09) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, GJ3631 (10), scheduling Thu Mar 06 02:47:12 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 25D TO 35D FROM 09

Comments: An orient of 30 degrees pm 5 with respect to visit 09 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

We've limited the Orientation requirements of the previous orbit based on secheduling constraints, which appears to be the only overlapping region of orient range AND target visibility. Please maximize the orient angle separation from the previous orbit (visit09) which enables smaller inner working angles.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(1-4), (5-8)

Fixed Targets

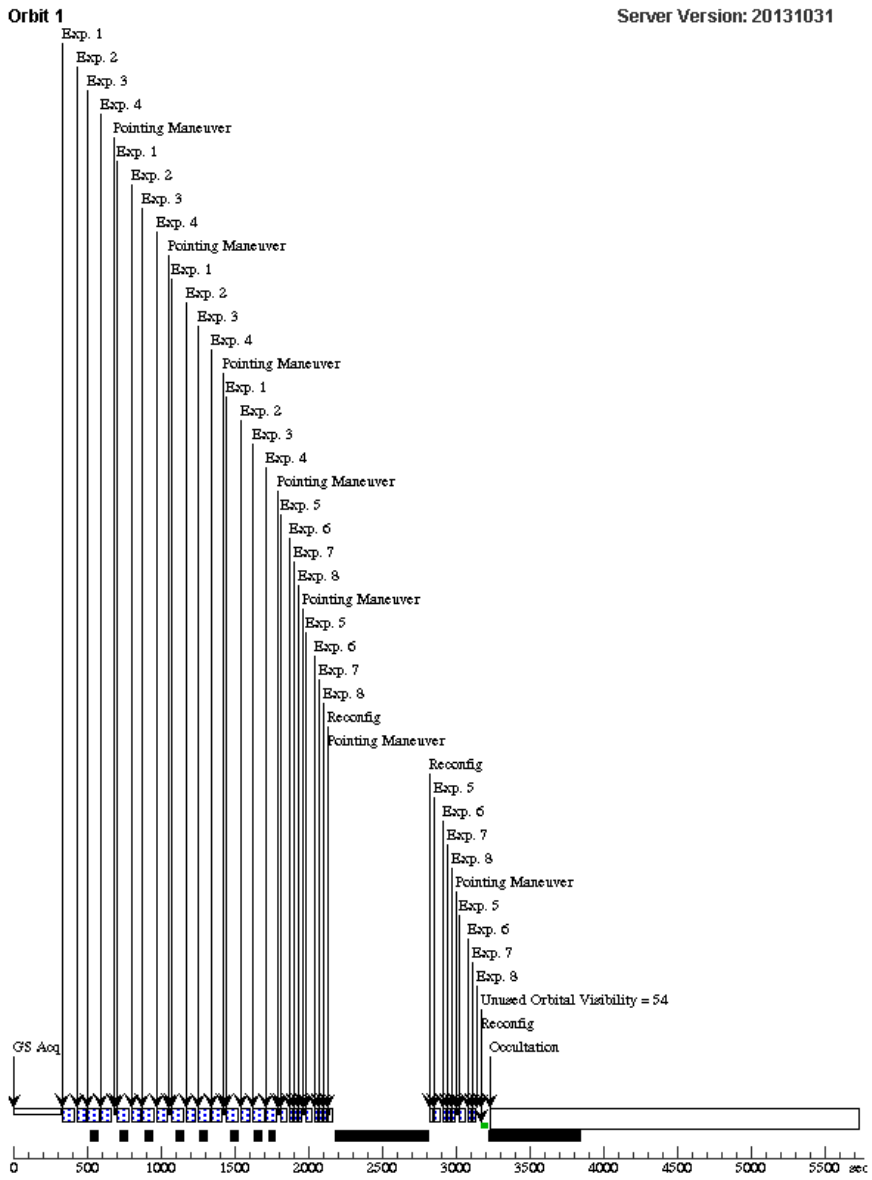
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GJ3631 Alt Name1: GJ-3631	RA: 10 52 14.2320 (163.0593000d) Dec: +05 55 9.85 (5.91940d) Equinox: J2000	Proper Motion RA: -706 mas/yr Proper Motion Dec: -65 mas/yr Parallax: 0.046" Epoch of Position: 2000.0	V=14.4 J = 9.834	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=9; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9; GS ACQ SCENARIO BASE1B3	Pattern 4, Exps 1-4 in GJ3631 (10) (4)	59.049711 Secs (236.199 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F139M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=9; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (10) (4)	59.049711 Secs (236.199 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F127M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (10) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in GJ3631 (10) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F125W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (10) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F125W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (10) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (10) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F160W	(5) GJ3631	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in GJ3631 (10) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, 2M1852-37 (11), scheduling Thu Mar 06 02:47:13 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 67D TO 126 D; ORIENT 160D TO 221 D; ORIENT 252D TO 311 D; ORIENT 340D TO 39 D; AFTER 01-JUN-2014:00:00:00

Comments: The PA of the the candidate is ~303.8 degrees East of North. We define the orient ranges accordingly so that the candiate is not located on the PSF spiders. We used a 135 degrees rotation between the WFC3 frame and the telescope frame.

The timing requirements are placed on a few targets to ensure sufficient separation from our first epoch to enable proper motion studies.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(1-4), (5-8)

Fixed Targets

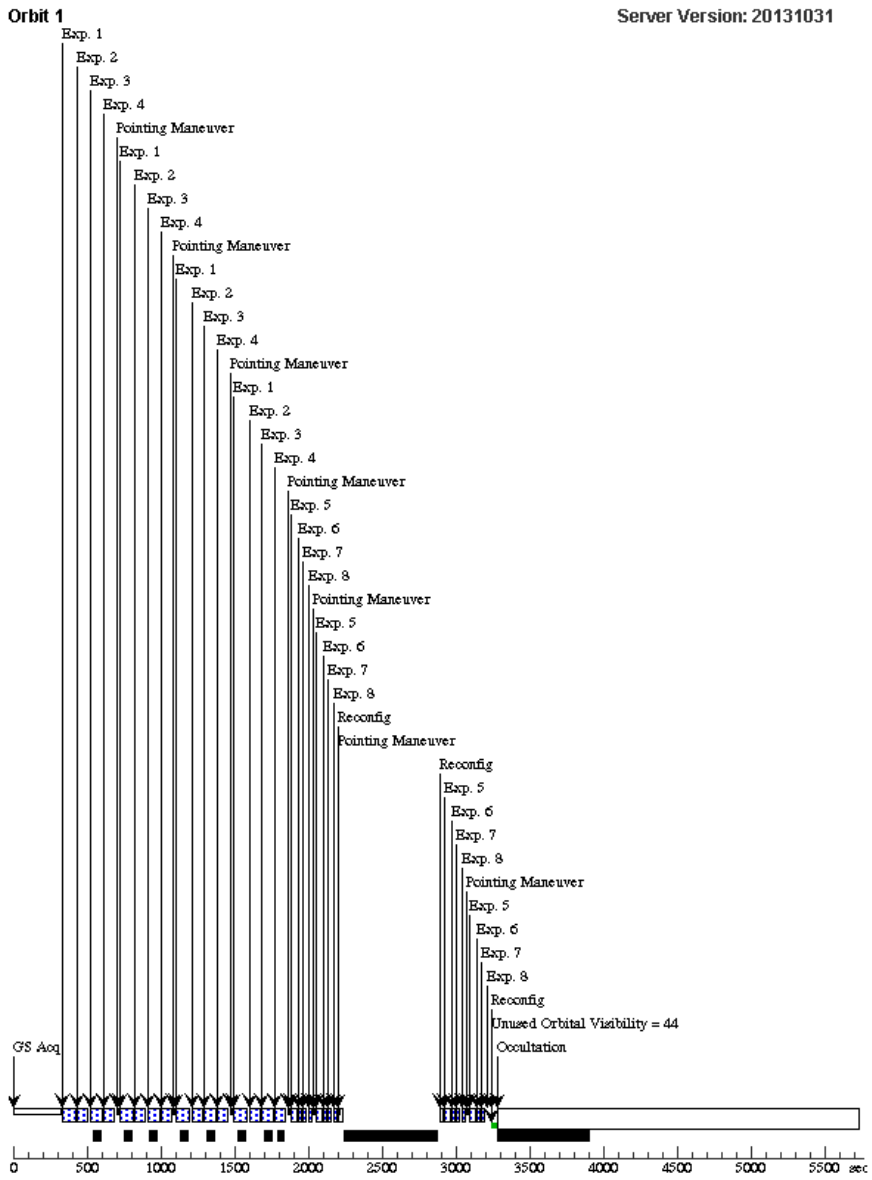
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	2M1852-37 Alt Name1: 2MASS-J18521730-3700119	RA: 18 52 17.2990 (283.0720792d) Dec: -37 00 11.95 (-37.00332d) Equinox: J2000	Proper Motion RA: 0.5 mas/yr Proper Motion Dec: -27.4 mas/yr Epoch of Position: 2000.0	V=12.35 J = 9.772	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (11) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F139M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (11) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F127M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (11) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (11) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F125W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (11) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F125W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (11) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (11) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F160W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (11) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 13331, 2M1852-37 (12), scheduling Thu Mar 06 02:47:14 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 80D TO 100D FROM 11; AFTER 11

Comments: An orient of 90 degrees pm 10 with respect to visit 11 will ensure that the candidate still does not lie under ths spider. We checked that this orient can be schedueled.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.065 Line Spacing=0.065	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=0 Center Pattern=false		(1-4), (5-8)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	2M1852-37 Alt Name1: 2MASS-J18521730-3700119	RA: 18 52 17.2990 (283.0720792d) Dec: -37 00 11.95 (-37.00332d) Equinox: J2000	Proper Motion RA: 0.5 mas/yr Proper Motion Dec: -27.4 mas/yr Epoch of Position: 2000.0	V=12.35 J = 9.772	Reference Frame: ICRS

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

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F139M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (12) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F139M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F139M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (12) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F127M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (12) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F127M	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F127M	NSAMP=10; SAMP-SEQ=SPARS10	POS TARG 3.9,3.9	Pattern 4, Exps 1-4 in 2M1852-37 (12) (4)	66.396198 Secs (265.585 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F125W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (12) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F125W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F125W	NSAMP=15; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (12) (4)	12.795405 Secs (51.182 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (12) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F160W	(6) 2M1852-37	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F160W	NSAMP=13; SAMP-SEQ=RAPID	POS TARG 3.9,3.9	Pattern 4, Exps 5-8 in 2M1852-37 (12) (4)	11.089351 Secs (44.357 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure