12340 - IR L-Flat Correction

Cycle: 18, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Tomas Dahlen (PI)	**Space Telescope Science Institute**	**dahlen@stsci.edu**
Ms. Vera Kozhurina-Platais (CoI)	Space Telescope Science Institute	verap@stsci.edu
Dr. Elena Sabbi (CoI)	Space Telescope Science Institute	sabbi@stsci.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) OMEGACEN	WFC3/IR	2	22-Sep-2010 23:07:33.0	yes
02	(1) OMEGACEN	WFC3/IR	2	22-Sep-2010 23:07:44.0	yes
03	(1) OMEGACEN	WFC3/IR	2	22-Sep-2010 23:07:56.0	yes
04	(1) OMEGACEN	WFC3/IR	3	22-Sep-2010 23:08:09.0	yes

9 Total Orbits Used

ABSTRACT

Observations of globular cluster Omega Cen at multiple infrared wavelengths of IR detector will be used to derive filter dependency of low-frequency sensitivity (L_flat fields) across of IR detector. These observations complements the Cycle 17 observations by adding a fourth orientation to help get a symmetric and even coverage of the FOV. Also, special dither steps are included in this cycle to increase the statistics in the areas around the edges of the FOV.

OBSERVING DESCRIPTION

The 9 dither pointing (3x3) across the IR detector with the size of 1/4-FOV is necessary to derive relative changes in brightness and low-frequency variations in the IR detector response (L_flats). The multiple wavelength observations of Omega Cen through 3 wide band filters F110W, F125W, F160W, and two medium filters, F098M,F139M, are necessary to ensure the filter dependency of low- frequency variations in IR detector (L-flats) . For each filter we require observational time which are optimized for stars in the magnitude range V=17-22 and each filters would be observed in one exposure in order to provide thousands stars from the low end at V=22, to the bright end. During Cycle 17, Omega Cen was observed at three diffferent orientations. With this program we will complete the sample with the fourth orientation, which will assure a symmetric and even coverage of the detector. This uses 6 orbits. To increase the number of objects at the poorly sampled edges of the detector, we will also use a 4-point dither pattern that makes steps half the size of the detector. With this technique, we put the center of the object in each of the four corners. This latter pattern takes 3 orbits. In total we therefore use 9 orbits.

CALIBRATION JUSTIFICATION

The product of this calibration will be low-frequency variation cross IR detector as reference files (LFLTFILE -low order flat) for use in HST/WFC3 calibration pipeline.

Visit

Proposal 12340, Visit 01 Thu Sep 23 03:08:15 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: BETWEEN 25-MAY-2011:00:00:59 AND 24-JUN-2011:00:00:59

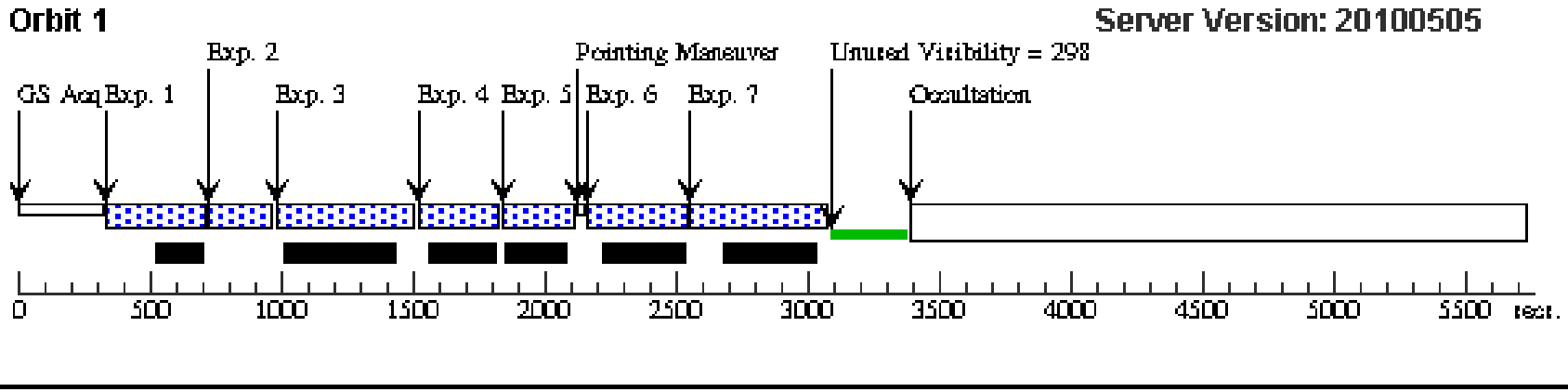
Fixed Targets

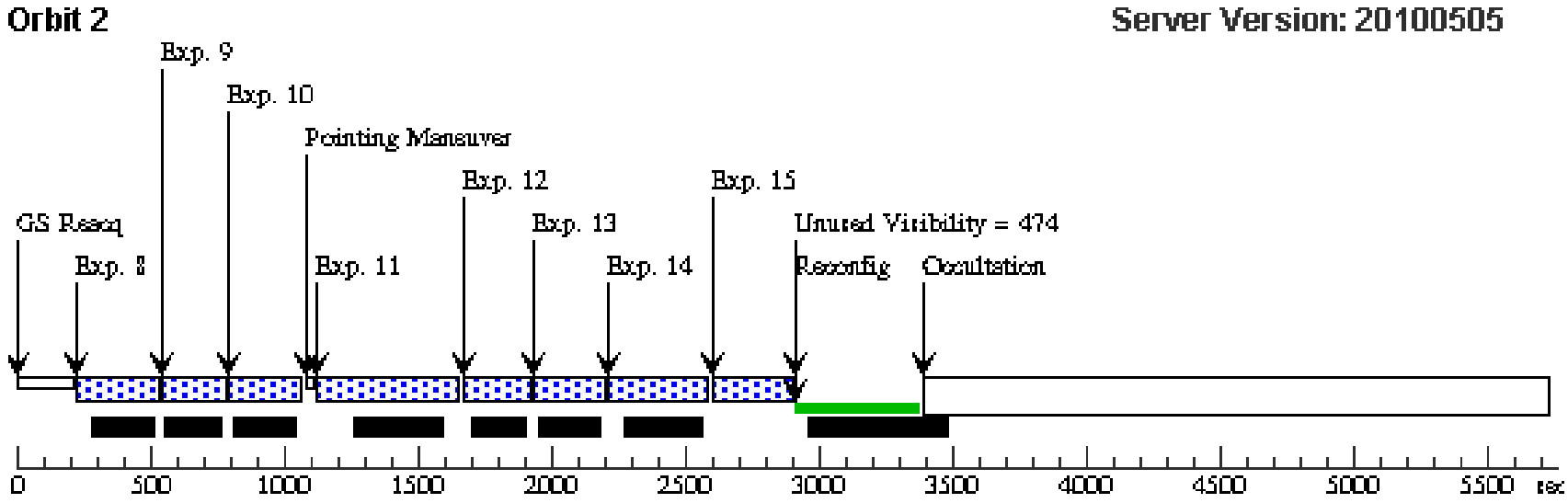
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=18.0+/-0.5	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	f098m-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	GS ACQ SCENARIO BASE1B3		*[==>]*	***[1]***
2	f110w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10			*[==>]*	***[1]***
3	f139m-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11			*[==>]*	***[1]***
4	f125w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12			*[==>]*	***[1]***
5	f160w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11			*[==>]*	***[1]***
6	f098m-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 0,-31		*[==>]*	***[1]***
7	f139m-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 0,-31		*[==>]*	***[1]***
8	f125w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 0,-31		*[==>]*	***[2]***
9	f110w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 0,-31		*[==>]*	***[2]***
10	f160w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 0,-31		*[==>]*	***[2]***
11	f139m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 34,-31		*[==>]*	***[2]***
12	f110w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 34,-31		*[==>]*	***[2]***
13	f160w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 34,-31		*[==>]*	***[2]***
14	f098m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 34,-31		*[==>]*	***[2]***
15	f125w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 34,-31		*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 12340, Visit 02 Thu Sep 23 03:08:17 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 01; BETWEEN 25-MAY-2011:00:00:59 AND 24-JUN-2011:00:00:59

