13293 - Green Pea Galaxies: Extreme, Optically-Thin Starbursts?

Cycle: 21, Proposal Category: GO

(UV Initiative)

(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) SDSS-J081552.00+215623.6	COS/FUV COS/NUV	3	05-Mar-2014 21:32:32.0	yes
02	(3) SDSS-J145735.13+223201.8	COS/FUV COS/NUV	3	05-Mar-2014 21:32:42.0	yes
03	(1) SDSS-J081552.00+215623.6	ACS/WFC	5	05-Mar-2014 21:33:03.0	yes
53	(1) SDSS-J081552.00+215623.6	ACS/WFC	5	05-Mar-2014 21:33:27.0	yes
07	(1) SDSS-J081552.00+215623.6	ACS/WFC	1	05-Mar-2014 21:33:37.0	yes
04	(2) SDSS-J121903.98+152608.5	ACS/WFC	2	05-Mar-2014 21:33:46.0	yes
54	(2) SDSS-J121903.98+152608.5	ACS/WFC	2	05-Mar-2014 21:33:57.0	yes
08	(2) SDSS-J121903.98+152608.5	ACS/WFC	2	05-Mar-2014 21:34:06.0	yes
05	(3) SDSS-J145735.13+223201.8	ACS/WFC	1	05-Mar-2014 21:34:15.0	yes
09	(3) SDSS-J145735.13+223201.8	ACS/WFC	3	05-Mar-2014 21:34:26.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
06	(4) SHOC-148	ACS/WFC	1	05-Mar-2014 21:34:34.0	yes
10	(4) SHOC-148	ACS/WFC	3	05-Mar-2014 21:34:45.0	yes

31 Total Orbits Used

ABSTRACT

The high UV luminosities, compact sizes, and enormous ionization parameters of the Green Pea galaxies make them some of the most extreme starburst galaxies known. Most importantly, due to their unusual emission line ratios and high specific star formation rates, the Green Peas are the best candidates for escaping ionizing radiation in the nearby Universe. We propose to study four Green Peas with COS FUV spectra and ACS emission line imaging to constrain the Lyman continuum (LyC) escape fraction and determine the origin of high ionization emission in these galaxies. COS spectra will set strong limits on the LyC optical depth via the residual intensity in the CII 1335 line, while the NV 1240 line will constrain the stellar population's age and ionizing flux. We will also observe the starbursts with ACS ramp filters in [OII], [OIII], HeII, and H-beta to determine whether the nebular emission is consistent with a low LyC optical depth. The [OIII]/[OII] ratio map will reveal the ionization structure of the emitting gas. If the [OIII] emission is found to be more spatially extended than the [OII] in any regions, it will imply that the regions are most likely optically thin. If HeII is found to be spatially offset from the dominant nebular emission, then we infer the presence of shocks. Correcting for this shock contribution to the observed emission is critical to accurately evaluate the LyC optical depth. These observations will either reveal the Green Peas as a class of galaxies having substantial LyC escape fractions or demonstrate that even some of the most extreme galaxies in the nearby Universe are optically thick.

OBSERVING DESCRIPTION

In selecting our sample, we chose Green Pea galaxies whose GALEX FUV magnitudes allow COS spectra with a S/N of 5 to be obtained in three orbits or less. Two of our objects, J121903 and SHOC-148, have existing COS FUV spectra in the proprietary stage (GO 12928, PI: Henry) and do not require any additional observations. For our remaining two objects, we will obtain acquisition images in the ACQ/IMAGE mode with Mirror A on COS. The acquisition exposure times were calculated for a S/N of 40, using the GALEX NUV magnitude and assuming an extended source. We calculated the surface brightness using a 1 arcsec diameter, since the galaxies are unresolved in ground-based observations. The acquisition image exposure time estimates are conservative, since the galaxies' sizes are smaller than the COS aperture.

We assumed a uniform surface brightness over a 1 arcsec diameter, since the galaxies are unresolved in ground-based observations. We will observe

the two galaxies with the primary science aperture and the G160M grating. As recommended, we will use all four FP-POS settings. The spectral quality and exposure times requested are consistent with the COS spectra used in Heckman et al. (2011), which have a S/N greater than 4.6 per resolution element. We calculated exposure times and buffer times for the COS observations with the Spectroscopic Exposure Time Calculator (ETC) using the GALEX FUV magnitudes and assuming a 3 kpc diameter for each galaxy, consistent with the HST Pea images presented in Cardamone et al. (2009). Our exposure times are consistent with exposure times used by Heckman et al. (2011). We have used the bright object tool to verify that there are no bright objects near our targets. We estimated the V-band magnitudes by measuring the flux between 5025 and 5875 Angstroms in the SDSS spectra.

HST's resolution of 0.05 arcsec is necessary to reveal the emission line morphology of the compact, 1 arcsec, Green Pea galaxies, and the ACS ramp filters will allow us to image the [O II] 3727, He II 4686, H-beta, and [O III] 5007 emission lines at the appropriate redshifts for all four targets. We estimated surface brightnesses from the measured line and continuum fluxes in the SDSS spectra, again assuming diameters of 3 kpc. We assume the He II emission extends across only half the galaxy, as seen in IFU observations of a similar object (Izotov et al. 2006). We then determined the necessary exposure times with the ACS ETC. The emission lines in the Green Peas are exceptionally strong, particularly [O III] 5007. With four to six orbits per galaxy, we can obtain all the emission line and continuum images we require, with a signal-to-noise (S/N) of 10-20 in [O II], He II, and H-beta and 20-50 in [O III] for a 2x2 extraction window. To confirm our exposure time calculations, we examined the S/N in the existing H-beta image of J092600, a Green Pea that was observed for 2472 s in Cycle 19. The S/N estimates are conservative, as the actual emission is unlikely to be evenly distributed across the galaxy.

The He II 4686 emission line is near in wavelength to several other emission lines in the Peas' spectra. To avoid contamination by [Ar IV] 4711 and He I 4713, we plan to center the He II filter at a rest-frame wavelength of 4658 Ang. While this shift avoids [Ar IV] contamination, it does include emission from [Fe III] 4659. However, the ionization potentials of Fe+ and H differ by only a few eV, so we expect the [Fe III] emission to follow the distribution of the H-beta emission. Emission with a different spatial distribution would indicate He II emission.

Because the spectra of the Green Peas are dominated by strong emission lines, we have carefully selected regions of the spectrum free from emission lines for continuum subtraction. For [O II], we plan to image the rest-frame spectral region redward of 4110 Ang. or near 4052 Ang. with FR462N. The continuum near [O III] and He II will come from FR647M imaging redward of 5100 Ang. The continuum observations are similar in length to the emission line observations, and we calculated the S/N as described for the emission-line filters.

Charge transfer efficiency is a concern for narrow-band ACS imaging. All our exposures have an estimated background of at least 5 electrons/pixel,

the minimum recommended value for imaging of extended sources. We have chosen not to use post-flash, in order to avoid washing out extended, low surface brightness emission.

Since we plan on imaging in multiple filters per orbit, the ACS overheads are a limiting factor. As with the existing observations of J092600 in FR782N, we have chosen a two-point dither pattern where possible to reject cosmic rays and hot pixels. To avoid excessive numbers of cosmic ray hits, we have made sure that our exposures are 1000 s or less, which sometimes requires increasing the total number of exposures. We have determined the necessary orbit packing and overheads for a two-point dither pattern. The ACS observations total 18 orbits and the COS observations total 6 orbits.

Visit

Proposal 13293, COS Target 1 (01), completed Thu Mar 06 02:34:55 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Fixed Targets

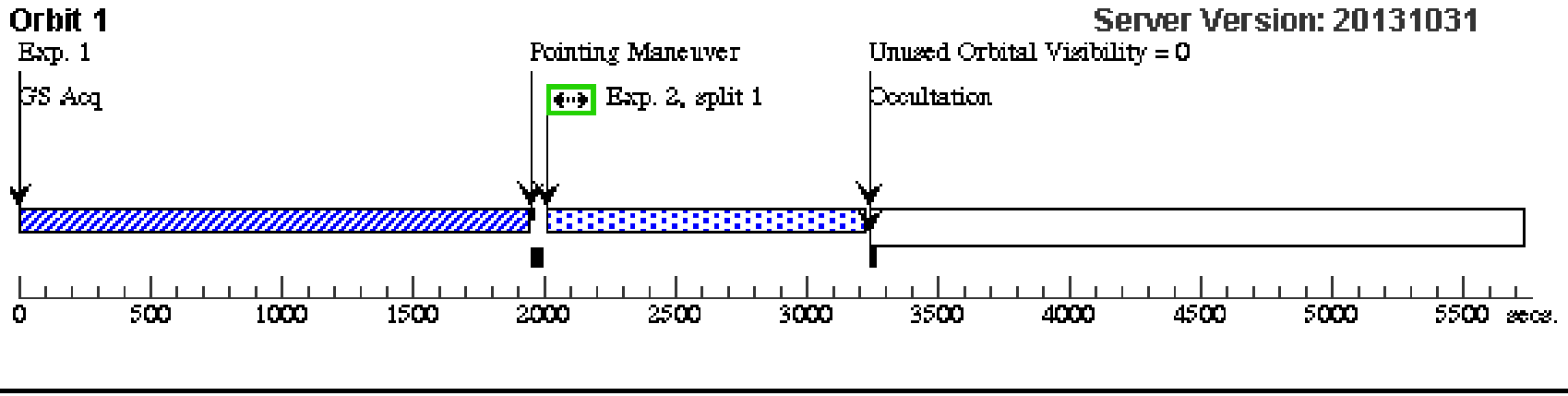
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J081552.00+215623.6	RA: 08 15 52.0010 (123.9666708d) Dec: +21 56 23.66 (21.93991d) Equinox: J2000	Redshift: 0.141	V=19.1 GALEX FUV mag: 20.15, NUV mag: 20.14, [O II] 3727 Flux: 263 x 10^-17 erg/s/cm^2, He II 4686 Flux: 14.4 x 10^-17 erg/s/cm^2, H-beta Flux: 402 x10^-17 erg/s/cm^2, [O III] 5007 Flux: 2959 x 10^-17 erg/s/cm^2, FR462N continuum: 2.486 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 1.694 x 10^-17 erg/s/cm^2/Ang, SDSS u: 20.27, g:20.129, r:19.344, i: 19.537, z:20.21	Reference Frame: ICRS

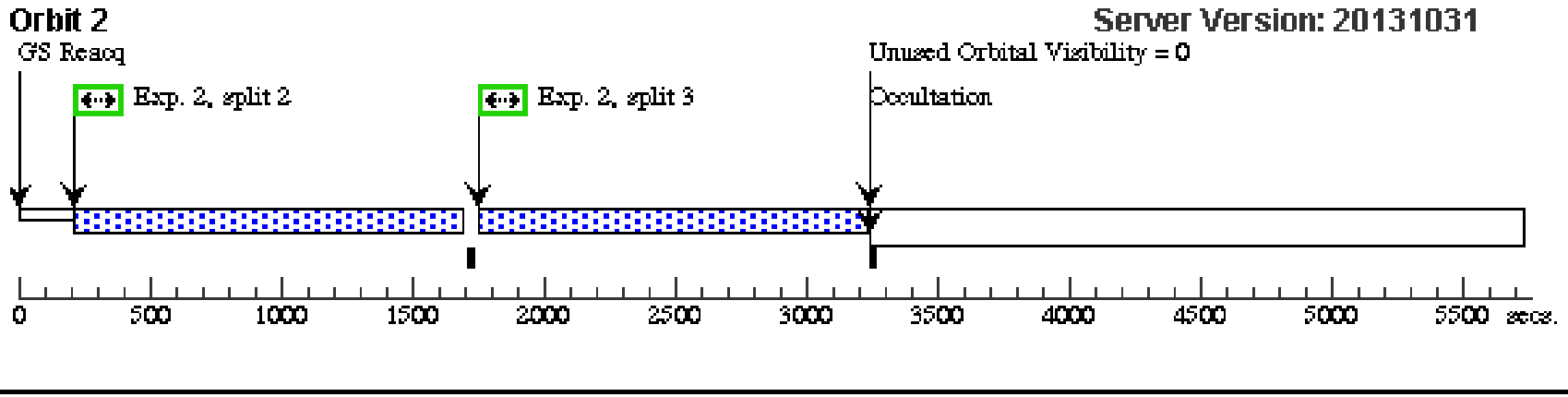
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

