13847 - Determining the Mass of Proxima Centauri through Astrometric Microlensing

Cycle: 22, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:03.0	yes
02	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:05.0	yes
04	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:07.0	yes
05	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:08.0	yes
06	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:10.0	yes
07	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:11.0	yes
08	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:13.0	yes
03	(1) PROXIMA-CEN-SOURCE	WFC3/UVIS	1	09-Nov-2016 10:42:15.0	yes

8 Total Orbits Used

ABSTRACT

We propose to determine the mass of our nearest neighbor, Proxima Centauri, using the novel technique of astrometric microlensing. Proxima is a dM6e star, with an estimated mass of about 0.12 Msun, lying at a distance of 1.3 pc and having a large proper motion of 3.8 arcsec/yr. In a reprise of the famous 1919 solar eclipse that verified general relativity, Proxima will pass in front of a pair of 18th-magnitude background stars in 2015, affording us two independent opportunities to measure the relativistic deflection. The first passage will occur in May 2015 (impact parameter 1.5 arcsec), and the second in June 2015 (impact parameter 1.4 arcsec). As Proxima passes in front, it will cause a relativistic deflection of the background stars' images by ~0.5 milliarcsec, an amount readily detectable with HST/WFC3.

The gravitational deflection angle depends only upon the distances and relative positions of the stars, and the mass of the lens (Proxima). Since the distance to Proxima is well known from accurate parallax measurements, and the relative stellar positions can be determined precisely before the event, the astrometric measurement offers a unique and direct method to measure the mass of a single, isolated star. We anticipate better than 10% accuracy for the mass determination. The mass of Proxima is of special interest because it is the nearest M dwarf, representing the most common type of star in the Galaxy, for which the mass-luminosity relation is still uncertain at present.

OBSERVING DESCRIPTION

The first epoch observations will be taken in a few different filters (F475W, F555W, F606W, F814W) to better characterize the spectral type of the source. Subsequent observations will be taken mainly in 2 filters (F606W and F814W). We will obtain one short (0.5 sec) exposure to get an unsaturated image of Proxima, in order to register its position. The other exposures will be of 90 to 200 sec durations, so that the source stars will have a S/N & 300 in each exposure. We can obtain about 10 such exposures in each orbit, at 2 dither positions, which would be adequate to achieve the astrometric accuracy required for the project.

Visit

Proposal 13847, Visit 01, completed Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 343D TO 343 D; BETWEEN 13-APR-2015 AND 20-APR-2015

Diagnostics

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

Fixed Targets

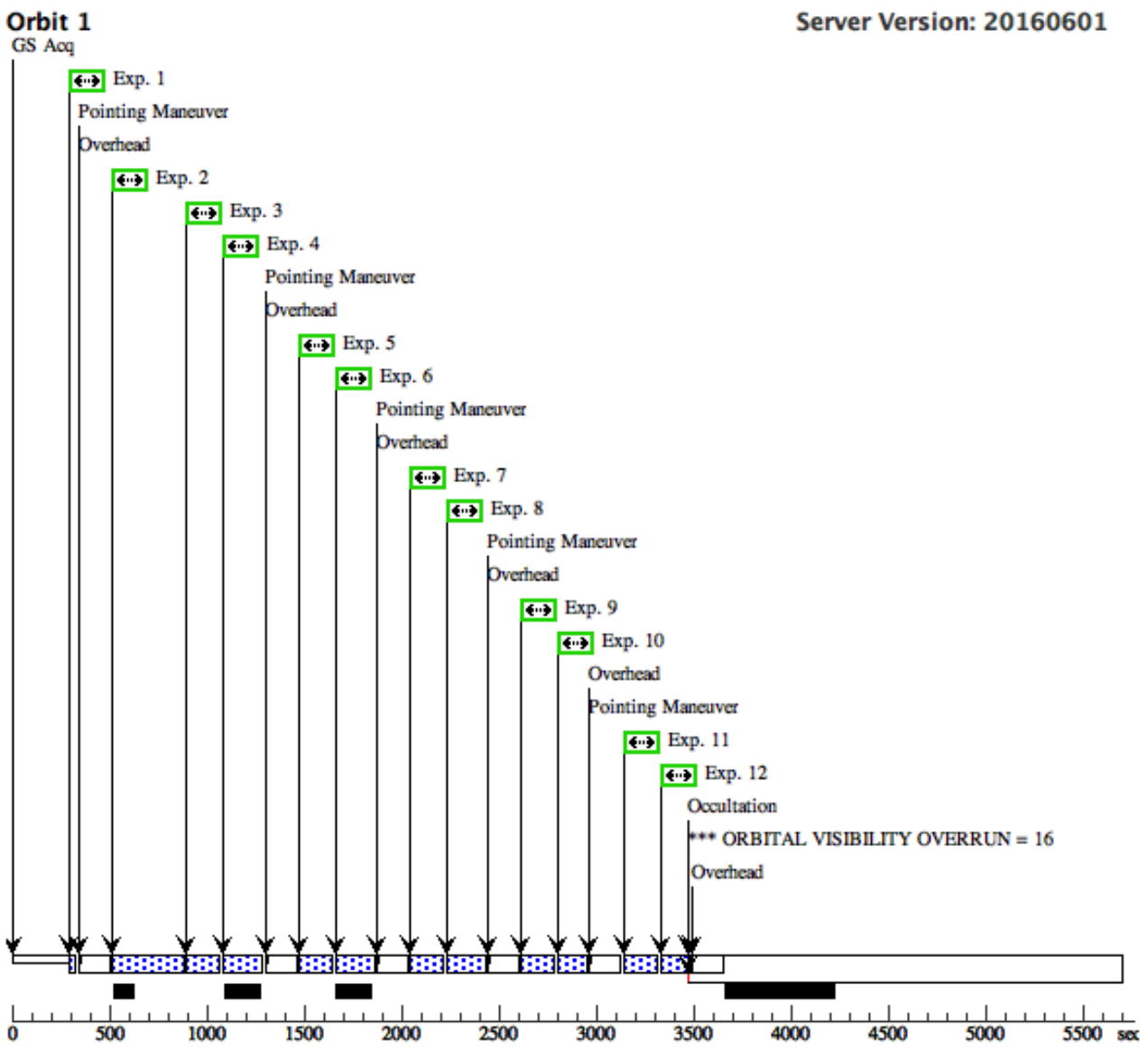
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 14.4,9	Sequence 1-12 Non-Int in Visit 01	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.4,9	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-12 Non-Int in Visit 01	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,12.8	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-12 Non-Int in Visit 01	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.3	Sequence 1-12 Non-Int in Visit 01	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 10	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,6.7	Sequence 1-12 Non-Int in Visit 01	150 Secs (150 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,5.3	Sequence 1-12 Non-Int in Visit 01	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
12		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=10	SAME POS AS 11	Sequence 1-12 Non-Int in Visit 01	150 Secs (150 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 02, completed Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 115D TO 115 D; BETWEEN 27-JUL-2015 AND 05-AUG-2015

Diagnostics

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

Fixed Targets

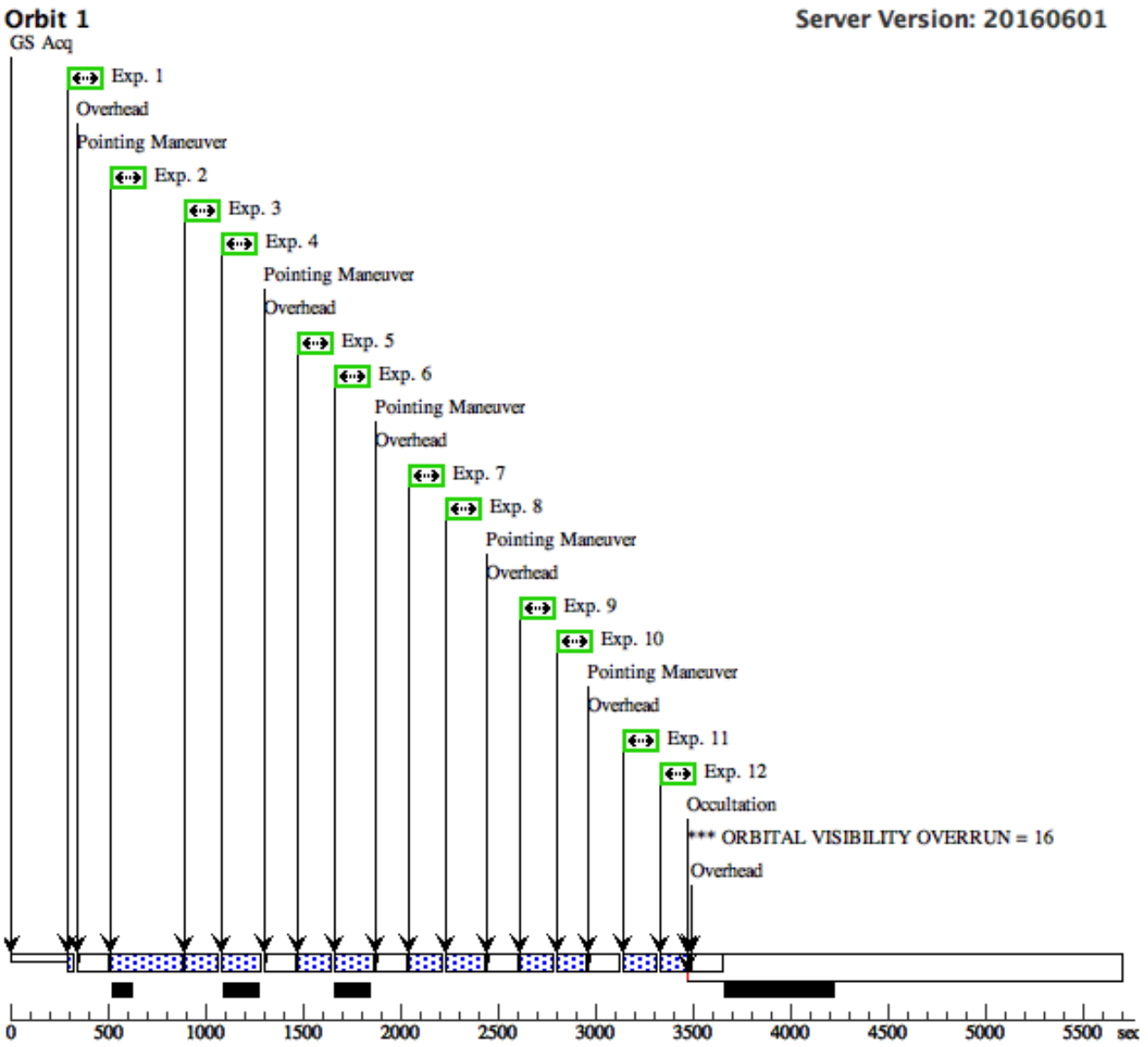
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 14.4,9	Sequence 1-12 Non-Int in Visit 02	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.4,9	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-12 Non-Int in Visit 02	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,12.8	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-12 Non-Int in Visit 02	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.3	Sequence 1-12 Non-Int in Visit 02	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 10	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,6.7	Sequence 1-12 Non-Int in Visit 02	150 Secs (150 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,5.3	Sequence 1-12 Non-Int in Visit 02	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
12		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=10	SAME POS AS 11	Sequence 1-12 Non-Int in Visit 02	150 Secs (150 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 04, completed Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 320.0D TO 320.0 D; BETWEEN 20-FEB-2016 AND 28-FEB-2016; ON HOLD

On Hold Comments: Window and orients will be updated based on the previous observations

Fixed Targets

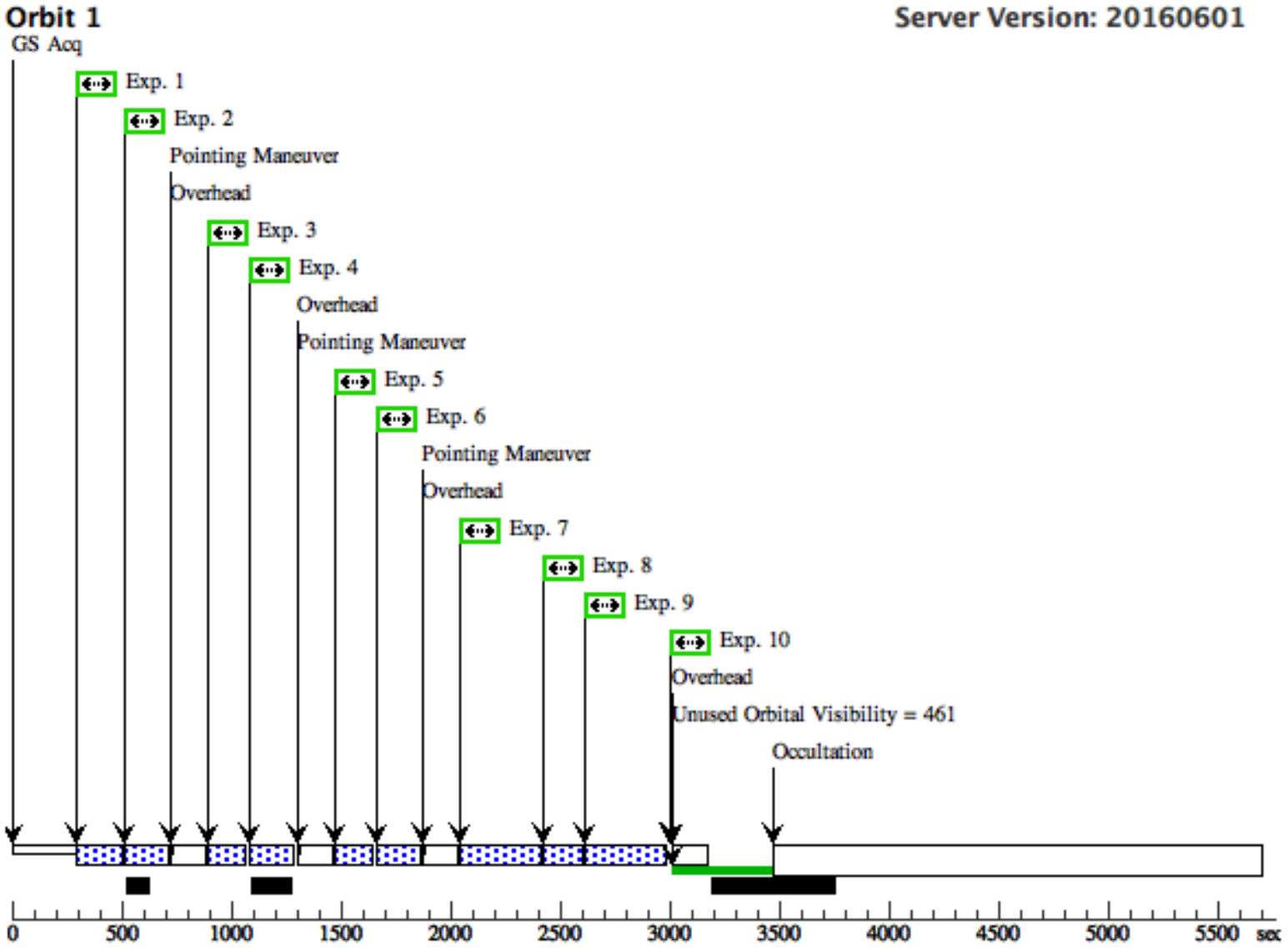
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 14.4,9	Sequence 1-10 Non-Int in Visit 04	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 14.4,9	Sequence 1-10 Non-Int in Visit 04	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 10.4,13.0	Sequence 1-10 Non-Int in Visit 04	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-10 Non-Int in Visit 04	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 10.4,5	Sequence 1-10 Non-Int in Visit 04	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-10 Non-Int in Visit 04	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 8	Sequence 1-10 Non-Int in Visit 04	200 Secs (200 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 4.0,9	Sequence 1-10 Non-Int in Visit 04	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 8	Sequence 1-10 Non-Int in Visit 04	200 Secs (200 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	SAME POS AS 8	Sequence 1-10 Non-Int in Visit 04	0.5 Secs (0.5 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 05, completed Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 50D TO 50 D; BETWEEN 05-JUN-2016 AND 12-JUN-2016; VISIBILITY INTERVAL 55.75 M

Fixed Targets

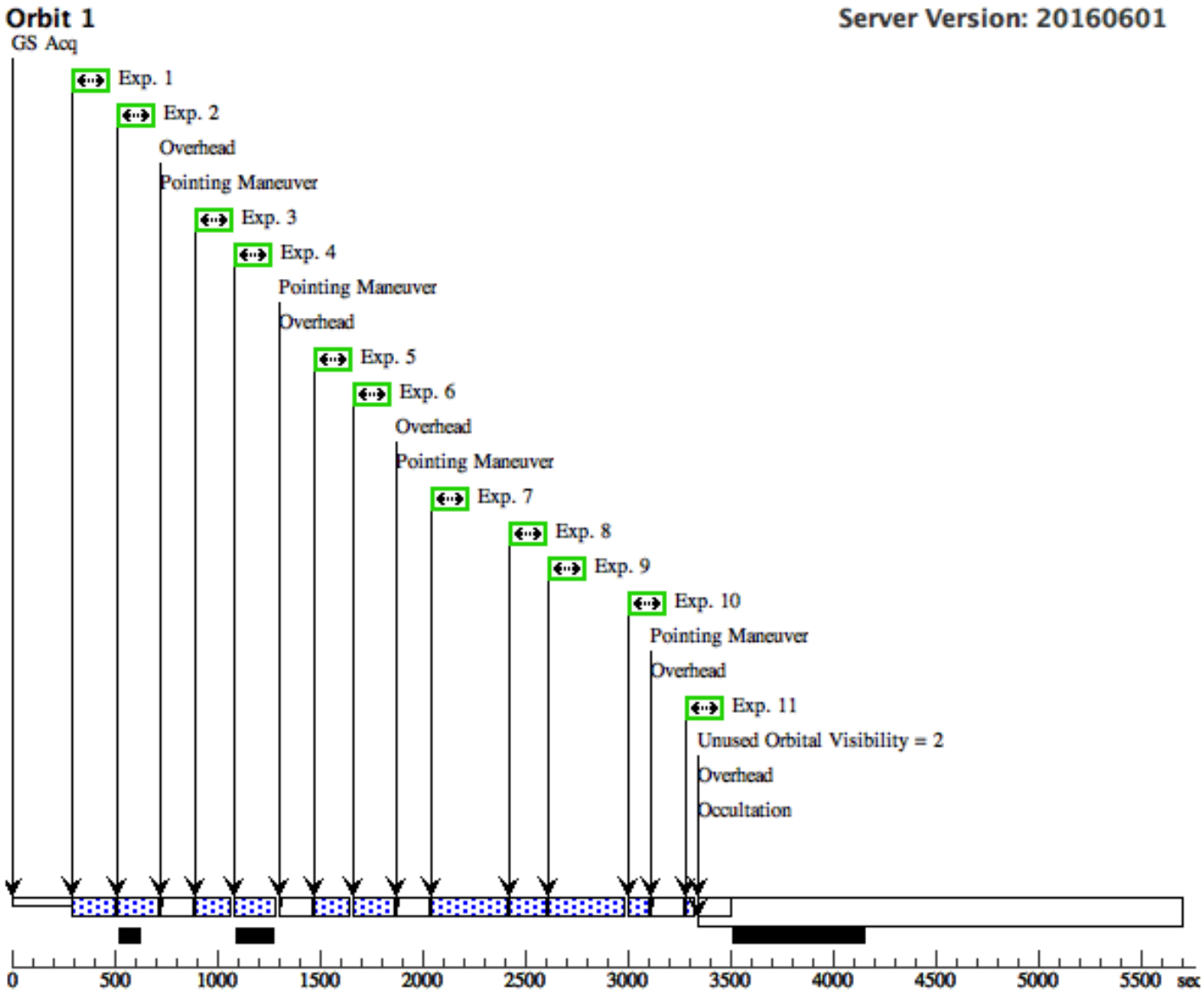
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 14.4,9	Sequence 1-11 Non-Int in Visit 05	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 14.4,9	Sequence 1-11 Non-Int in Visit 05	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 10.4,13.0	Sequence 1-11 Non-Int in Visit 05	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-11 Non-Int in Visit 05	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 10.4,5	Sequence 1-11 Non-Int in Visit 05	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-11 Non-Int in Visit 05	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 8	Sequence 1-11 Non-Int in Visit 05	200 Secs (200 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 4.0,9	Sequence 1-11 Non-Int in Visit 05	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 8	Sequence 1-11 Non-Int in Visit 05	200 Secs (200 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=10	SAME POS AS 8	Sequence 1-11 Non-Int in Visit 05	100 Secs (100 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=11; BLADE=A	SAME POS AS 3	Sequence 1-11 Non-Int in Visit 05	40 Secs (40 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 06, scheduled Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 137D TO 137 D; BETWEEN 18-SEP-2016 AND 25-SEP-2016; VISIBILITY INTERVAL 55.8 M

Fixed Targets

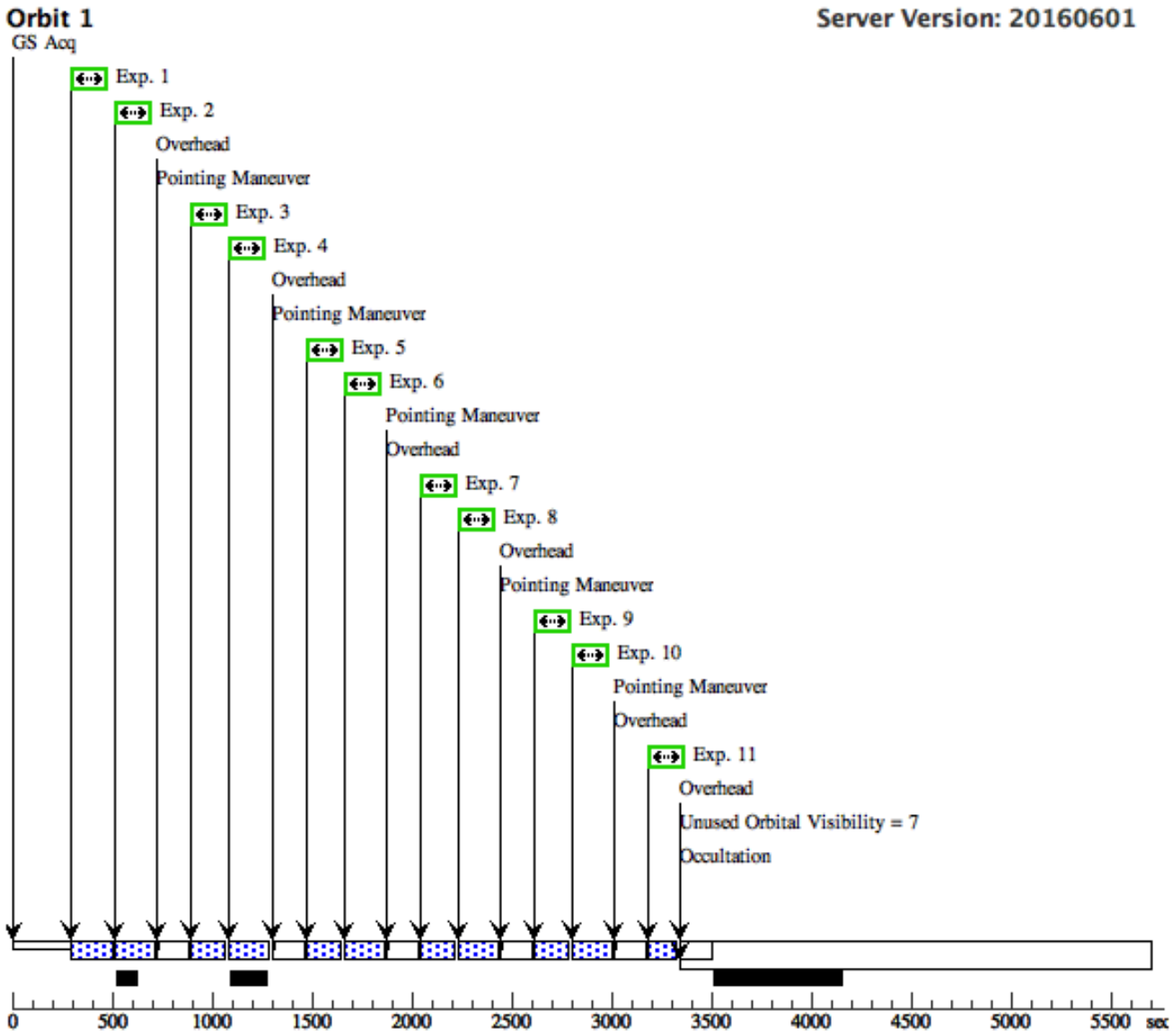
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-11 Non-Int in Visit 06	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 1	Sequence 1-11 Non-Int in Visit 06	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.35,9	Sequence 1-11 Non-Int in Visit 06	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-11 Non-Int in Visit 06	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.61,12.76	Sequence 1-11 Non-Int in Visit 06	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-11 Non-Int in Visit 06	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-11 Non-Int in Visit 06	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.31	Sequence 1-11 Non-Int in Visit 06	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 7.2,6.7	Sequence 1-11 Non-Int in Visit 06	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 9	Sequence 1-11 Non-Int in Visit 06	200 Secs (200 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=9	POS TARG 11.6,5.2	Sequence 1-11 Non-Int in Visit 06	140 Secs (140 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 07, implementation Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 260D TO 260 D; BETWEEN 01-JAN-2017 AND 10-JAN-2017; VISIBILITY INTERVAL 54.8 M

Fixed Targets

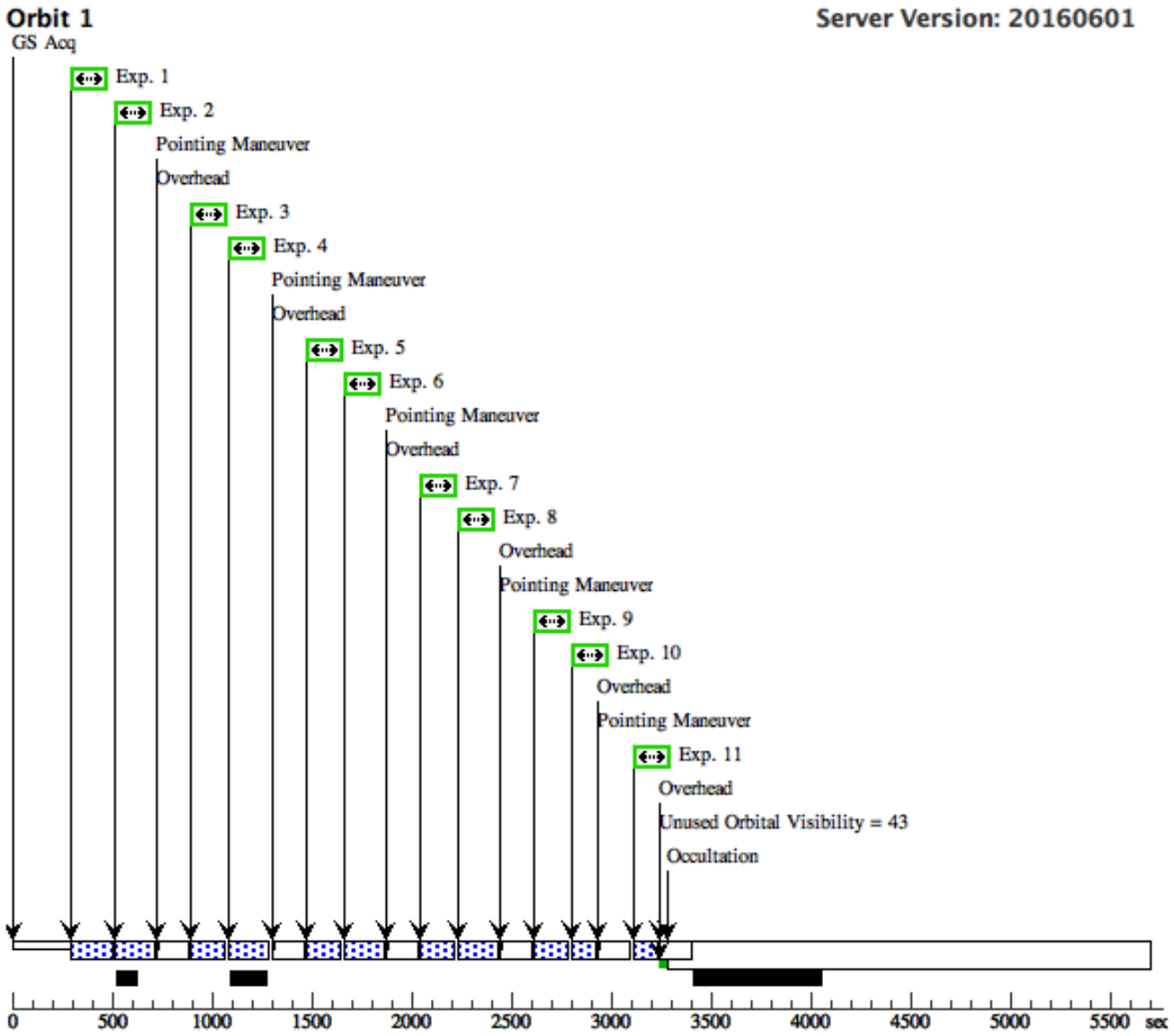
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-11 Non-Int in Visit 07	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 1	Sequence 1-11 Non-Int in Visit 07	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.35,9	Sequence 1-11 Non-Int in Visit 07	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-11 Non-Int in Visit 07	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.61,12.76	Sequence 1-11 Non-Int in Visit 07	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-11 Non-Int in Visit 07	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-11 Non-Int in Visit 07	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.31	Sequence 1-11 Non-Int in Visit 07	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 7.2,6.7	Sequence 1-11 Non-Int in Visit 07	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 9	Sequence 1-11 Non-Int in Visit 07	120 Secs (120 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=9	POS TARG 11.6,5.2	Sequence 1-11 Non-Int in Visit 07	120 Secs (120 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 08, implementation Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 137D TO 137 D; BETWEEN 18-SEP-2017 AND 25-SEP-2017; VISIBILITY INTERVAL 62 M

Fixed Targets

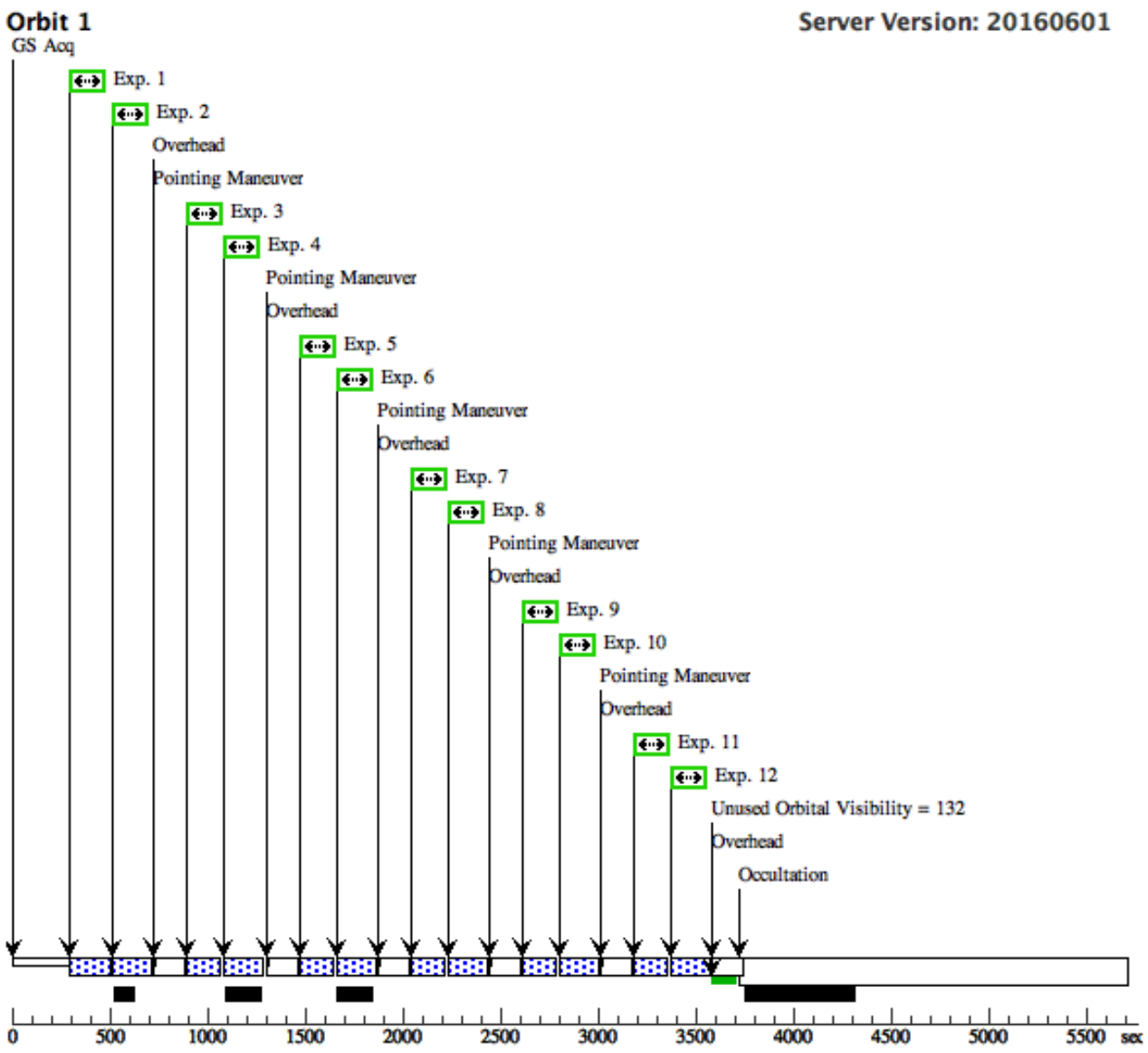
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 1	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.35,9	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.61,12.76	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.31	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 7.2,6.7	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 9	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,5.2	Sequence 1-12 Non-Int in Visit 08	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
12		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=9	POS TARG 11.6,5.2	Sequence 1-12 Non-Int in Visit 08	200 Secs (200 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 13847, Visit 03, implementation Wed Nov 09 15:42:16 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 260D TO 260 D; BETWEEN 01-JAN-2018 AND 10-JAN-2018; VISIBILITY INTERVAL 60 M

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PROXIMA-CEN-SOURCE	RA: 14 29 34.3300 (217.3930417d) Dec: -62 40 33.98 (-62.67611d) Equinox: J2000		V=18.4+/-0.2	Reference Frame: ICRS

Comments: This object was updated to the SOURCE that Proxima-Cen is going to lens. At present, the source and proxima-cen are separated by about 10.5 arcsec, and this separation will slowly decrease to 1.5 arcsec in 2015.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12; BLADE=A	POS TARG 10.4,9	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 1	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*
3		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 14.35,9	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
4		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 3	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*
5		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.61,12.76	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
6		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 5	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*
7		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	SAME POS AS 8	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
8		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 7.2,11.31	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*
9		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 7.2,6.7	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
10		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	SAME POS AS 9	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*
11		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=12	POS TARG 11.6,5.2	Sequence 1-12 Non-Int in Visit 03	0.5 Secs (0.5 Secs) *[==>]*	*[1]*
12		(1) PROXIMA-CEN-SOURCE	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F555W	FLASH=8	POS TARG 11.6,5.2	Sequence 1-12 Non-Int in Visit 03	200 Secs (200 Secs) *[==>]*	*[1]*

Orbit Structure