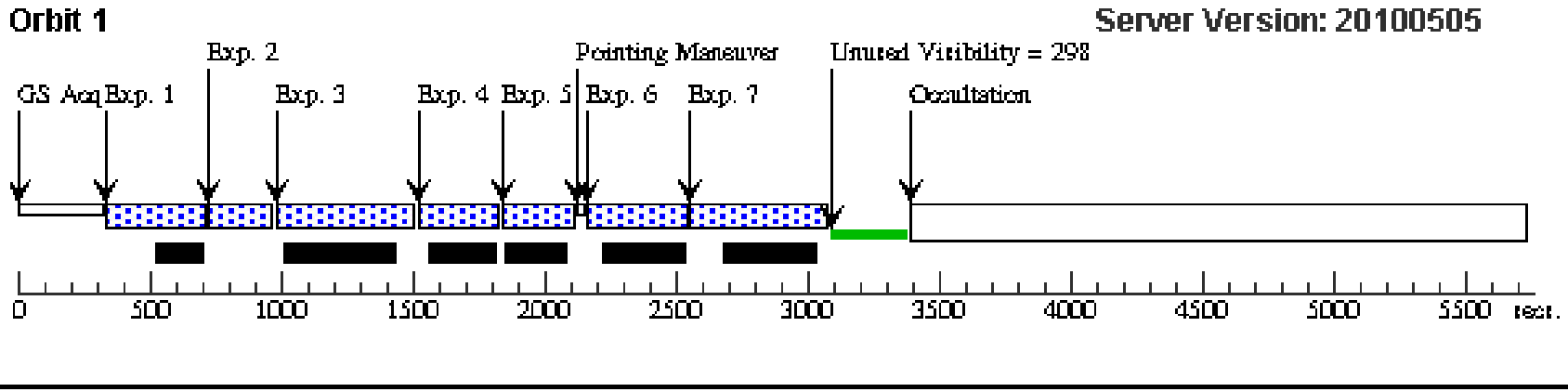
Fixed Targets

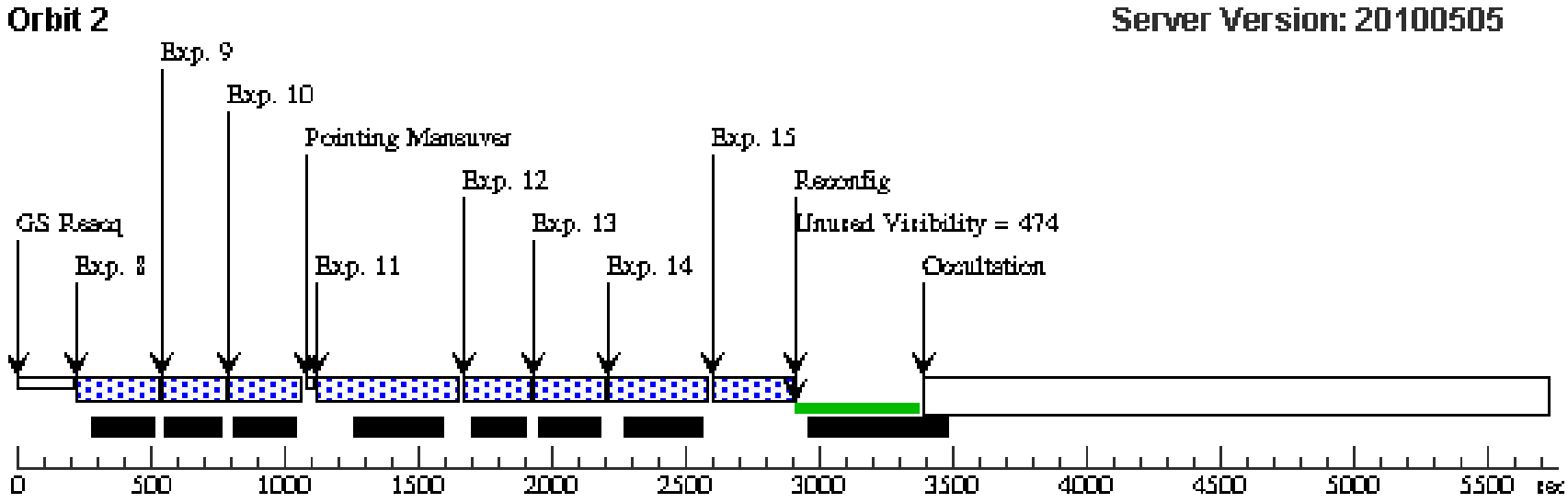
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=18.0+/-0.5	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	f098m-03	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 34,0; GS ACQ SCENARIO BASE1B3		*[==>]*	***[1]***
2	f110w-03	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 34,0		*[==>]*	***[1]***
3	f139m-03	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 34,0		*[==>]*	***[1]***
4	f125w-03	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 34,0		*[==>]*	***[1]***
5	f160w-03	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 34,0		*[==>]*	***[1]***
6	f098m-04	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 34,31		*[==>]*	***[1]***
7	f139m-04	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 34,31		*[==>]*	***[1]***
8	f125w-04	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 34,31		*[==>]*	***[2]***
9	f110w-04	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 34,31		*[==>]*	***[2]***
10	f160w-04	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 34,31		*[==>]*	***[2]***
11	f139m-05	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 0,31		*[==>]*	***[2]***
12	f110w-05	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 0,31		*[==>]*	***[2]***
13	f160w-05	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 0,31		*[==>]*	***[2]***
14	f098m-05	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 0,31		*[==>]*	***[2]***
15	f125w-05	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 0,31		*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 12340, Visit 03 Thu Sep 23 03:08:18 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 01; BETWEEN 25-MAY-2011:00:00:59 AND 24-JUN-2011:00:00:59

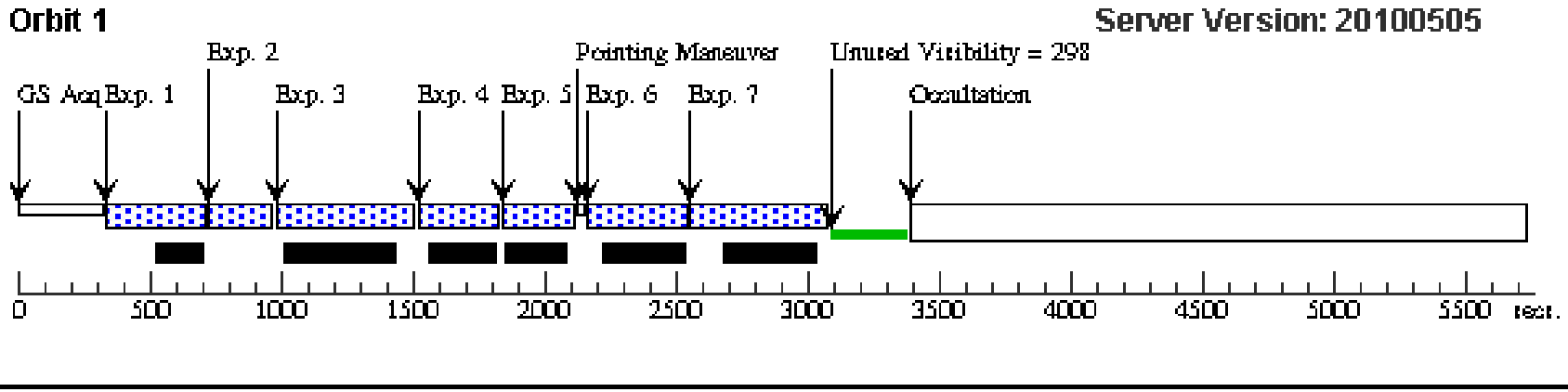
Fixed Targets

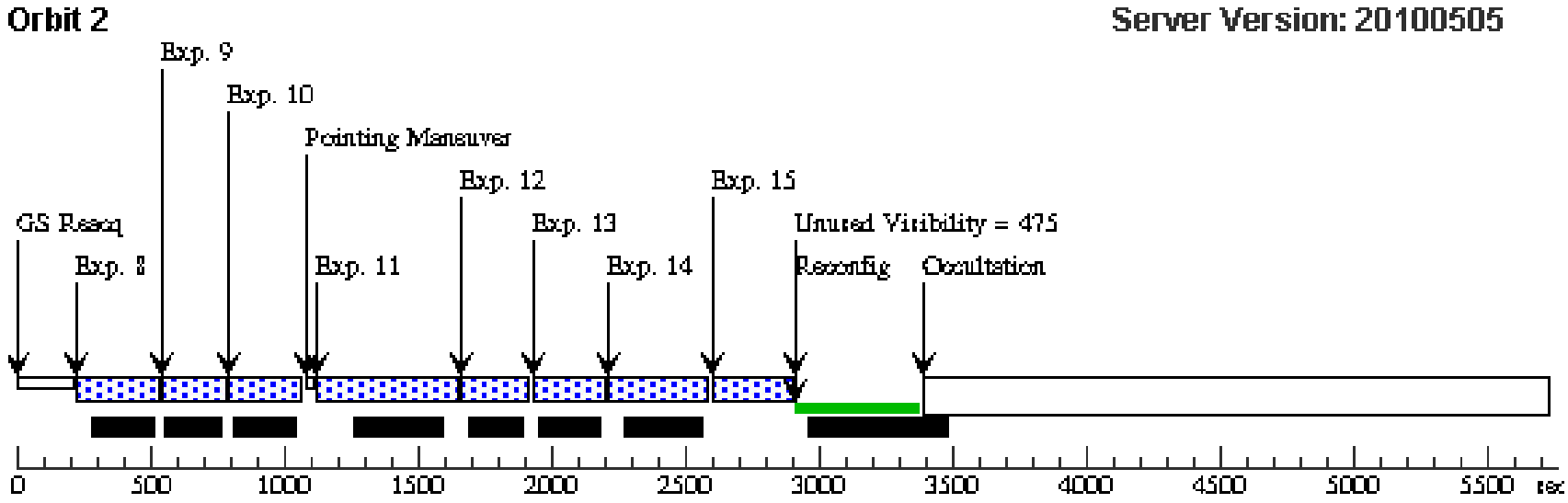
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=18.0+/-0.5	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	f098m-06	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG -34,31; GS ACQ SCENARIO BASE1B3		*[==>]*	***[1]***
2	f110w-06	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG -34,31		*[==>]*	***[1]***
3	f139m-06	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG -34,31		*[==>]*	***[1]***
4	f125w-06	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -34,31		*[==>]*	***[1]***
5	f160w-06	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG -34,31		*[==>]*	***[1]***
6	f098m-07	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG -34,0		*[==>]*	***[1]***
7	f139m-07	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG -34,0		*[==>]*	***[1]***
8	f125w-07	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -34,0		*[==>]*	***[2]***
9	f110w-07	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG -34,0		*[==>]*	***[2]***
10	f160w-07	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG -34,0		*[==>]*	***[2]***
11	f139m-08	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG -34,-31		*[==>]*	***[2]***
12	f110w-08	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG -34,-31		*[==>]*	***[2]***
13	f160w-08	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG -34,-31		*[==>]*	***[2]***
14	f098m-08	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG -34,-31		*[==>]*	***[2]***
15	f125w-08	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -34,-31		*[==>]*	***[2]***

Orbit Structure





Visit

Proposal 12340, Visit 04 Thu Sep 23 03:08:19 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Fixed Targets

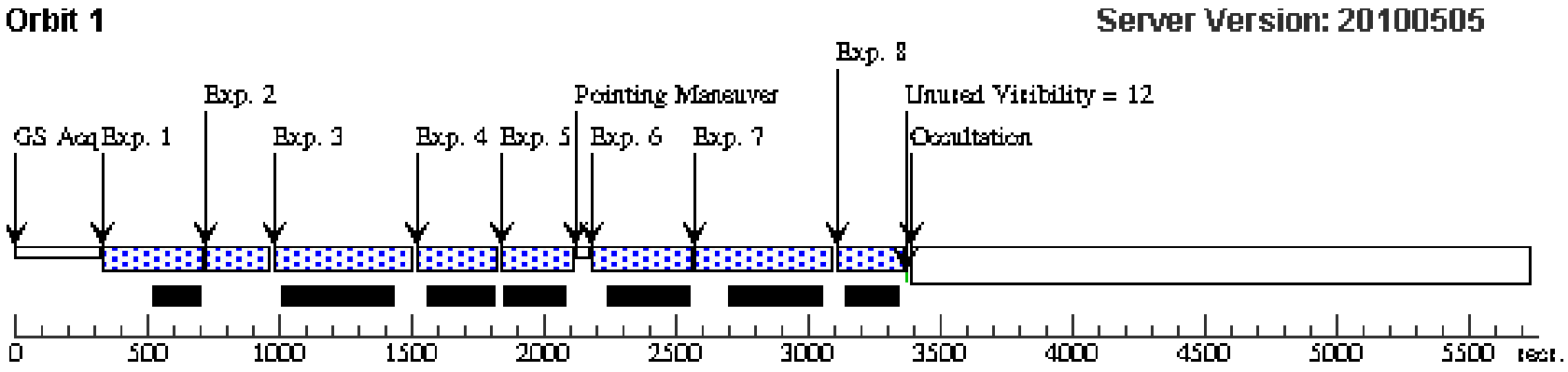
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=18.0+/-0.5	Reference Frame: ICRS

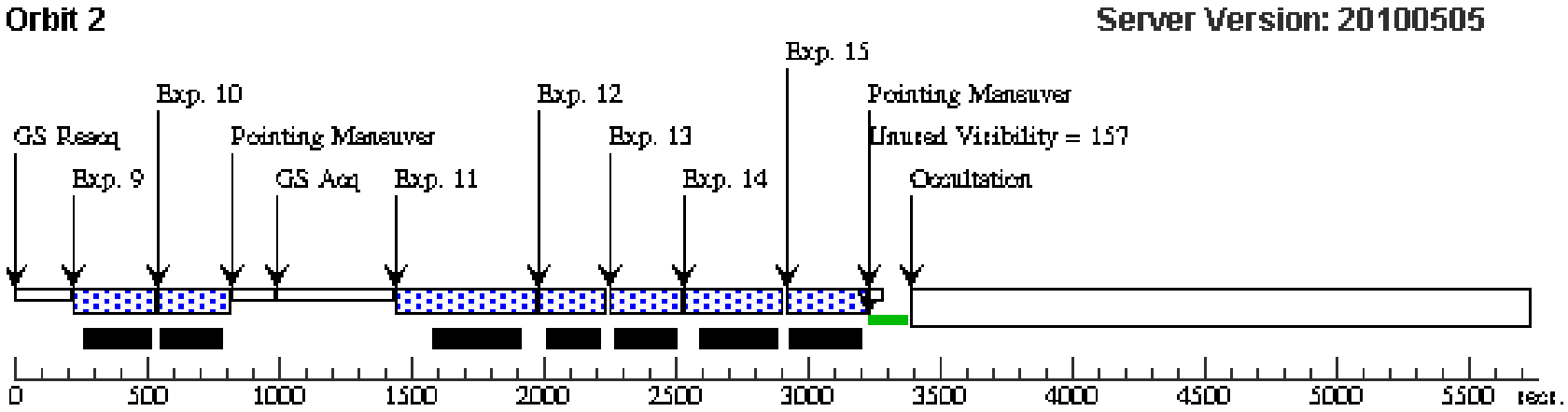
Exposures

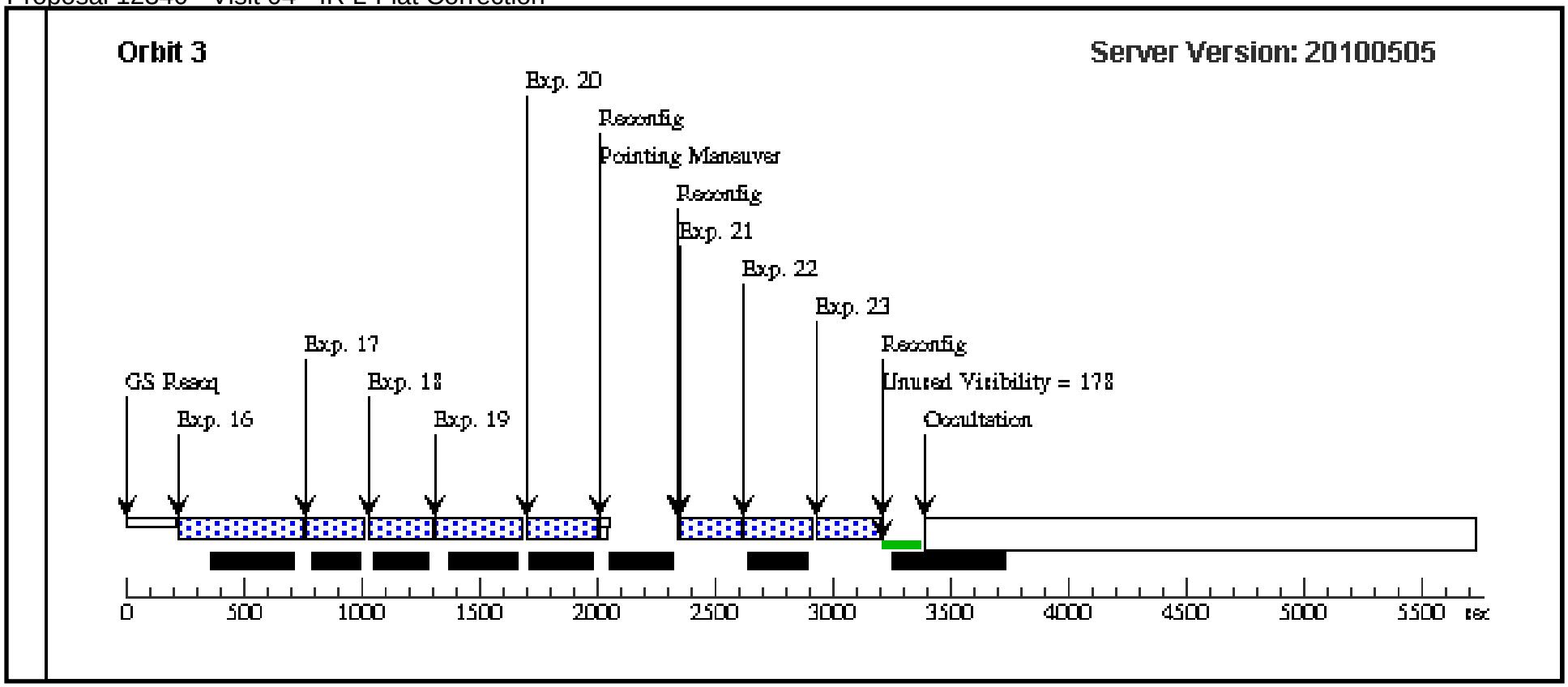
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	f098m-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 60,-54; GS ACQ SCENARIO BASE1B3		*[==>]*	***[1]***
2	f110w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 60,-54		*[==>]*	***[1]***
3	f139m-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 60,-54		*[==>]*	***[1]***
4	f125w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 60,-54		*[==>]*	***[1]***
5	f160w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 60,-54		*[==>]*	***[1]***
6	f098m-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG 60,54		*[==>]*	***[1]***
7	f139m-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG 60,54		*[==>]*	***[1]***
8	f110w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG 60,54		*[==>]*	***[1]***
9	f125w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 60,54		*[==>]*	***[2]***
10	f160w-01	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG 60,54		*[==>]*	***[2]***
11	f139m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG -60,54		*[==>]*	***[2]***
12	f110w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=10	POS TARG -60,54		*[==>]*	***[2]***
13	f160w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	POS TARG -60,54		*[==>]*	***[2]***
14	f098m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS25; NSAMP=15	POS TARG -60,54		*[==>]*	***[2]***
15	f125w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -60,54		*[==>]*	***[2]***
16	f139m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F139M	SAMP-SEQ=SPARS50; NSAMP=11	POS TARG -60,-54		*[==>]*	***[3]***

	17	f110w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=10 POS TARG -60,-54	*[==>]*	***[3]***
	18	f160w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=11 POS TARG -60,-54	*[==>]*	***[3]***
	19	f098m-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F098M	SAMP-SEQ=SPARS 25; NSAMP=15 POS TARG -60,-54	*[==>]*	***[3]***
	20	f125w-02	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS 25; NSAMP=12 POS TARG -60,-54	*[==>]*	***[3]***
	21	f110w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=10	*[==>]*	***[3]***
	22	f125w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS 25; NSAMP=12	*[==>]*	***[3]***
	23	f160w-00	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=11	*[==>]*	***[3]***

Orbit Structure



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Reconfig
Pointing Maneuver
Reconfig
Exp. 21
Exp. 22
Exp. 23
Reconfig
Unused Visibility = 178
Occultation
Exp. 17
Exp. 18
Exp. 19
GS Reacq
Exp. 16
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4500
5000
5500
sec