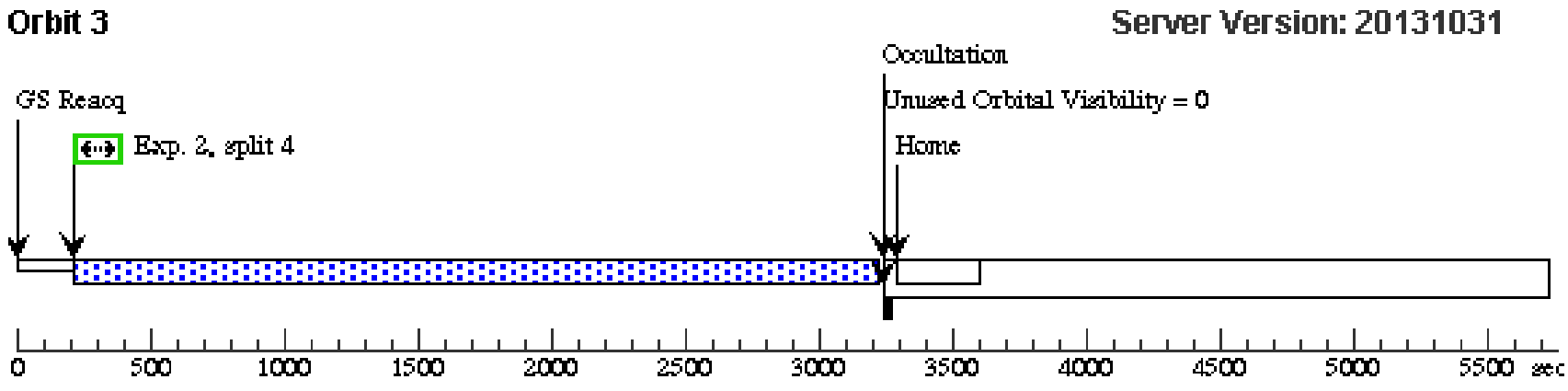
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(508408)	(1) SDSS-J081552.00+215623.6	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				771 Secs (771 Secs)	
								[==>]	***[1]***
2	(508438)	(1) SDSS-J081552.00+215623.6	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20829; EXTENDED=YES; FP-POS=ALL; FLASH=YES; SEGMENT=BOTH			858 Secs (6809 Secs)	
								[==>998.0 Secs (Split 1)]	***[1]***
								[==>1426.0 Secs (Split 2)] *[==>1427.0 Secs (Split 3)]*	***[2]***
								[==>2958.0 Secs (Split 4)]	***[3]***

Orbit Structure







Visit

Proposal 13293, COS Target 3 (02), completed Thu Mar 06 02:34:57 GMT 2014

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: (none)

Fixed Targets

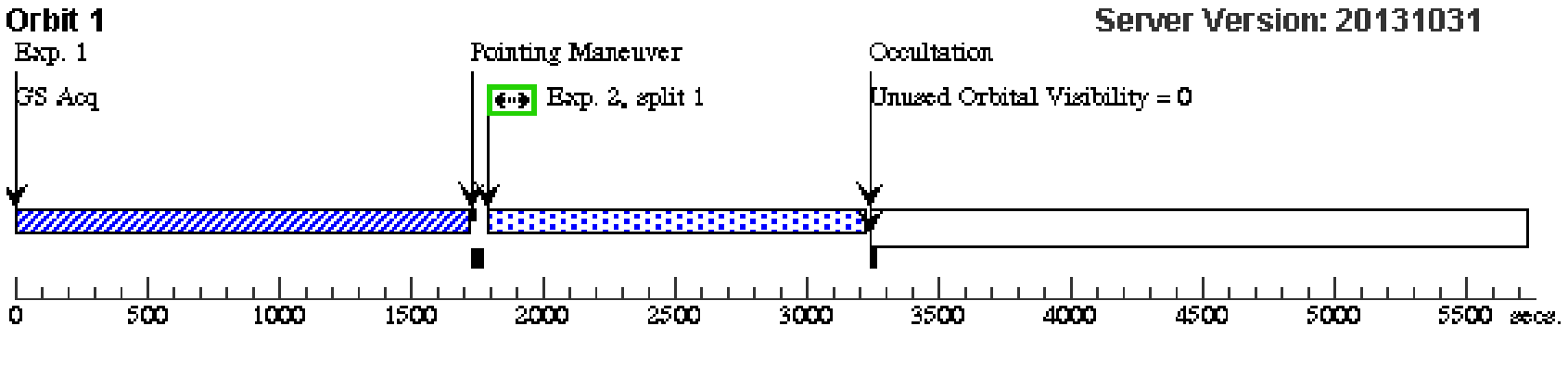
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSS-J145735.13+223201.8	RA: 14 57 35.1370 (224.3964042d) Dec: +22 32 1.77 (22.53382d) Equinox: J2000	Redshift: 0.1488	V=18.4 GALEX FUV mag: 20.2, NUV: 19.98, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 12.81 x 10^-17 erg/s/cm^2, H-beta Flux: 864 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 6389 x 10^-17 erg/s/cm^2, FR462N continuum: 5.509 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.315 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.68, g:19.432, r:18.514, i:18.795, z: 19.52	Reference Frame: ICRS

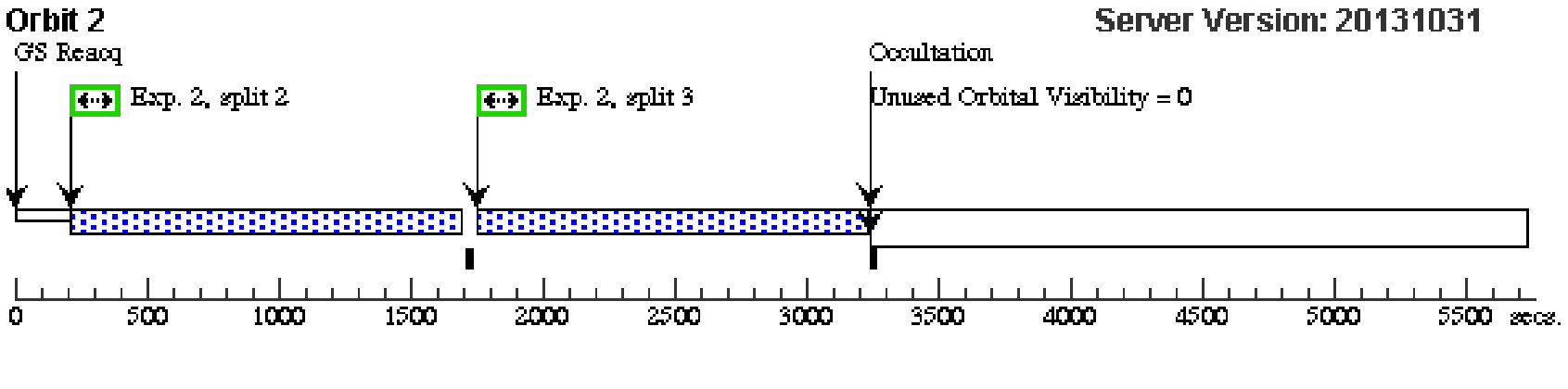
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

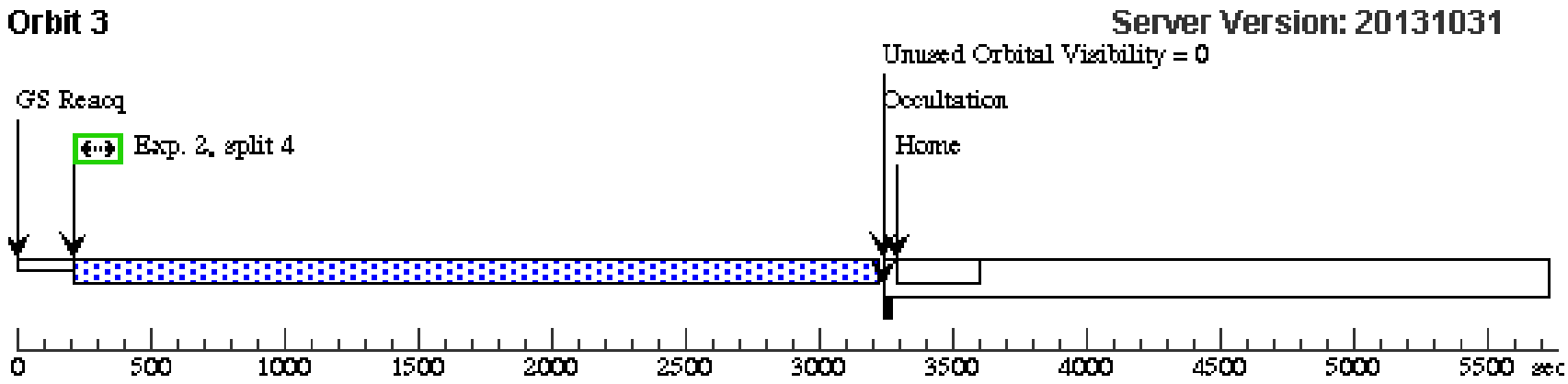
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(508407)	(3) SDSS-J145735.13+223201.8	COS/NUV, ACQ/IMAGE, PSA	MIRRORA		GS ACQ SCENARIO BASE1B3		661 Secs (661 Secs)	
								[==>]	***[1]***
2	(508442)	(3) SDSS-J145735.13+223201.8	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20933; EXTENDED=YES; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			858 Secs (7029 Secs)	
								[==>1218.0 Secs (Split 1)]	***[1]***
								[==>1426.0 Secs (Split 2)] *[==>1427.0 Secs (Split 3)]*	***[2]***
								[==>2958.0 Secs (Split 4)]	***[3]***

Orbit Structure







Visit

Proposal 13293, ACS Target 1_1 (03), failed Thu Mar 06 02:34:59 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(He II (03.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O III] (03.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (03.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(green (03.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (03.005)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2), (3), (4)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(5)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=8 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

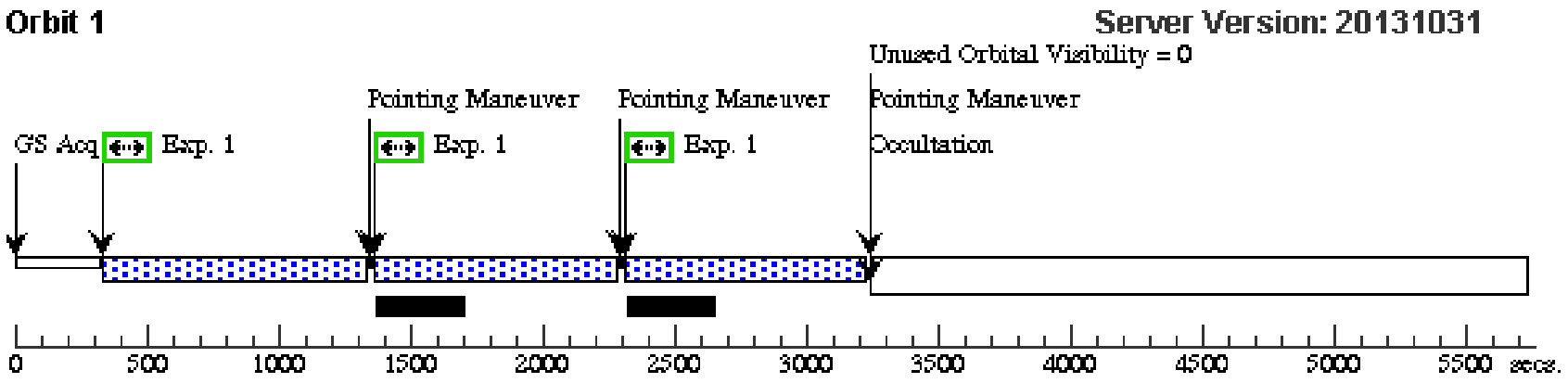
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J081552.00+215623.6	RA: 08 15 52.0010 (123.9666708d) Dec: +21 56 23.66 (21.93991d) Equinox: J2000	Redshift: 0.141	V=19.1 GALEX FUV mag: 20.15, NUV mag: 20.14, [O II] 3727 Flux: 263 x 10^-17 erg/s/cm^2, He II 4686 Flux: 14.4 x 10^-17 erg/s/cm^2, H-beta Flux: 402 x10^-17 erg/s/cm^2, [O III] 5007 Flux: 2959 x 10^-17 erg/s/cm^2, FR462N continuum: 2.486 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 1.694 x 10^-17 erg/s/cm^2/Ang, SDSS u: 20.27, g:20.129, r:19.344, i: 19.537, z:20.21	Reference Frame: ICRS

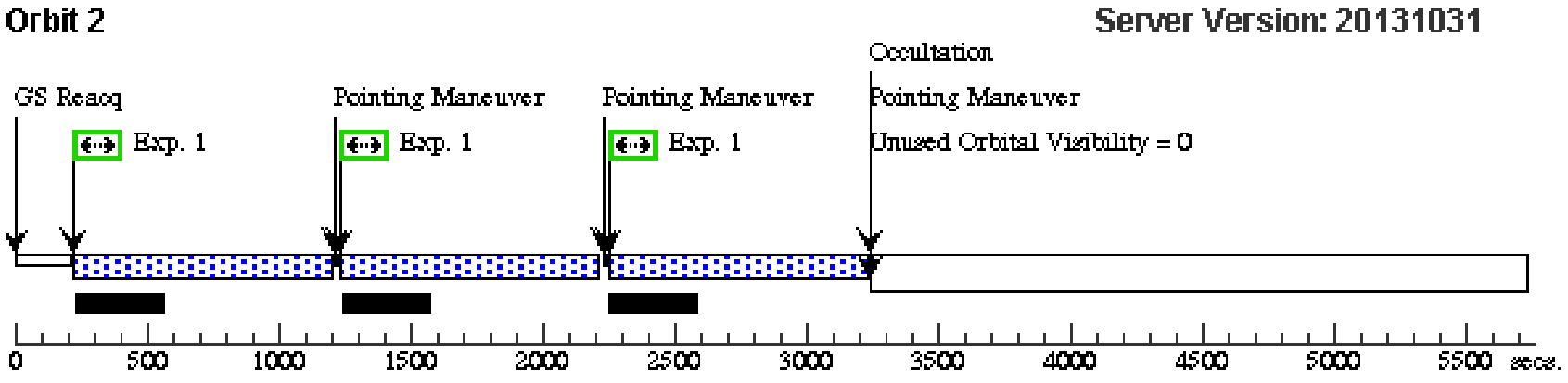
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

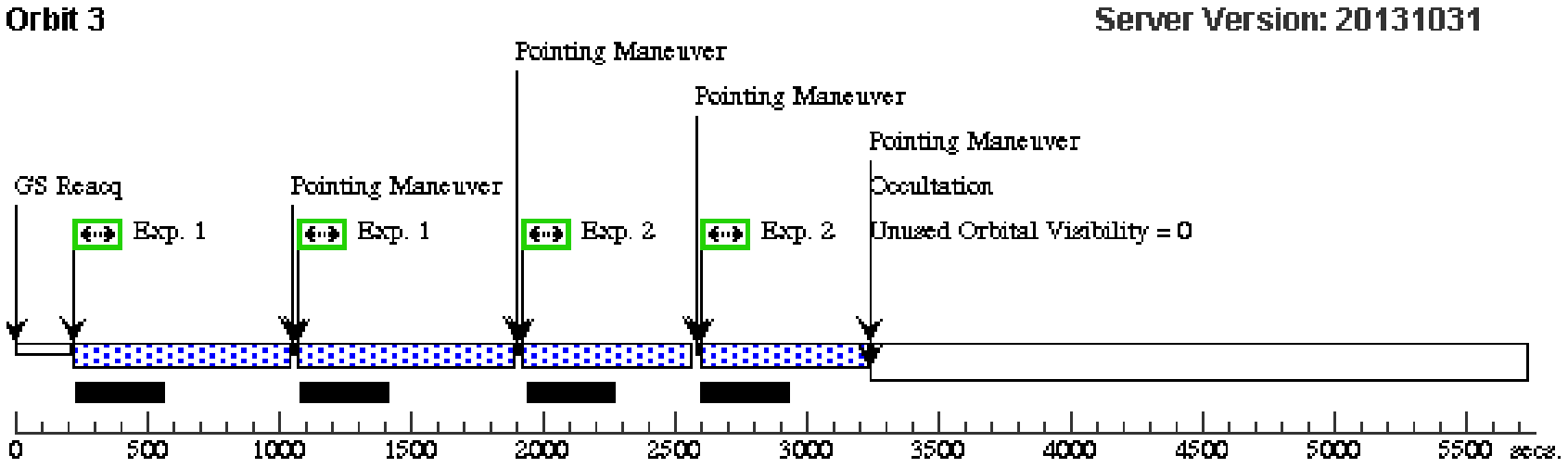
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	He II	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5315 A			Pattern 3, Exps 1-1 in ACS Target 1_1 (03) (3)	2760 Secs (6331 Secs)	
								[==>792 Secs (Pattern 1)] *[==>792 Secs (Pattern 2)]* *[==>791 Secs (Pattern 3)]*	***[1]***
								[==>856 Secs (Pattern 4)] *[==>856 Secs (Pattern 5)]* *[==>856 Secs (Pattern 6)]*	***[2]***
								[==>694 Secs (Pattern 7)] *[==>694 Secs (Pattern 8)]*	***[3]***
2	[O III]	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5713 A			Pattern 1, Exps 2-2 in ACS Target 1_1 (03) (1)	410 Secs (1010 Secs)	
								[==>505 Secs (Pattern 1)] *[==>505 Secs (Pattern 2)]*	***[3]***
3	H-beta	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5546 A			Pattern 1, Exps 3-3 in ACS Target 1_1 (03) (1)	680 Secs (1426 Secs)	
								[==>713 Secs (Pattern 1)] *[==>713 Secs (Pattern 2)]*	***[4]***
4	green	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6093 A			Pattern 1, Exps 4-4 in ACS Target 1_1 (03) (1)	470 Secs (954 Secs)	
								[==>477 Secs (Pattern 1)] *[==>477 Secs (Pattern 2)]*	***[4]***
5	[O II]	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR423N 4253 A			Pattern 2, Exps 5-5 in ACS Target 1_1 (03) (2)	1295 Secs (2535 Secs)	
								[==>845 Secs (Pattern 1)] *[==>845 Secs (Pattern 2)]* *[==>845 Secs (Pattern 3)]*	***[5]***

Orbit Structure






Orbit 3
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GS Reacq
Pointing Maneuver
Occultation
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Exp. 1
Exp. 2
Exp. 2
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4500
5000
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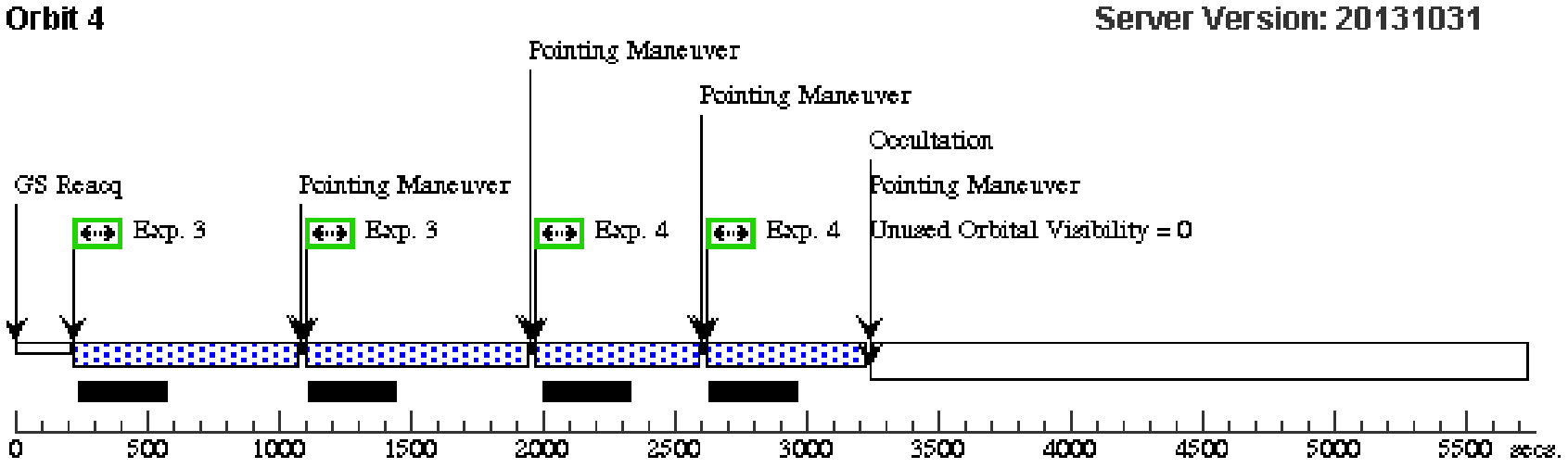
secs.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Server Version: 20131031
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Exp. 4
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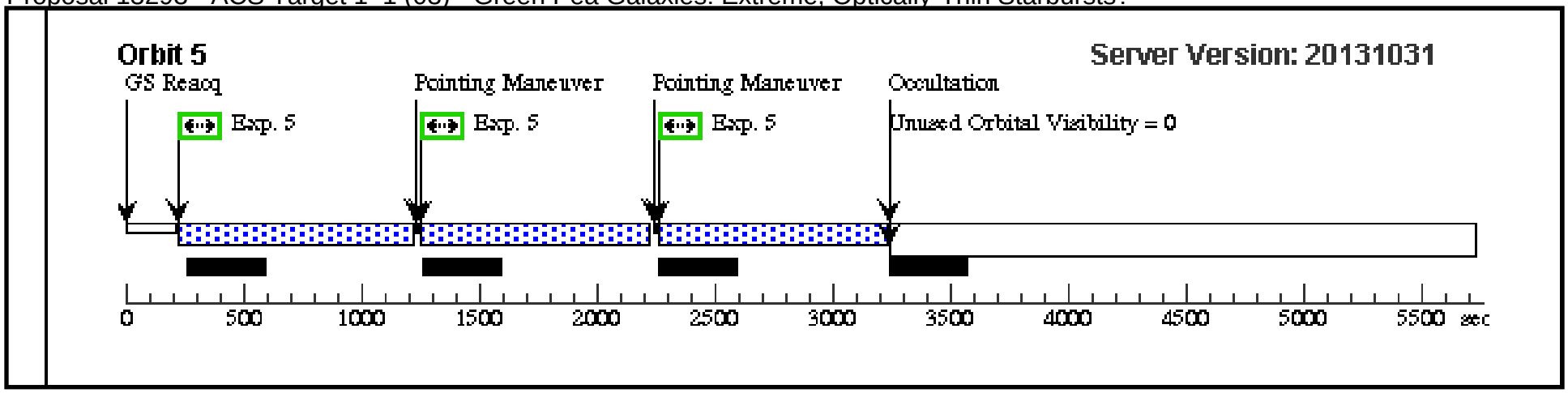
secs.


Orbit 5
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5500
sec

Visit

Proposal 13293, ACS Target 1_1 (53) Thu Mar 06 02:35:01 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Comments: This is a HOPR repeat of failed visit 03.

Diagnostics

(He II (53.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O III] (53.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (53.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(green (53.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (53.005)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2), (3), (4)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(5)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=8 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

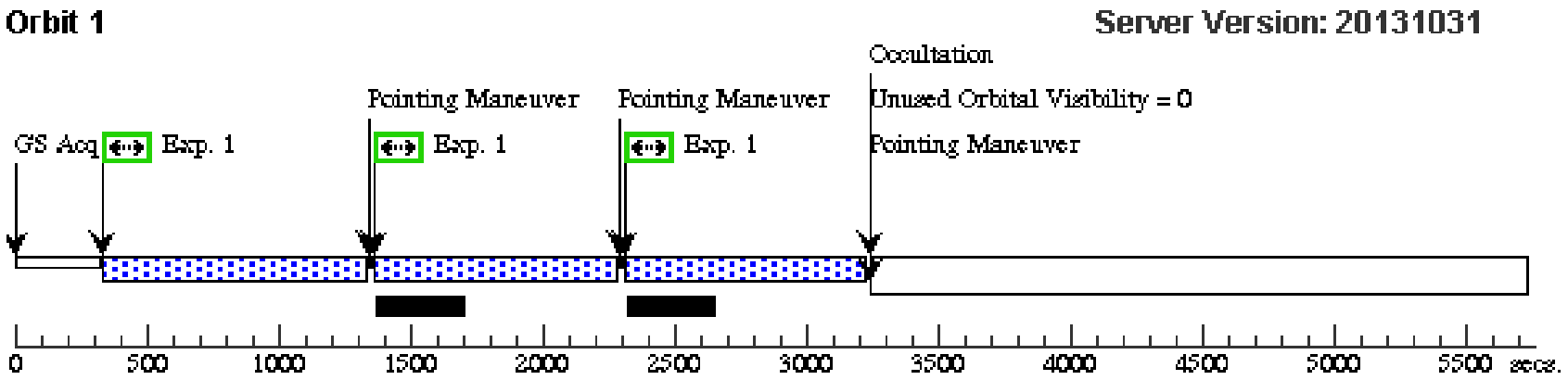
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J081552.00+215623.6	RA: 08 15 52.0010 (123.9666708d) Dec: +21 56 23.66 (21.93991d) Equinox: J2000	Redshift: 0.141	V=19.1 GALEX FUV mag: 20.15, NUV mag: 20.14, [O II] 3727 Flux: 263 x 10^-17 erg/s/cm^2, He II 4686 Flux: 14.4 x 10^-17 erg/s/cm^2, H-beta Flux: 402 x10^-17 erg/s/cm^2, [O III] 5007 Flux: 2959 x 10^-17 erg/s/cm^2, FR462N continuum: 2.486 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 1.694 x 10^-17 erg/s/cm^2/Ang, SDSS u: 20.27, g:20.129, r:19.344, i: 19.537, z:20.21	Reference Frame: ICRS

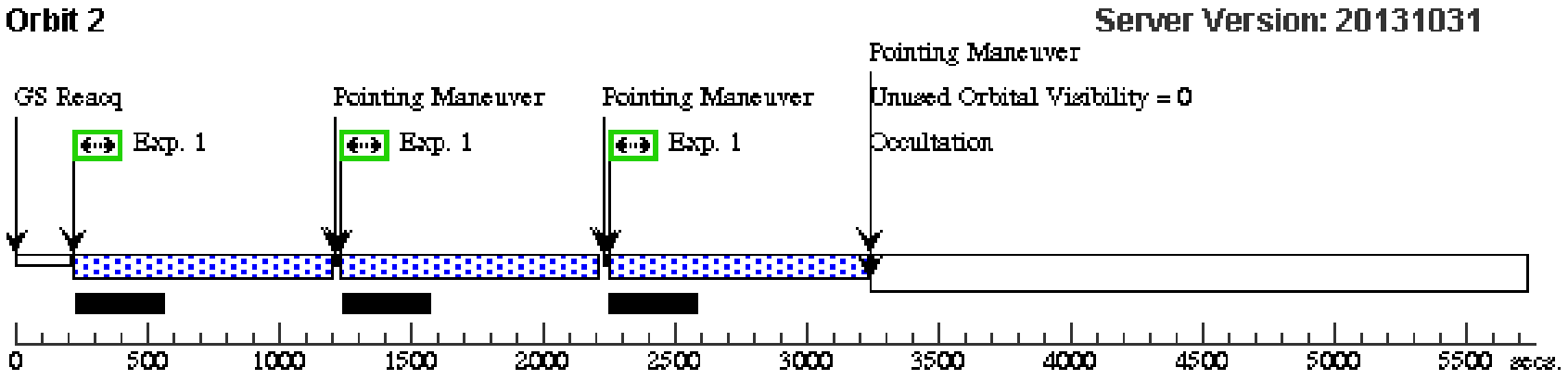
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

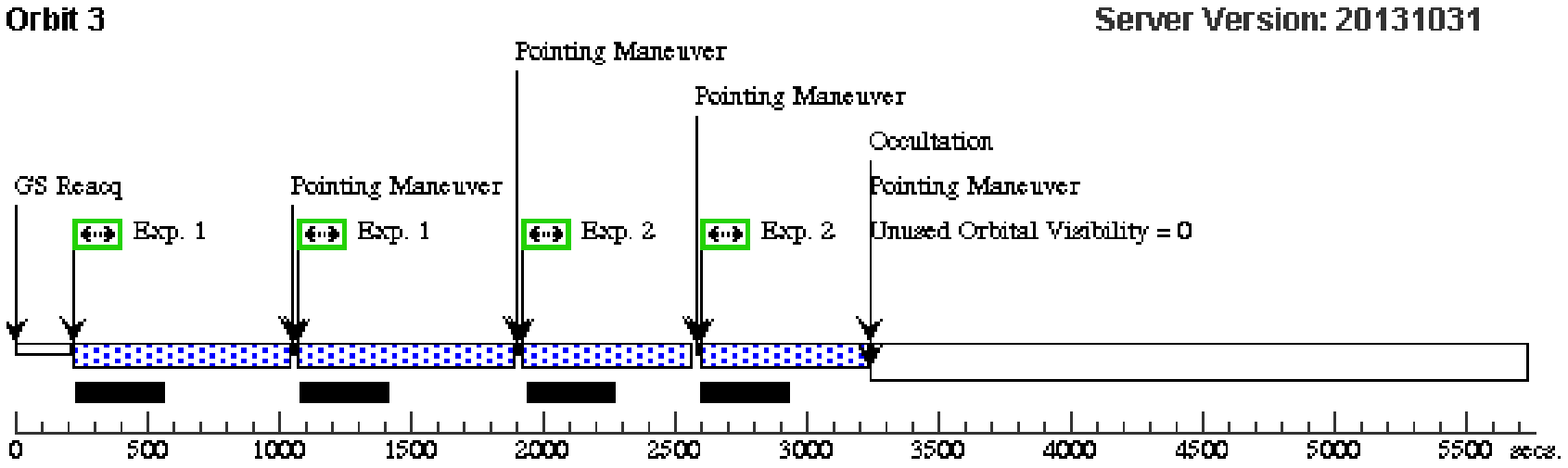
Exposures

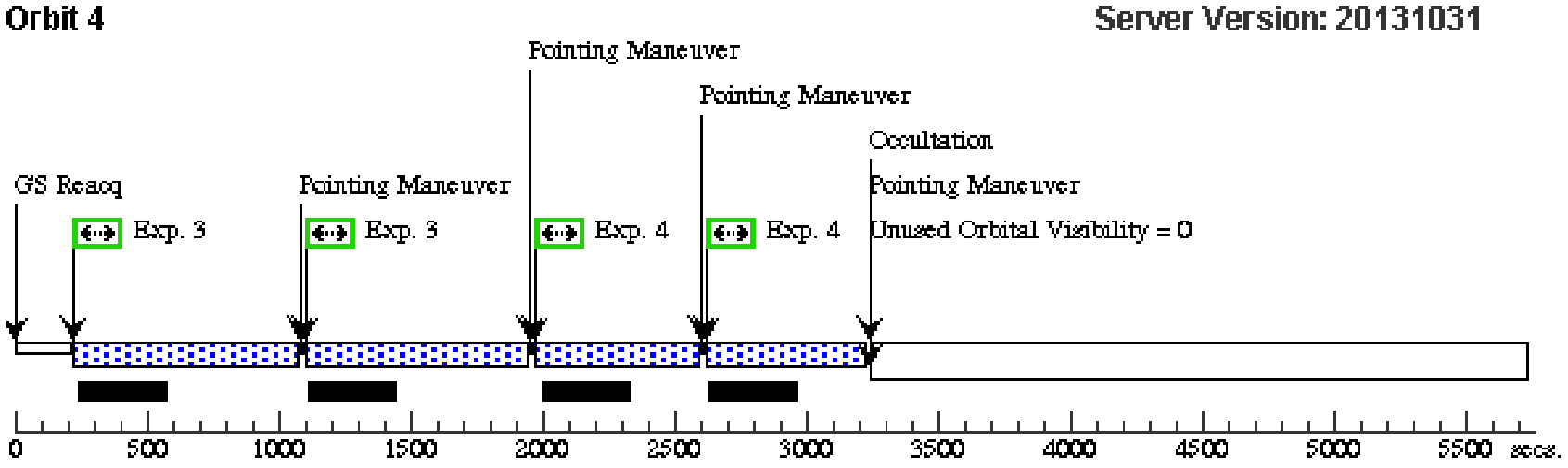
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	He II	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5315 A			Pattern 3, Exps 1-1 in ACS Target 1_1 (53) (3)	2760 Secs (6331 Secs)	
								[==>792 Secs (Pattern 1)]	***[1]***
								[==>792 Secs (Pattern 2)]	
								[==>791 Secs (Pattern 3)]	
								[==>856 Secs (Pattern 4)]	***[2]***
								[==>856 Secs (Pattern 5)]	
								[==>856 Secs (Pattern 6)]	
								[==>694 Secs (Pattern 7)]	***[3]***
								[==>694 Secs (Pattern 8)]	
2	[O III]	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5713 A			Pattern 1, Exps 2-2 in ACS Target 1_1 (53) (1)	410 Secs (1010 Secs)	
								[==>505 Secs (Pattern 1)]	***[3]***
								[==>505 Secs (Pattern 2)]	
3	H-beta	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5546 A			Pattern 1, Exps 3-3 in ACS Target 1_1 (53) (1)	680 Secs (1426 Secs)	
								[==>713 Secs (Pattern 1)]	***[4]***
								[==>713 Secs (Pattern 2)]	
4	green	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6093 A			Pattern 1, Exps 4-4 in ACS Target 1_1 (53) (1)	470 Secs (954 Secs)	
								[==>477 Secs (Pattern 1)]	***[4]***
								[==>477 Secs (Pattern 2)]	
5	[O II]	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC1-IRAMP	FR423N 4253 A			Pattern 2, Exps 5-5 in ACS Target 1_1 (53) (2)	1295 Secs (2535 Secs)	
								[==>845 Secs (Pattern 1)]	***[5]***
								[==>845 Secs (Pattern 2)]	
								[==>845 Secs (Pattern 3)]	

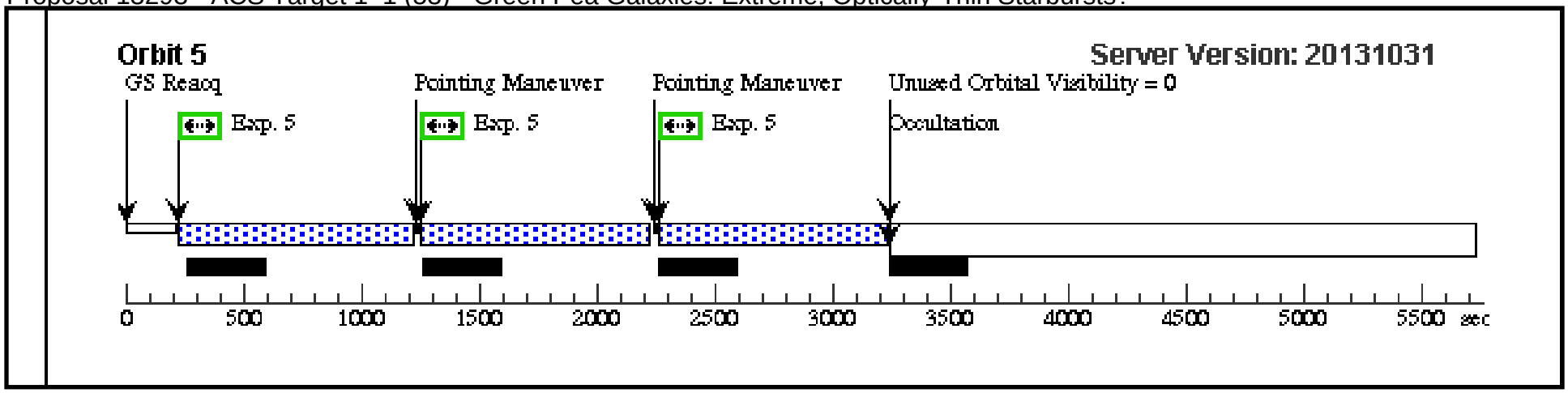
Orbit Structure






Orbit 3
Server Version: 20131031
Pointing Maneuver
Pointing Maneuver
Occultation
GS Reacq
Pointing Maneuver
Pointing Maneuver
Exp. 1
Exp. 1
Exp. 2
Exp. 2
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 4
Server Version: 20131031
Pointing Maneuver
Pointing Maneuver
Occultation
GS Reacq
Pointing Maneuver
Pointing Maneuver
Exp. 3
Exp. 3
Exp. 4
Exp. 4
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 5
Server Version: 20131031
GS Reacq
Pointing Maneuver
Pointing Maneuver
Unused Orbital Visibility = 0
Exp. 5
Exp. 5
Exp. 5
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13293, ACS Target 1-2 (07), completed Thu Mar 06 02:35:03 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(blue (07.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

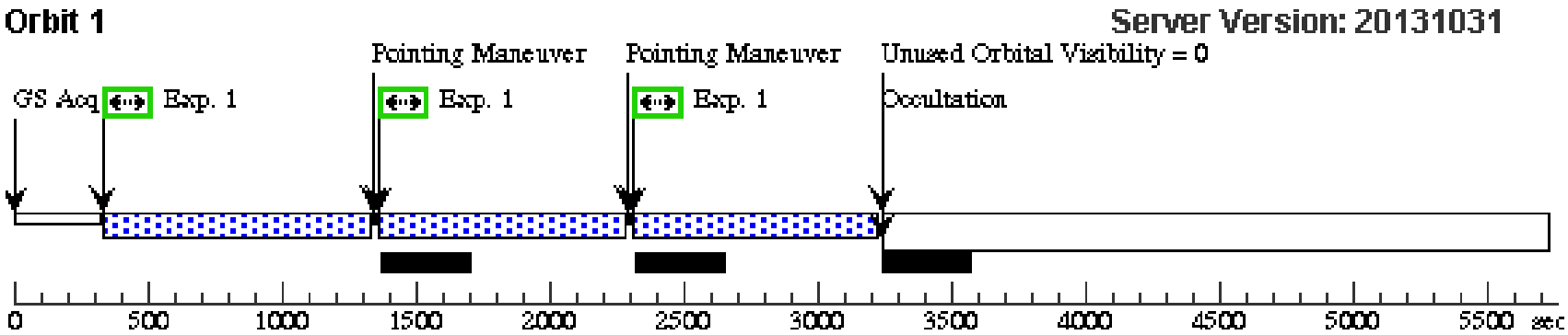
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J081552.00+215623.6	RA: 08 15 52.0010 (123.9666708d) Dec: +21 56 23.66 (21.93991d) Equinox: J2000	Redshift: 0.141	V=19.1 GALEX FUV mag: 20.15, NUV mag: 20.14, [O II] 3727 Flux: 263 x 10^-17 erg/s/cm^2, He II 4686 Flux: 14.4 x 10^-17 erg/s/cm^2, H-beta Flux: 402 x10^-17 erg/s/cm^2, [O III] 5007 Flux: 2959 x 10^-17 erg/s/cm^2, FR462N continuum: 2.486 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 1.694 x 10^-17 erg/s/cm^2/Ang, SDSS u: 20.27, g:20.129, r:19.344, i: 19.537, z:20.21	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	blue	(1) SDSS-J081552.00+215623.6	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4737 A			Pattern 2, Exps 1-1 in ACS Target 1-2 (07) (2)	1235 Secs (2375 Secs) *[==>792 Secs (Pattern 1)]* *[==>792 Secs (Pattern 2)]* *[==>791 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 13293, ACS Target 2-1 (04), failed Thu Mar 06 02:35:04 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(blue (04.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O III] (04.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (04.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (04.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)

Fixed Targets

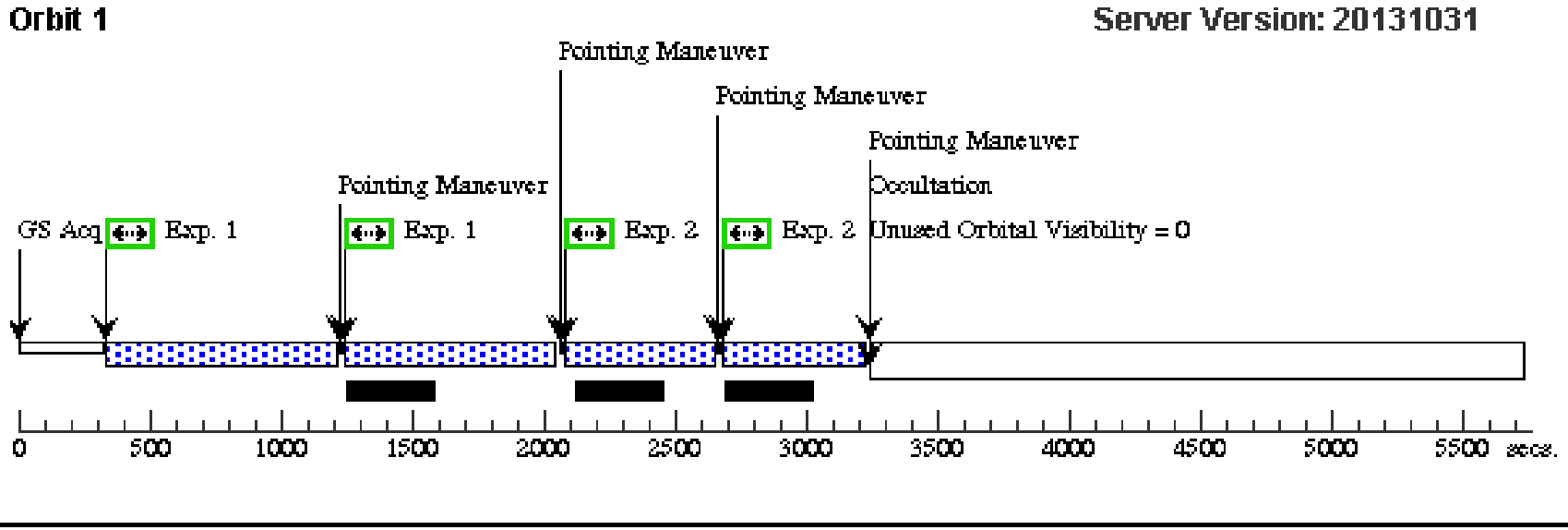
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SDSS-J121903.98+152608.5	RA: 12 19 3.9830 (184.7665958d) Dec: +15 26 8.52 (15.43570d) Equinox: J2000	Redshift: 0.1957	V=19.6 GALEX FUV mag: 19.3, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 48.7 x 10^-17 erg/s/cm^2, H-beta Flux: 1207 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 7988 x 10^-17 erg/s/cm^2, FR505N continuum: 6.59 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.699 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.76, g:19.544, r:18.682, i: 19.152, z:19.95	Reference Frame: ICRS

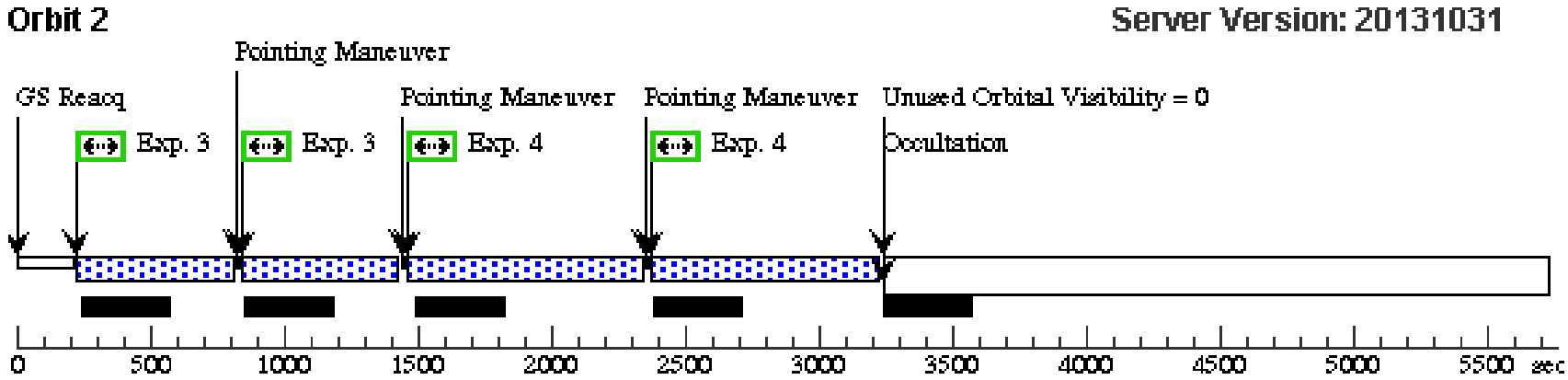
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	blue	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4801 A			Pattern 1, Exps 1-1 in ACS Target 2-1 (04) (1)	950 Secs (1353 Secs) *[==>676.0 Secs (Pattern 1)]* *[==>677.0 Secs (Pattern 2)]*	***[1]***
2	[O III]	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5989 A			Pattern 1, Exps 2-2 in ACS Target 2-1 (04) (1)	330 Secs (834 Secs) *[==>417.0 Secs (Pattern 1)]* *[==>417.0 Secs (Pattern 2)]*	***[1]***
3	H-beta	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5812 A			Pattern 1, Exps 3-3 in ACS Target 2-1 (04) (1)	470 Secs (910 Secs) *[==>455.0 Secs (Pattern 1)]* *[==>455.0 Secs (Pattern 2)]*	***[2]***
4	[O II]	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4456 A			Pattern 1, Exps 4-4 in ACS Target 2-1 (04) (1)	850 Secs (1459 Secs) *[==>730 Secs (Pattern 1)]* *[==>729 Secs (Pattern 2)]*	***[2]***

Orbit Structure





Visit

Proposal 13293, ACS Target 2-1 (54), scheduling Thu Mar 06 02:35:05 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Comments: This is a HOPR repeat of visit 04.

Diagnostics

(blue (54.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O III] (54.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (54.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (54.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)

Fixed Targets

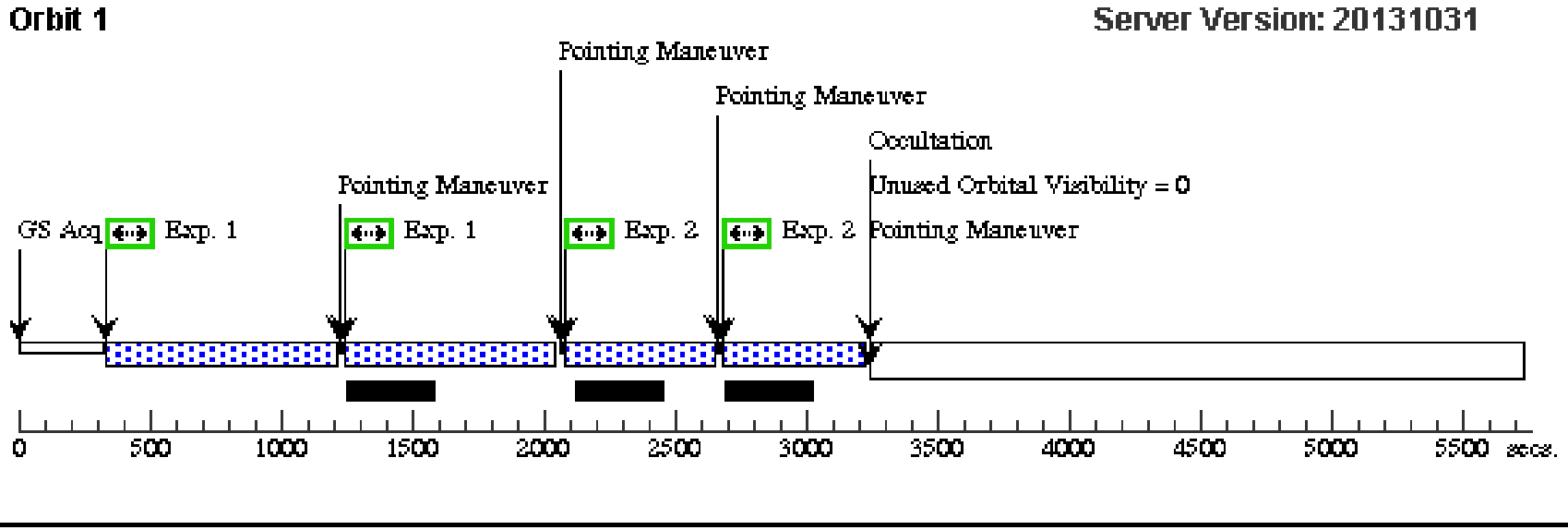
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SDSS-J121903.98+152608.5	RA: 12 19 3.9830 (184.7665958d) Dec: +15 26 8.52 (15.43570d) Equinox: J2000	Redshift: 0.1957	V=19.6 GALEX FUV mag: 19.3, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 48.7 x 10^-17 erg/s/cm^2, H-beta Flux: 1207 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 7988 x 10^-17 erg/s/cm^2, FR505N continuum: 6.59 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.699 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.76, g:19.544, r:18.682, i: 19.152, z:19.95	Reference Frame: ICRS

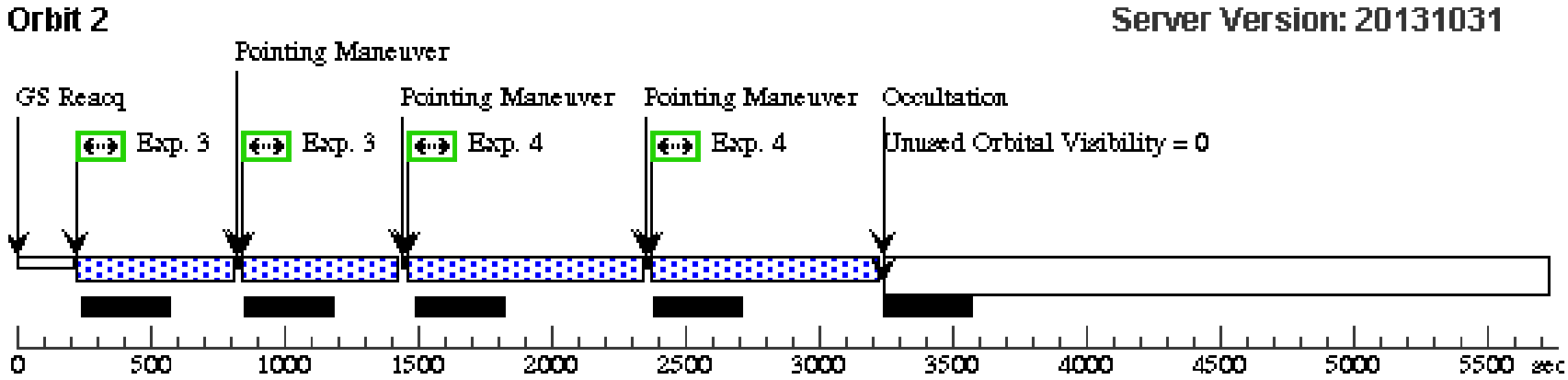
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	blue	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4801 A			Pattern 1, Exps 1-1 in ACS Target 2-1 (54) (1)	950 Secs (1353 Secs) *[==>676.0 Secs (Pattern 1)]* *[==>677.0 Secs (Pattern 2)]*	***[1]***
2	[O III]	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5989 A			Pattern 1, Exps 2-2 in ACS Target 2-1 (54) (1)	330 Secs (834 Secs) *[==>417.0 Secs (Pattern 1)]* *[==>417.0 Secs (Pattern 2)]*	***[1]***
3	H-beta	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5812 A			Pattern 1, Exps 3-3 in ACS Target 2-1 (54) (1)	470 Secs (910 Secs) *[==>455.0 Secs (Pattern 1)]* *[==>455.0 Secs (Pattern 2)]*	***[2]***
4	[O II]	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4456 A			Pattern 1, Exps 4-4 in ACS Target 2-1 (54) (1)	850 Secs (1459 Secs) *[==>730 Secs (Pattern 1)]* *[==>729 Secs (Pattern 2)]*	***[2]***

Orbit Structure





Visit

Proposal 13293, ACS Target 2-2 (08), scheduling Thu Mar 06 02:35:06 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(He II (08.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(green (08.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2)
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

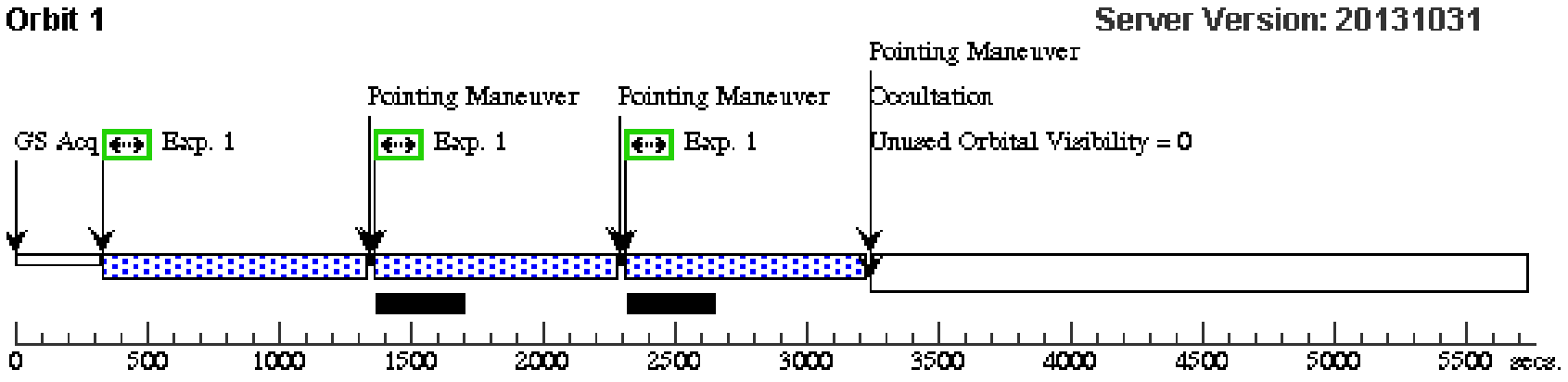
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SDSS-J121903.98+152608.5	RA: 12 19 3.9830 (184.7665958d) Dec: +15 26 8.52 (15.43570d) Equinox: J2000	Redshift: 0.1957	V=19.6 GALEX FUV mag: 19.3, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 48.7 x 10^-17 erg/s/cm^2, H-beta Flux: 1207 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 7988 x 10^-17 erg/s/cm^2, FR505N continuum: 6.59 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.699 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.76, g:19.544, r:18.682, i: 19.152, z:19.95	Reference Frame: ICRS

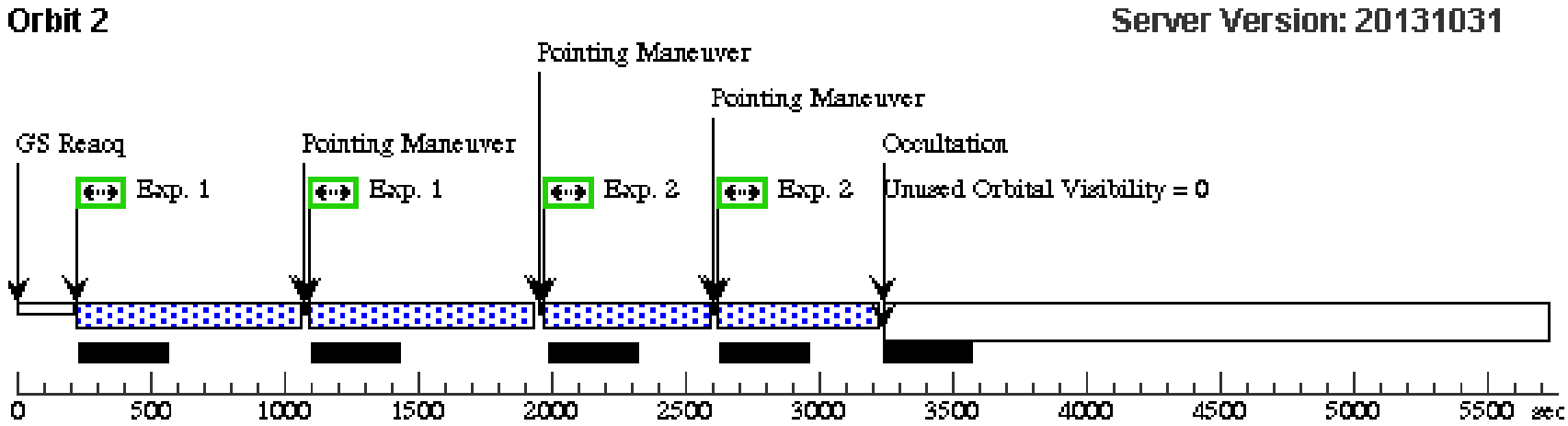
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	He II	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5570 A			Pattern 4, Exps 1-1 in ACS Target 2-2 (08) (4)	1220 Secs (3807 Secs)	
								[==>792 Secs (Pattern 1)] *[==>792 Secs (Pattern 2)]* *[==>791 Secs (Pattern 3)]*	***[1]***
								[==>716 Secs (Pattern 4)] *[==>716 Secs (Pattern 5)]*	***[2]***
2	green	(2) SDSS-J121903.98+152608.5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6385 A			Pattern 1, Exps 2-2 in ACS Target 2-2 (08) (1)	450 Secs (960 Secs)	
								[==>480.0 Secs (Pattern 1)] *[==>480.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure





Visit

Proposal 13293, ACS Target 3-1 (05), scheduling Thu Mar 06 02:35:07 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

([O III] (05.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(blue (05.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2)

Fixed Targets

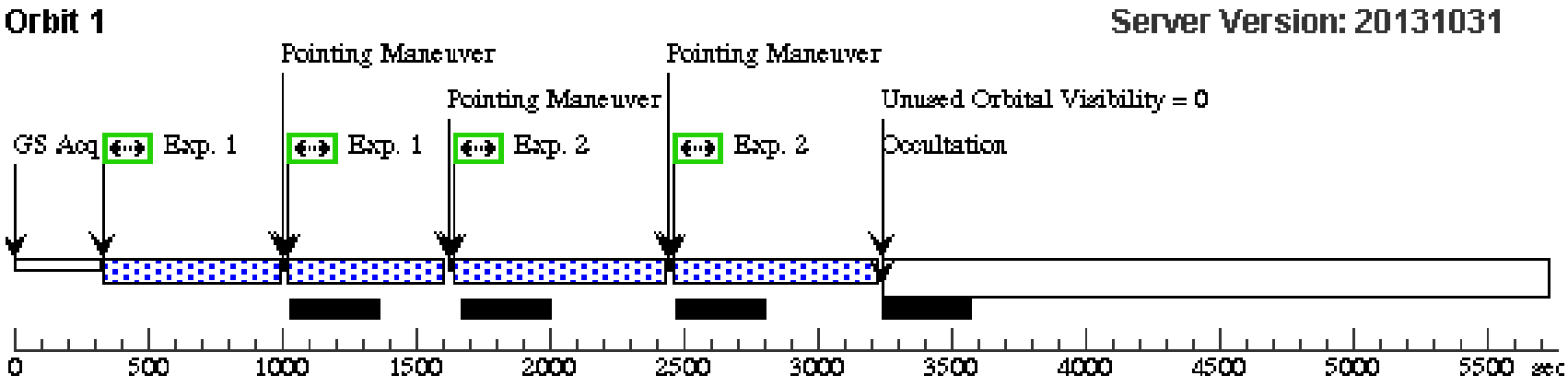
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSS-J145735.13+223201.8	RA: 14 57 35.1370 (224.3964042d) Dec: +22 32 1.77 (22.53382d) Equinox: J2000	Redshift: 0.1488	V=18.4 GALEX FUV mag: 20.2, NUV: 19.98, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 12.81 x 10^-17 erg/s/cm^2, H-beta Flux: 864 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 6389 x 10^-17 erg/s/cm^2, FR462N continuum: 5.509 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.315 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.68, g:19.432, r:18.514, i:18.795, z: 19.52	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	[O III]	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5752 A			Pattern 1, Exps 1-1 in ACS Target 3-1 (05) (1)	330 Secs (910 Secs) *[==>455.0 Secs (Pattern 1)]* *[==>455.0 Secs (Pattern 2)]*	***[1]***
2	blue	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4769 A			Pattern 1, Exps 2-2 in ACS Target 3-1 (05) (1)	800 Secs (1278 Secs) *[==>639 Secs (Pattern 1)]* *[==>639 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 13293, ACS Target 3-2 (09), scheduling Thu Mar 06 02:35:07 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(green (09.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(He II (09.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (09.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (09.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (3), (4)
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2)

Fixed Targets

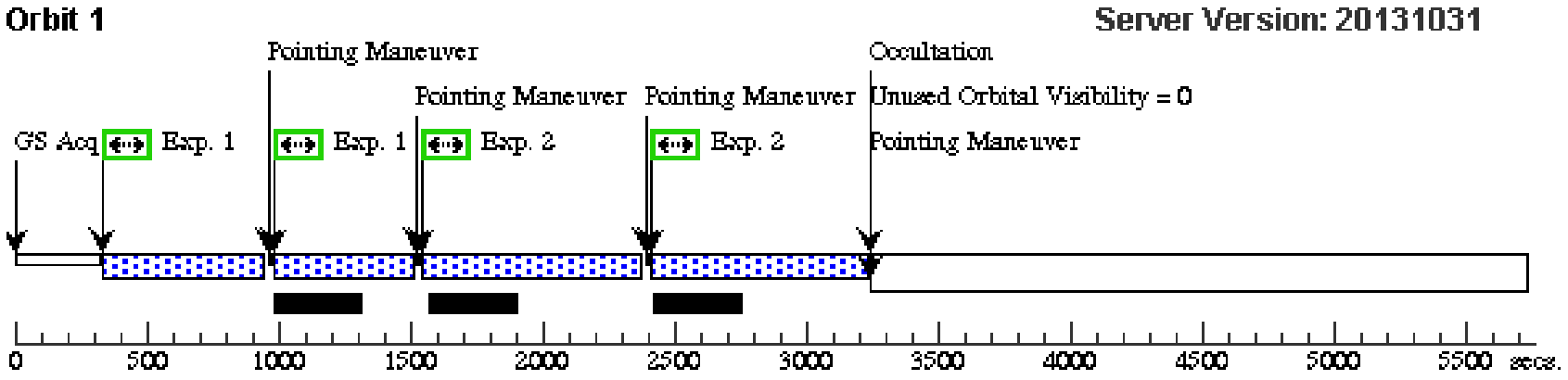
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SDSS-J145735.13+223201.8	RA: 14 57 35.1370 (224.3964042d) Dec: +22 32 1.77 (22.53382d) Equinox: J2000	Redshift: 0.1488	V=18.4 GALEX FUV mag: 20.2, NUV: 19.98, [O II] 3727 Flux: 751 x 10^-17 erg/s/cm^2, He II 4686 Flux: 12.81 x 10^-17 erg/s/cm^2, H-beta Flux: 864 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 6389 x 10^-17 erg/s/cm^2, FR462N continuum: 5.509 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.315 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.68, g:19.432, r:18.514, i:18.795, z: 19.52	Reference Frame: ICRS

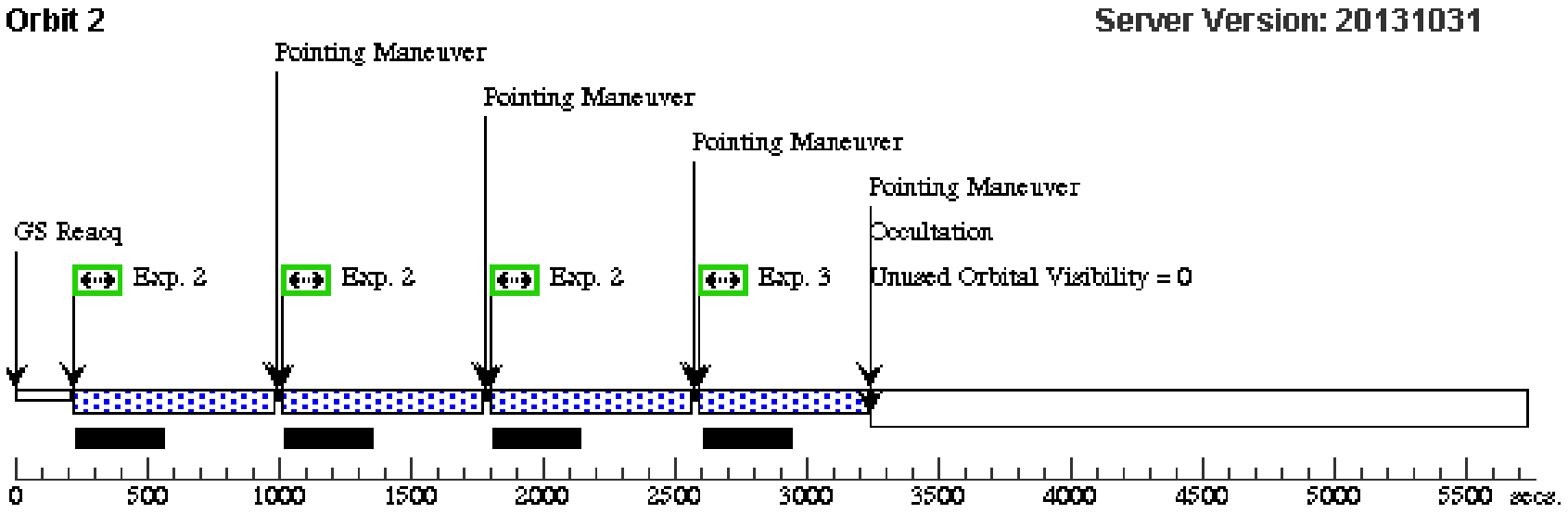
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

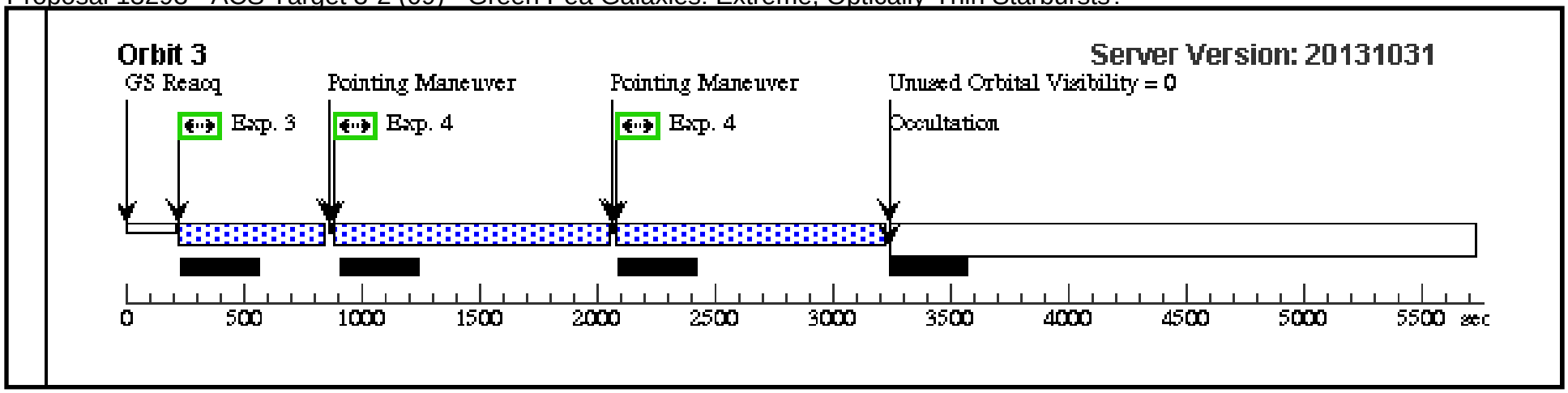
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	green	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6135 A			Pattern 1, Exps 1-1 in ACS Target 3-2 (09) (1)	370 Secs (814 Secs)	
								[==>407 Secs (Pattern 1)]	***[1]***
								[==>407 Secs (Pattern 2)]	
2	He II	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5351 A			Pattern 4, Exps 2-2 in ACS Target 3-2 (09) (4)	1657 Secs (3283 Secs)	
								[==>692 Secs (Pattern 1)]	***[1]***
								[==>693 Secs (Pattern 2)]	
								[==>633 Secs (Pattern 3)]	***[2]***
								[==>633 Secs (Pattern 4)]	
								[==>632 Secs (Pattern 5)]	
3	H-beta	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5584 A			Pattern 1, Exps 3-3 in ACS Target 3-2 (09) (1)	610 Secs (1000 Secs)	
								[==>500 Secs (Pattern 1)]	***[2]***
								[==>500 Secs (Pattern 2)]	***[3]***
4	[O II]	(3) SDSS-J145735.13+223201.8	ACS/WFC, ACCUM, WFC1-IRAMP	FR423N 4282 A			Pattern 1, Exps 4-4 in ACS Target 3-2 (09) (1)	950 Secs (2039 Secs)	
								[==>1019 Secs (Pattern 1)]	***[3]***
								[==>1020 Secs (Pattern 2)]	

Orbit Structure






Orbit 3
Server Version: 20131031
GS Reacq
Pointing Maneuver
Pointing Maneuver
Unused Orbital Visibility = 0
Exp. 3
Exp. 4
Exp. 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13293, ACS Target 4-1 (06), completed Thu Mar 06 02:35:08 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

([O III] (06.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(blue (06.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2)

Fixed Targets

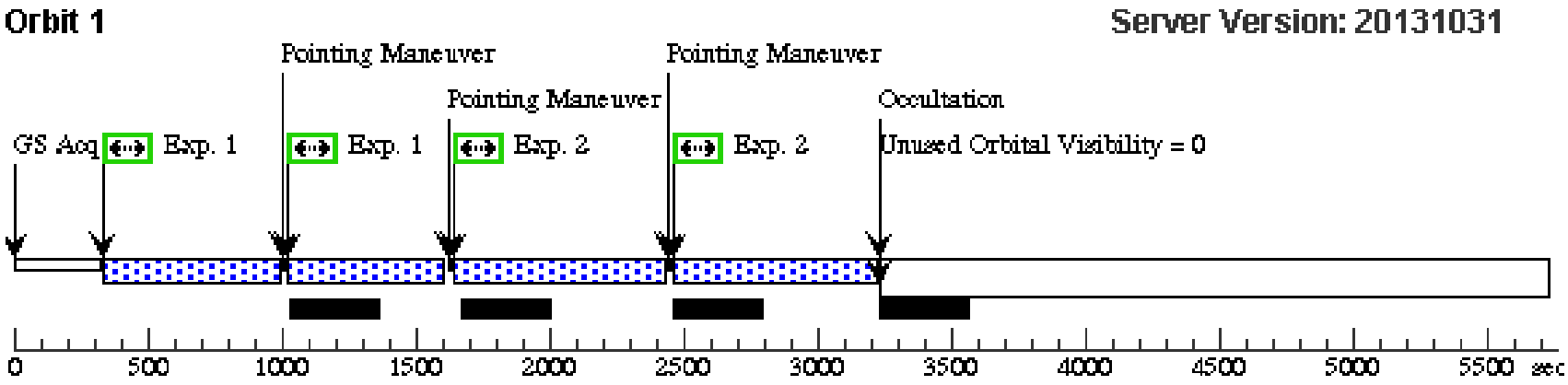
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SHOC-148	RA: 03 03 21.4140 (45.8392250d) Dec: -07 59 23.25 (-7.98979d) Equinox: J2000	Redshift: 0.1650	V=18.7 GALEX FUV mag: 19.6, [O II] 3727 Flux: 613 x 10^-17 erg/s/cm^2, He II 4686 Flux: 19.08 x 10^-17 erg/s/cm^2, H-beta Flux: 760 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 4684 x 10^-17 erg/s/cm^2, FR505N continuum: 7.215 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.925 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.63, g: 19.371, r:18.720, i: 19.054, z: 19.54	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	[O III]	(4) SHOC-148	ACS/WFC, ACCUM, WFC2-ORAMP	FR601N 5833 A			Pattern 1, Exps 1-1 in ACS Target 4-1 (06) (1)	330 Secs (910 Secs) *[==>455.0 Secs (Pattern 1)]* *[==>455.0 Secs (Pattern 2)]*	 ***[1]***
2	blue	(4) SHOC-148	ACS/WFC, ACCUM, WFC2-ORAMP	FR462N 4721 A			Pattern 1, Exps 2-2 in ACS Target 4-1 (06) (1)	700 Secs (1267 Secs) *[==>633 Secs (Pattern 1)]* *[==>634 Secs (Pattern 2)]*	 ***[1]***

Orbit Structure



Visit

Proposal 13293, ACS Target 4-2 (10), completed Thu Mar 06 02:35:09 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(green (10.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(He II (10.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(H-beta (10.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

([O II] (10.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (3), (4)
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=5 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(2)

Fixed Targets

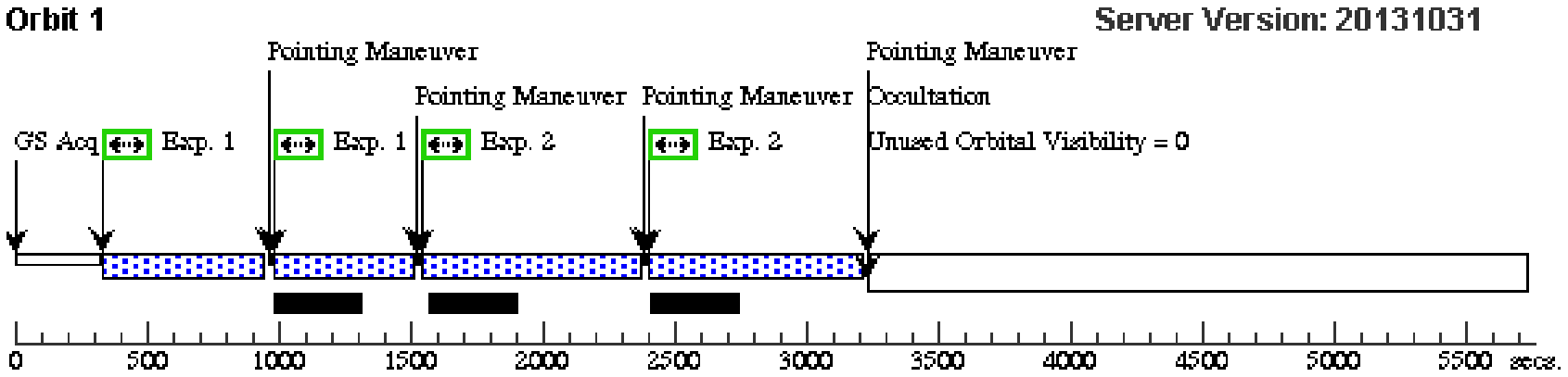
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SHOC-148	RA: 03 03 21.4140 (45.8392250d) Dec: -07 59 23.25 (-7.98979d) Equinox: J2000	Redshift: 0.1650	V=18.7 GALEX FUV mag: 19.6, [O II] 3727 Flux: 613 x 10^-17 erg/s/cm^2, He II 4686 Flux: 19.08 x 10^-17 erg/s/cm^2, H-beta Flux: 760 x 10^-17 erg/s/cm^2, [O III] 5007 Flux: 4684 x 10^-17 erg/s/cm^2, FR505N continuum: 7.215 x 10^-17 erg/s/cm^2/Ang, FR647M continuum: 3.925 x 10^-17 erg/s/cm^2/Ang, SDSS u: 19.63, g: 19.371, r:18.720, i: 19.054, z: 19.54	Reference Frame: ICRS

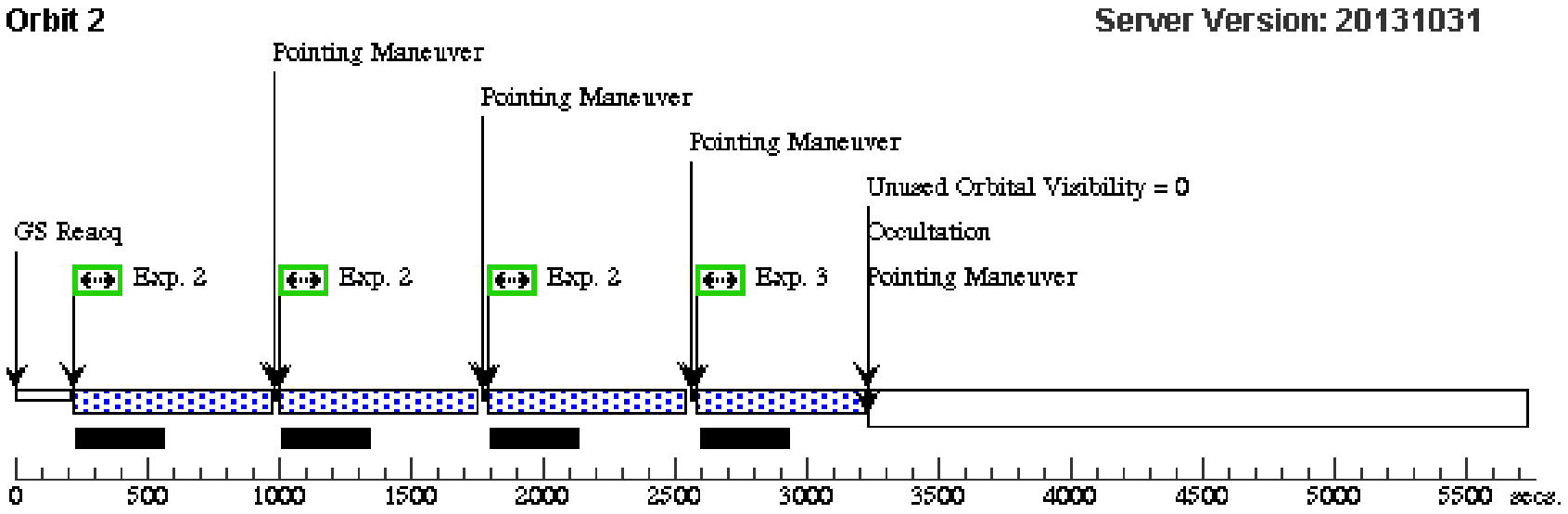
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

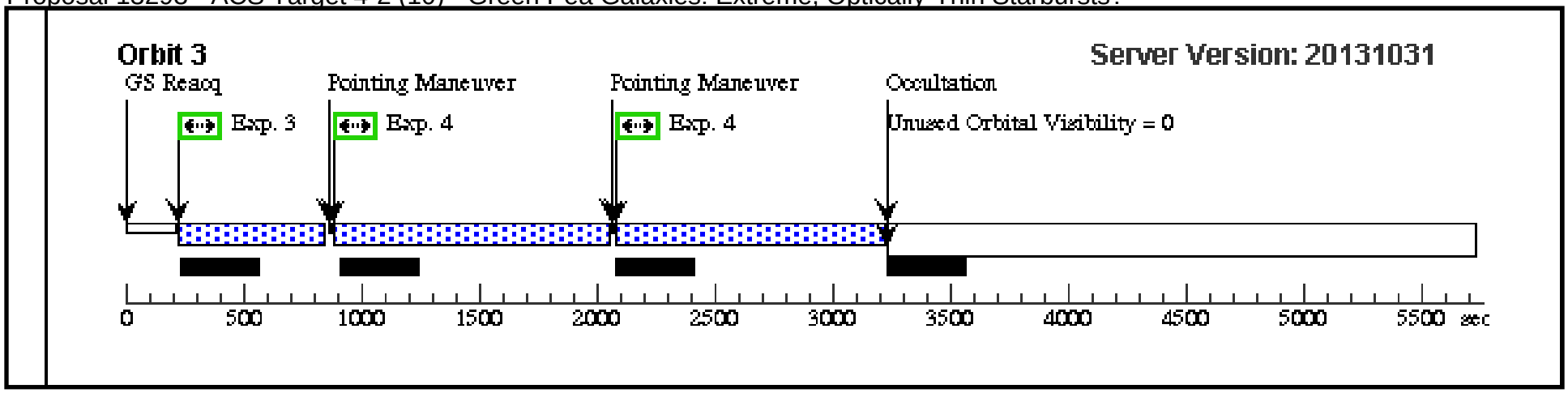
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	green	(4) SHOC-148	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6221 A			Pattern 1, Exps 1-1 in ACS Target 4-2 (10) (1)	370 Secs (814 Secs)	
								[==>407 Secs (Pattern 1)]	***[1]***
								[==>407 Secs (Pattern 2)]	
2	He II	(4) SHOC-148	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5427 A			Pattern 4, Exps 2-2 in ACS Target 4-2 (10) (4)	1483 Secs (3261 Secs)	
								[==>687 Secs (Pattern 1)]	***[1]***
								[==>687 Secs (Pattern 2)]	
								[==>629 Secs (Pattern 3)]	***[2]***
								[==>629 Secs (Pattern 4)]	
								[==>629 Secs (Pattern 5)]	
3	H-beta	(4) SHOC-148	ACS/WFC, ACCUM, WFC1-IRAMP	FR551N 5663 A			Pattern 1, Exps 3-3 in ACS Target 4-2 (10) (1)	610 Secs (1000 Secs)	
								[==>500 Secs (Pattern 1)]	***[2]***
								[==>500 Secs (Pattern 2)]	***[3]***
4	[O II]	(4) SHOC-148	ACS/WFC, ACCUM, WFC1-IRAMP	FR423N 4342 A			Pattern 1, Exps 4-4 in ACS Target 4-2 (10) (1)	950 Secs (2028 Secs)	
								[==>1014 Secs (Pattern 1)]	***[3]***
								[==>1014 Secs (Pattern 2)]	

Orbit Structure






Orbit 3
Server Version: 20131031
GS Reacq
Pointing Maneuver
Pointing Maneuver
Occultation
Exp. 3
Exp. 4
Exp. 4
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec