17109 - Lyman continuum leakage in z~0.3 - 0.4 dwarf compact star-forming galaxies with very low metallicities

Cycle: 30, 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) J0021+3117	COS/FUV COS/NUV	4	14-Jun-2024 12:00:32.0	yes
02	(2) J0131+2242	COS/FUV COS/NUV	4	14-Jun-2024 12:00:34.0	yes
03	(3) J0238+0003	COS/FUV COS/NUV	4	14-Jun-2024 12:00:36.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	(4) J1247+3154	COS/FUV COS/NUV	4	14-Jun-2024 12:00:38.0	yes
05	(5) J1340+5448	COS/FUV COS/NUV	5	14-Jun-2024 12:00:40.0	yes
06	(6) J1607+3217	COS/FUV COS/NUV	4	14-Jun-2024 12:00:42.0	yes
07	(7) J1638+3348	COS/FUV COS/NUV	5	14-Jun-2024 12:00:43.0	yes
08	(8) J1658+3647	COS/FUV COS/NUV	4	14-Jun-2024 12:00:46.0	yes

34 Total Orbits Used

ABSTRACT

One of the key questions in observational cosmology is the identification of the sources responsible for cosmic reionization. The general consensus is that a population of faint low-mass and low-metallicity galaxies must be responsible for the bulk of the ionizing photons at high redshifts. However, for a long time, attempts at identifying individual galaxies showing Lyman continuum (LyC) leakage have only found very few such galaxies, both at high and low redshifts. A breakthrough was achieved in the last few years by Izotov et al. (2016ab,2018ab,2021), who detected LyC emission in 15 out of 20 low-z (z~0.3) compact star-forming galaxies (SFG) with LyC escape fractions of 2-72%, using HST/COS observations. Furthermore, a Large Program of COS observations of 66 z~0.3-0.4 SFGs with the LyC detections in ~50 SFGs has been completed. However, almost all these SFGs have 12+logO/H>7.7, while it is expected that lower-metallicity galaxies were the main sources of the reionization of the Universe. It is proposed here to extend the previous studies to a sample of eight compact SFGs at z~0.3-0.4 at lower metallicities 12+logO/H~7.45-7.70 derived by a direct method, a range almost not explored before by HST/COS. This will allow us to study how LyC escape varies with metallicity in a larger range. The observations will also allow for the determination of the Ly-alpha line profile, providing an empirical probe of this robust indirect LyC leakage indicator for a wide range of metallicities. Since these low- metallicity compact SFGs share many properties with typical SFGs at high redshift, this study will provide important insight on the sources of reionization of the early Universe.

OBSERVING DESCRIPTION

The selected galaxies are sufficiently faint to satisfy safety conditions for observing with the COS. Furthermore, there are no sources brighter than the COS safety limits in circular regions with the diameter of 43" centered on the selected galaxies. NUV acquisition images of the targets will be obtained with the standard Mirror A and the ACQ/IMAGE mode, with exposures of 300 seconds to reach a S/N~20 inside a 9x9 pixel box centered on the brightest part of the galaxy. The GALEX NUV magnitudes were adopted to estimate the S/N. The angular galaxy radius is chosen to be 0.2", inside which most of the galaxy light is concentrated. The total time for acquisition is up to 120s+2x300s=720s per object. As a bonus, it will be possible to study the UV morphology of the selected objects with these images. The COS will be used in combination with the following 2 gratings: 1) the low-resolution G140L grating centered at 800A to measure the LyC. The required number of orbits for each object is calculated so as to detect the LyC at the level above 1sigma with a 100-pixel binning of the data at the observed wavelength near 912x(1+z) Angstrom. For the LyC, an escape fraction of 5% and the intrinsic LyC flux density obtained from the relation I(Hbeta)/I(912)~10A are adopted, where I(Hbeta) is the extinction-corrected flux of the Hbeta emission line; 2) the medium-resolution G160M grating to observe the Ly-alpha line with an observed resolution better than 50 km/s, sufficient to separate blue and red peaks. The required number of orbits to obtain a S/N > 1 in the continuum near Ly-alpha line for a 10-pixel binned spectrum is derived adopting a flux density at the wavelength 1216x(1+z) Angstrom obtained from the SED fit of the optical spectrum. This S/N would be enough to obtain the Ly-alpha profile with a sufficient accuracy for measurements of peak separation and radiative transfer modeling. Each target needs 0.3 orbit for acquisition, 1.5 orbits for the spectrum with the medium-resolution G160M grating, and 2 orbits per object (for the six brightest galaxies with FUV < 21.5 mag) or 3 orbits per object (for the remaining two galaxies) for the spectrum with the low-resolution G140L grating, totalling 4 or 5 orbits per object. We request a total of 34 orbits for 8 objects.

Visit

Proposal 17109, J0021+3117 (01), completed Fri Jun 14 16:00:46 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J0021+3117 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0021+3117 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0021+3117 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0021+3117 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

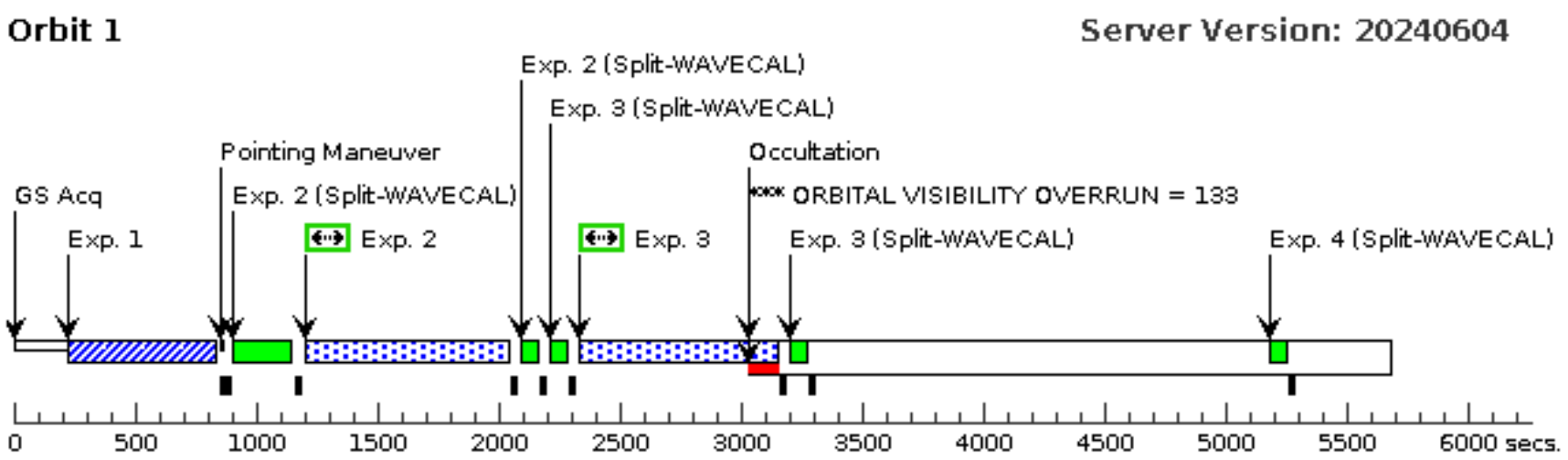
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	J0021+3117	RA: 00 21 28.9900 (5.3707917d) Dec: +31 17 26.41 (31.29067d) Equinox: J2000	Redshift: 0.32211	V=21.93+/-0.05 FUV=21.47+/-0.20, NUV=21.63+/-0.43, F(1216*(1+z)=1608A)=4.7e-17 erg/s/cm2/A, intrinsic F(912*(1+z)=1206A)=8.7e-17 erg/s/cm2/A	Reference Frame: ICRS

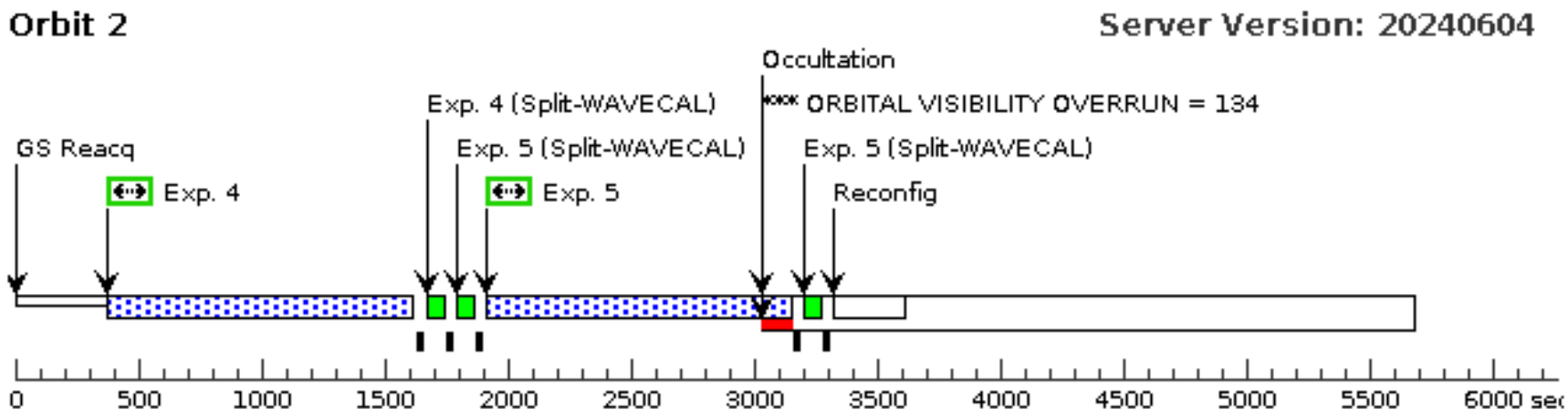
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

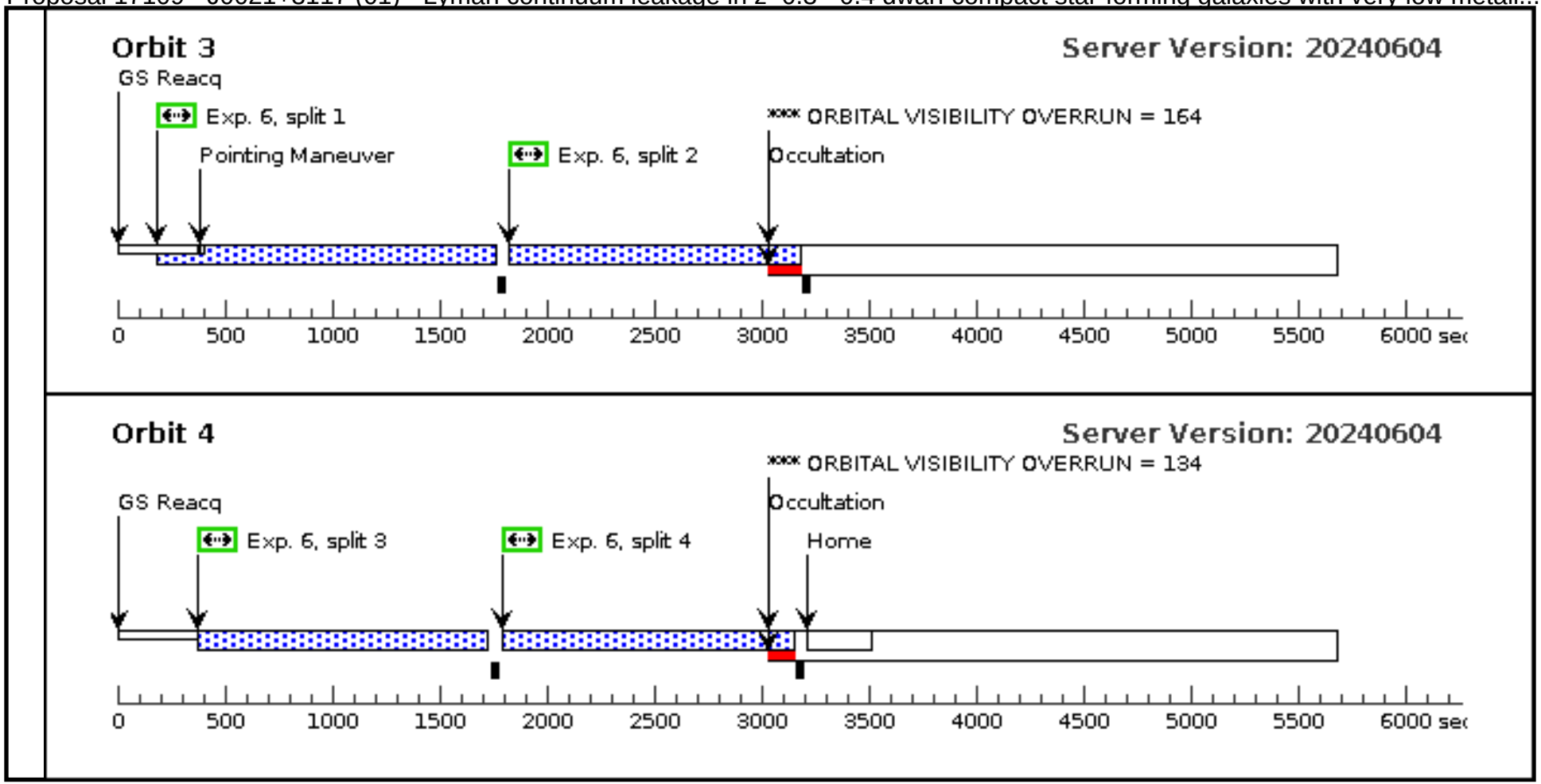
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J0021+3117 ACQ (COS.ta.1808467)	(1) J0021+3117	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				200. Secs (200 Secs) *[==>]*	*[1]*
2	J0021+3117 G160M1 (COS.sp.1808691)	(1) J0021+3117	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			789. Secs (789 Secs) *[==>]*	*[1]*
3	J0021+3117 G160M2 (COS.sp.1808691)	(1) J0021+3117	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			670. Secs (770 Secs) *[==>770.0 Secs]*	*[1]*
4	J0021+3117 G160M3 (COS.sp.1808691)	(1) J0021+3117	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			670. Secs (1193 Secs) *[==>1193.0 Secs]*	*[2]*
5	J0021+3117 G160M4 (COS.sp.1808691)	(1) J0021+3117	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			670. Secs (1193 Secs) *[==>1193.0 Secs]*	*[2]*
6	J0021+3117 G140L (COS.sp.1808683)	(1) J0021+3117	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1300. Secs (5216 Secs) *[==>1299.0 Secs (Split 1)]* *[==>1308.0 Secs (Split 2)]* *[==>1300.0 Secs (Split 3)]* *[==>1309.0 Secs (Split 4)]*	*[3]* *[4]*

Orbit Structure






Orbit 3
Server Version: 20240604
GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
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Occultation
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Orbit 4
Server Version: 20240604
*** ORBITAL VISIBILITY OVERRUN = 134
GS Reacq
Exp. 6, split 3
Exp. 6, split 4
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17109, J0131+2242 (02), completed Fri Jun 14 16:00:46 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J0131+2242 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0131+2242 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0131+2242 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0131+2242 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

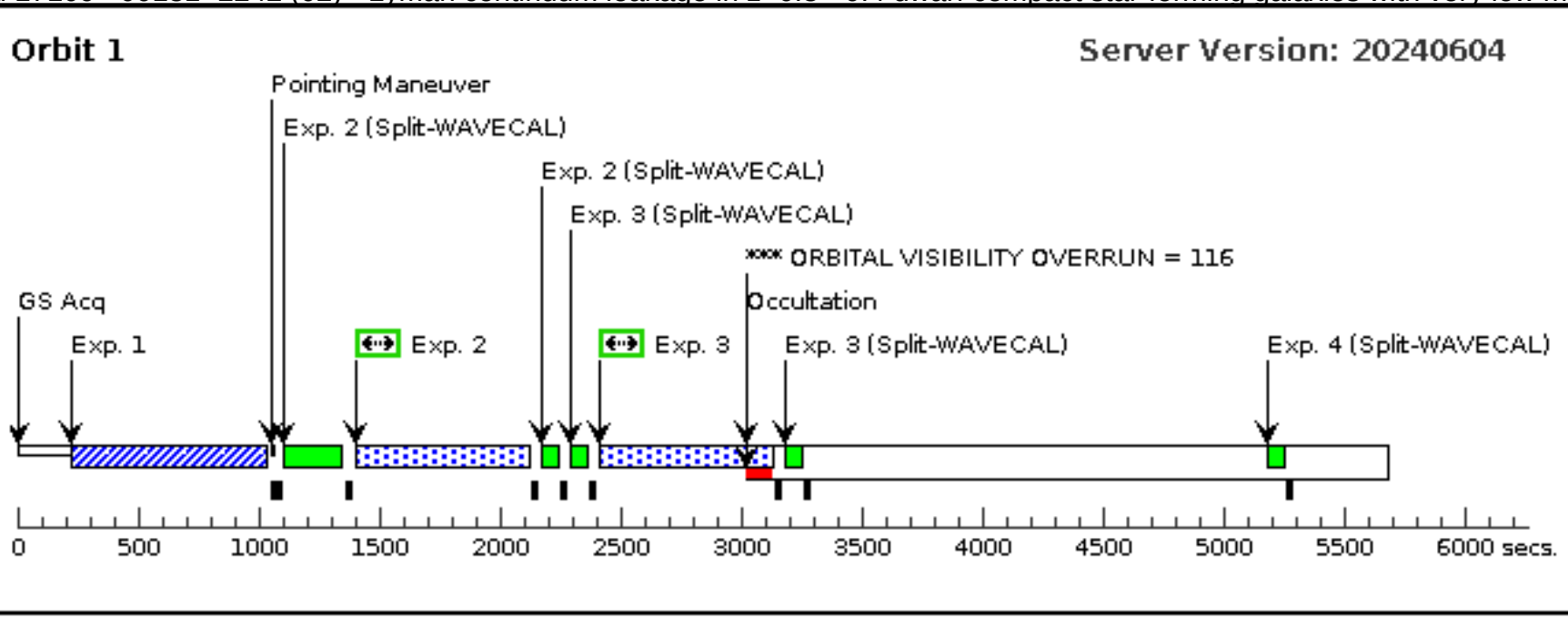
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	J0131+2242	RA: 01 31 17.8000 (22.8241667d) Dec: +22 42 9.22 (22.70256d) Equinox: J2000	Redshift: 0.31625	V=22.39+/-0.05 FUV=21.64+/-0.20, NUV=22.02+/-0.32, F(1216*(1+z)=1600A)=7.3e-17 erg/s/cm2/A, intrinsic F(912*(1+z)=1200A)=5.6e-17 erg/s/cm2/A	Reference Frame: ICRS

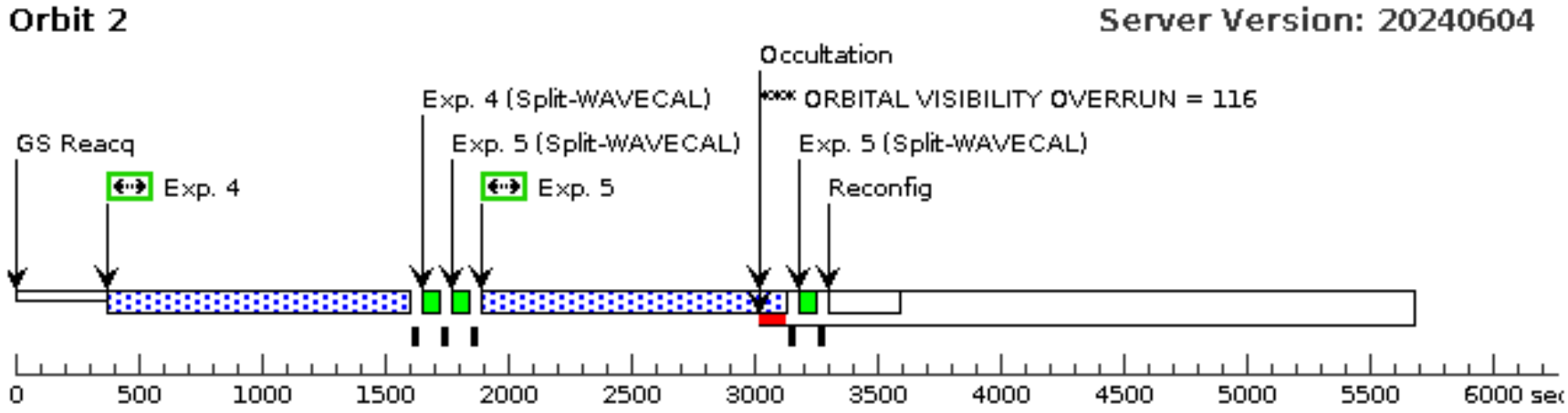
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

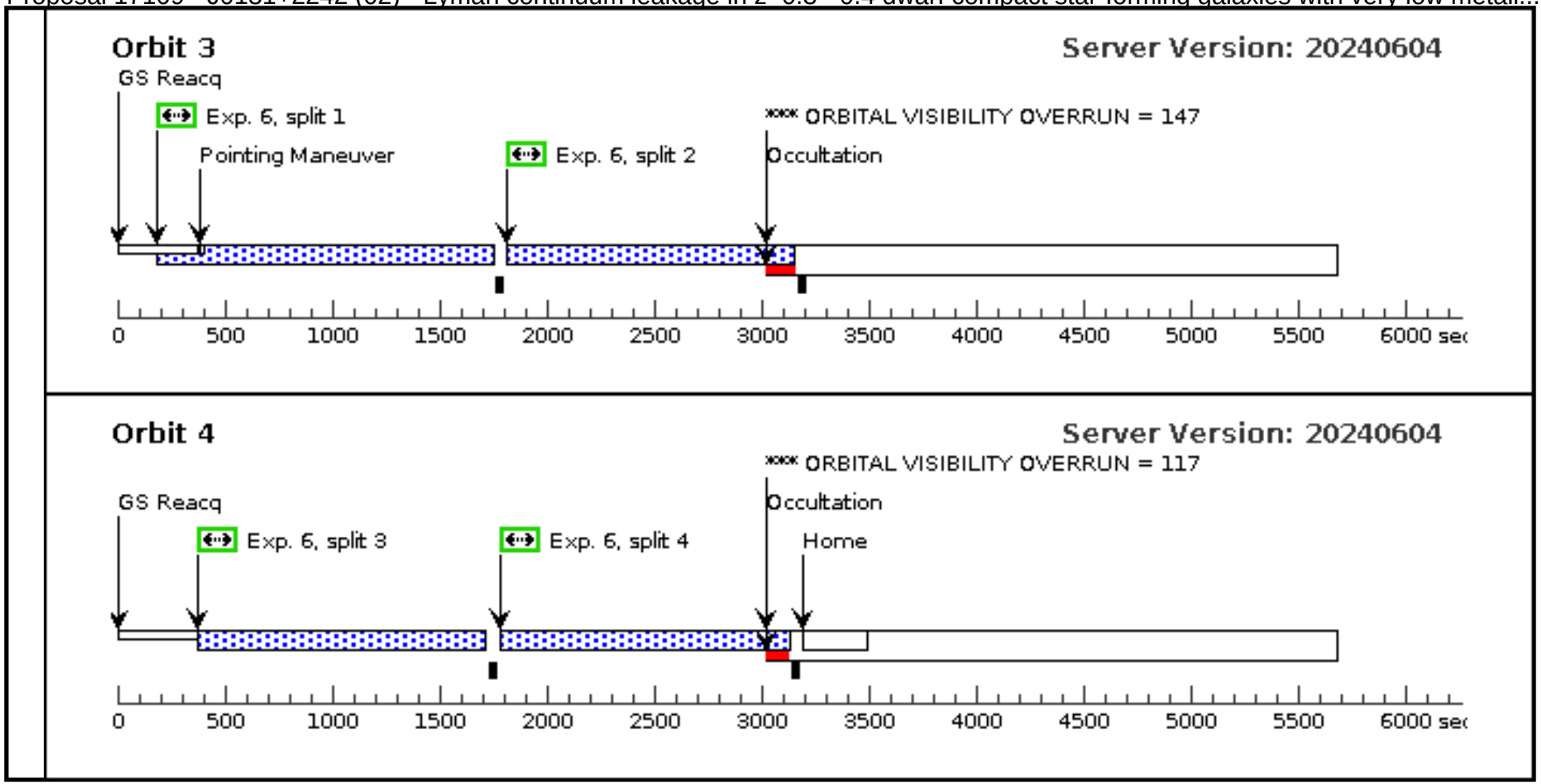
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J0131+2242 ACQ (COS.ta.1808471)	(2) J0131+2242	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				300. Secs (300 Secs) *[==>]*	 ***[1]***
2	J0131+2242 G160M1 (COS.sp.1808692)	(2) J0131+2242	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			668. Secs (668 Secs) *[==>]*	 ***[1]***
3	J0131+2242 G160M2 (COS.sp.1808692)	(2) J0131+2242	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			668. Secs (668 Secs) *[==>]*	 ***[1]***
4	J0131+2242 G160M3 (COS.sp.1808692)	(2) J0131+2242	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1020. Secs (1177 Secs) *[==>1177.0 Secs]*	 ***[2]***
5	J0131+2242 G160M4 (COS.sp.1808692)	(2) J0131+2242	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1028. Secs (1185 Secs) *[==>1185.0 Secs]*	 ***[2]***
6	J0131+2242 G140L (COS.sp.1808684)	(2) J0131+2242	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1292. Secs (5170 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>1294.0 Secs (Split 4)]*	 ***[3]*** ***[4]***

Orbit Structure






Orbit 3
Server Version: 20240604
GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
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1500
2000
2500
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3500
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5500
6000 sec
Orbit 4
Server Version: 20240604
**** ORBITAL VISIBILITY OVERRUN = 117
GS Reacq
Exp. 6, split 3
Exp. 6, split 4
Occultation
Home
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500
1000
1500
2000
2500
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3500
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5500
6000 sec

Visit

Proposal 17109, J0238+0003 (03), completed Fri Jun 14 16:00:46 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J0238+0003 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0238+0003 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0238+0003 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J0238+0003 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

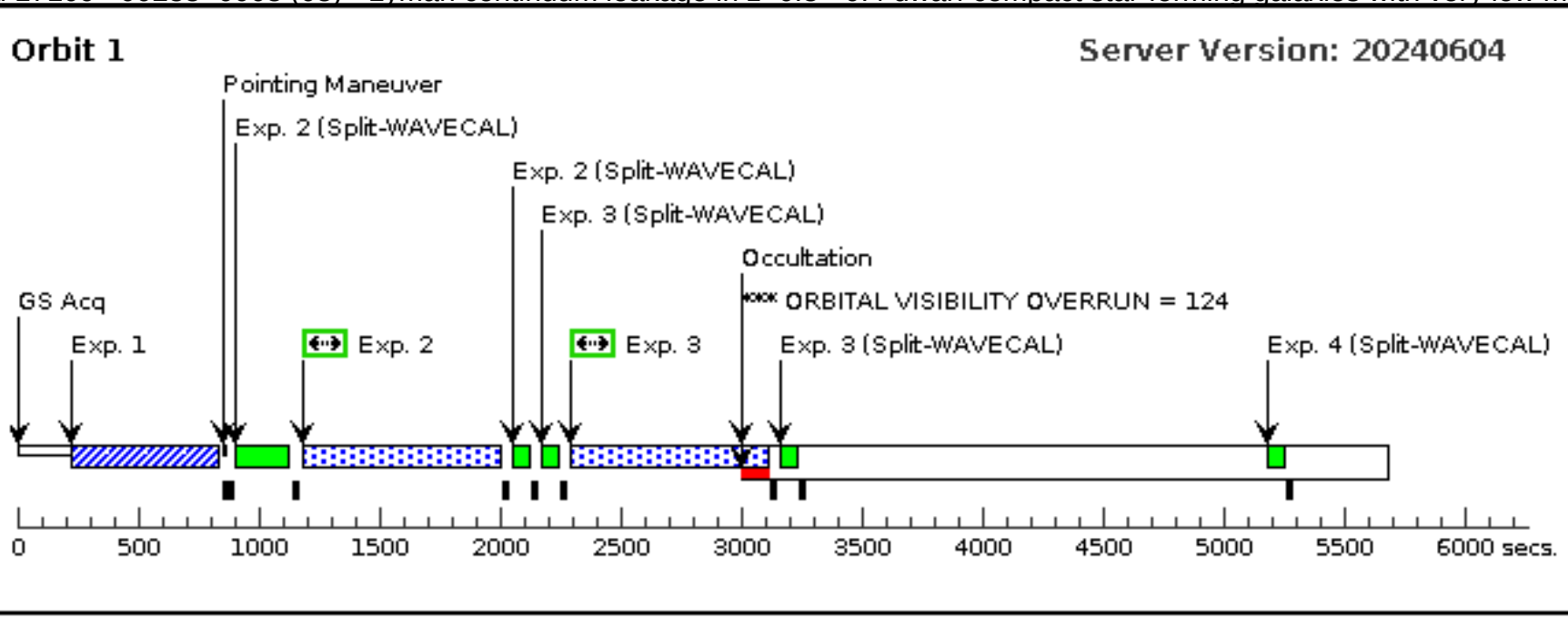
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	J0238+0003	RA: 02 38 10.5000 (39.5437500d) Dec: +00 03 26.68 (.05741d) Equinox: J2000	Redshift: 0.37448	V=21.89+/-0.05 FUV=21.20+/-0.20, NUV=21.71+/-0.23, F(1216*(1+z)=1671A)=1.3e-16 erg/s/cm2/A, intrinsic F(912*(1+z)=1254)=9.7e-17 erg/s/cm2/A	Reference Frame: ICRS

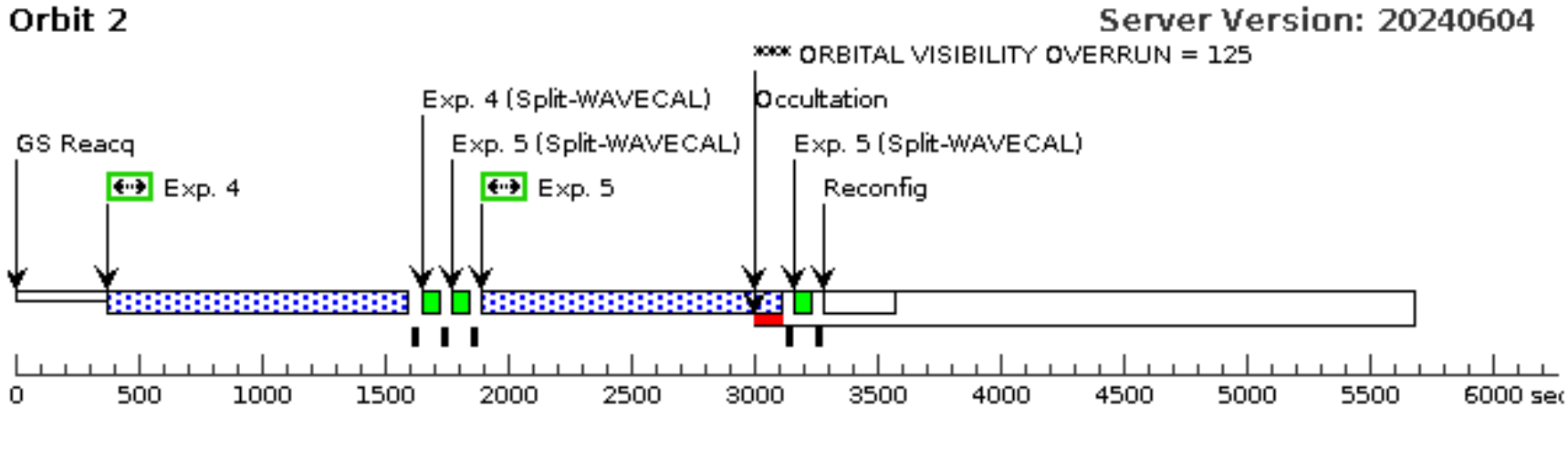
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

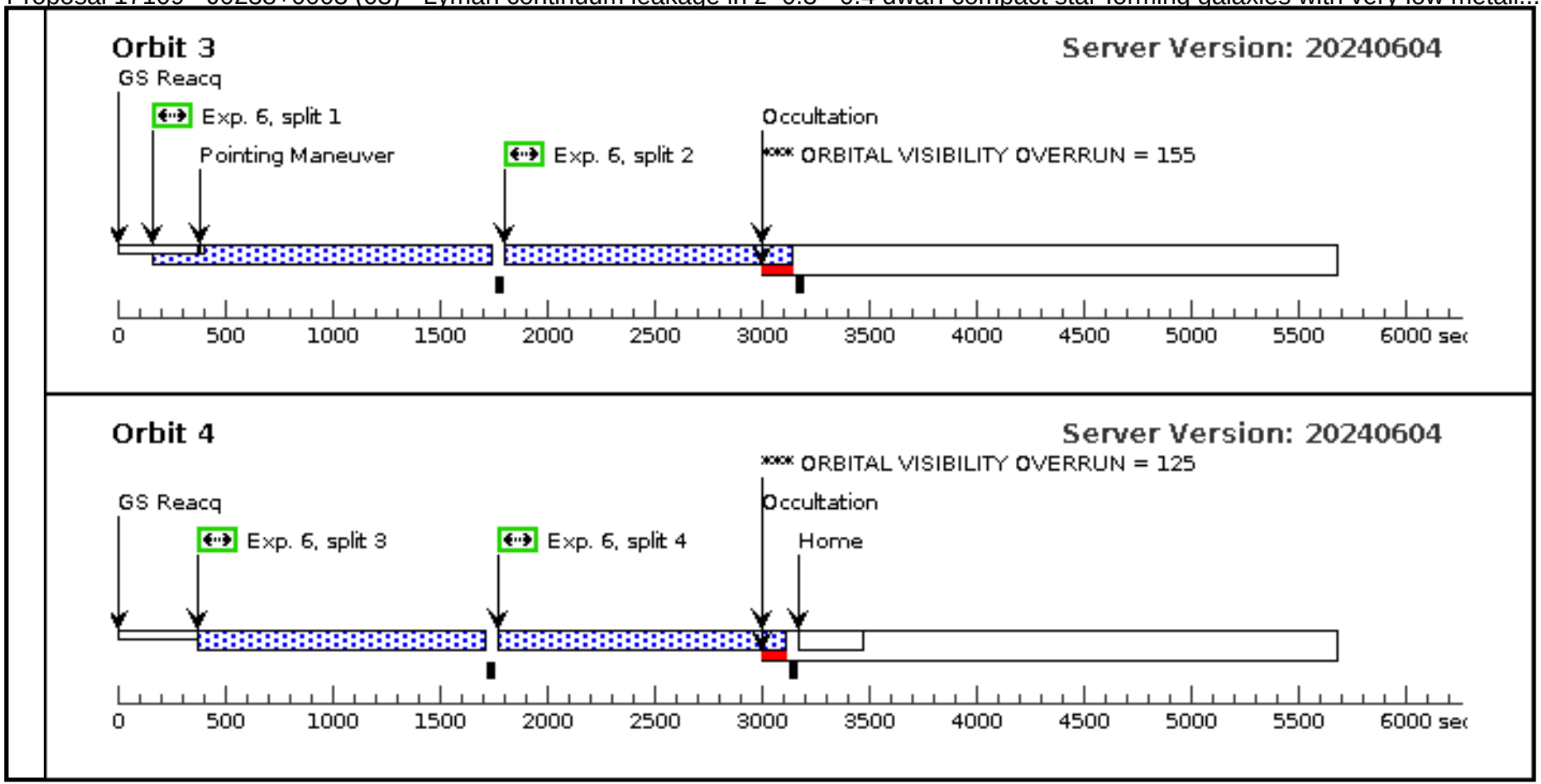
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J0238+0003 ACQ (COS.ta.1808467)	(3) J0238+0003	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				200. Secs (200 Secs) *[==>]*	 ***[1]***
2	J0238+0003 G160M1 (COS.sp.1808695)	(3) J0238+0003	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			768. Secs (768 Secs) *[==>]*	 ***[1]***
3	J0238+0003 G160M2 (COS.sp.1808695)	(3) J0238+0003	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			768. Secs (768 Secs) *[==>]*	 ***[1]***
4	J0238+0003 G160M3 (COS.sp.1808695)	(3) J0238+0003	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1174. Secs (1174 Secs) *[==>]*	 ***[2]***
5	J0238+0003 G160M4 (COS.sp.1808695)	(3) J0238+0003	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1174. Secs (1174 Secs) *[==>]*	 ***[2]***
6	J0238+0003 G140L (COS.sp.1808685)	(3) J0238+0003	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1284. Secs (5140 Secs) *[==>(Split 1)]* *[==>1285.0 Secs (Split 2)]* *[==>(Split 3)]* *[==>1287.0 Secs (Split 4)]*	 ***[3]*** ***[4]***

Orbit Structure






Orbit 3
Server Version: 20240604
GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
Occultation
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5000
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6000 sec
Orbit 4
Server Version: 20240604
*** ORBITAL VISIBILITY OVERRUN = 125
GS Reacq
Exp. 6, split 3
Exp. 6, split 4
Occultation
Home
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17109, J1247+3154 (04), implementation Fri Jun 14 16:00:47 GMT 2024

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Fixed Targets

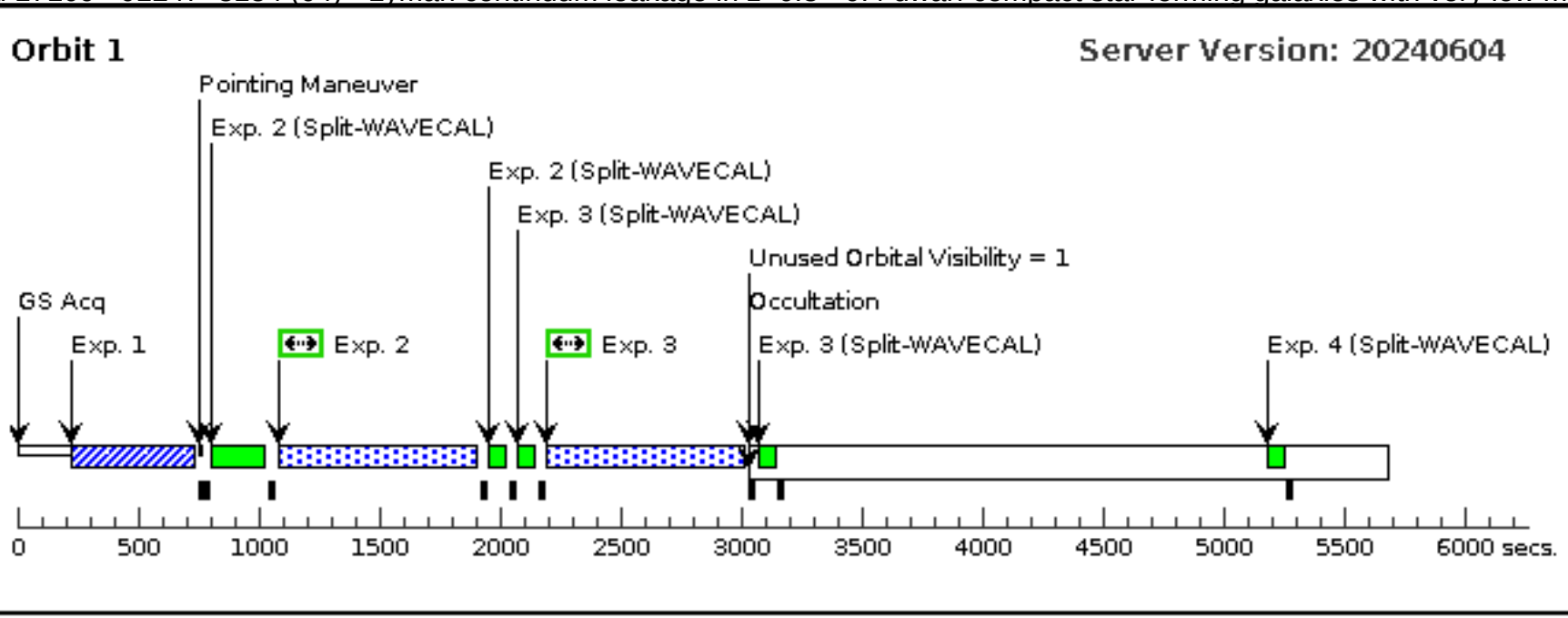
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	J1247+3154	RA: 12 47 3.1400 (191.7630833d) Dec: +31 54 55.09 (31.91530d) Equinox: J2000	Redshift: 0.35592	V=22.45+/-0.05 FUV=20.83+/-0.20, NUV=20.98+/-0.20, F(1216*(1+z)=1649A)=1.8e-16 erg/s/cm2/A, intrinsic F(912*(1+z)=1238)=9.0e-17 erg/s/cm2/A	Reference Frame: ICRS

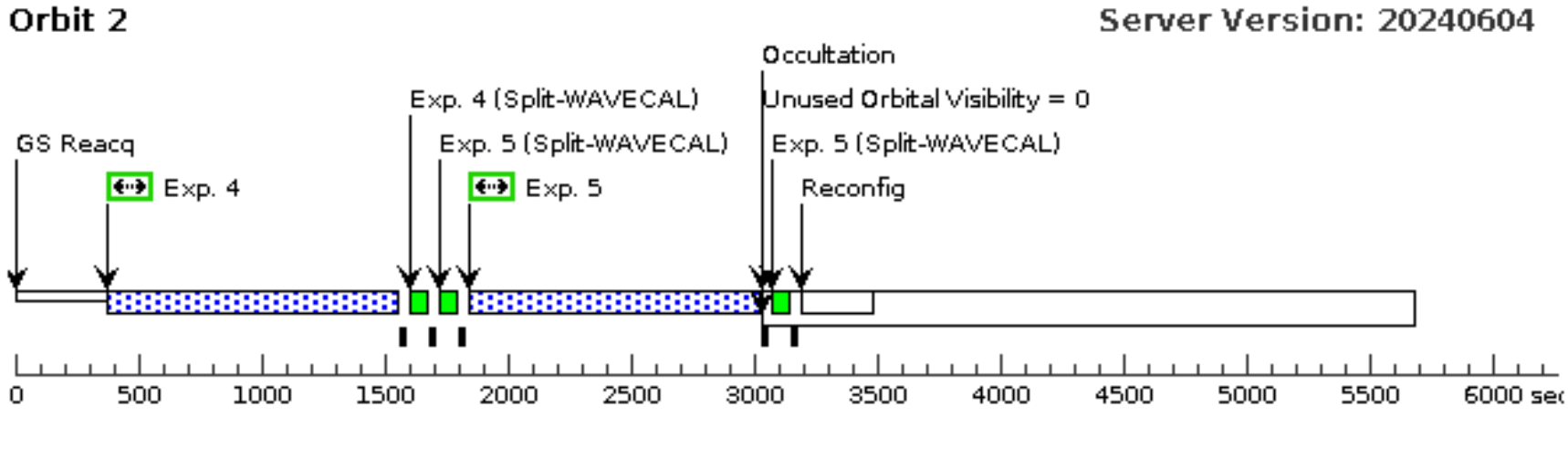
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

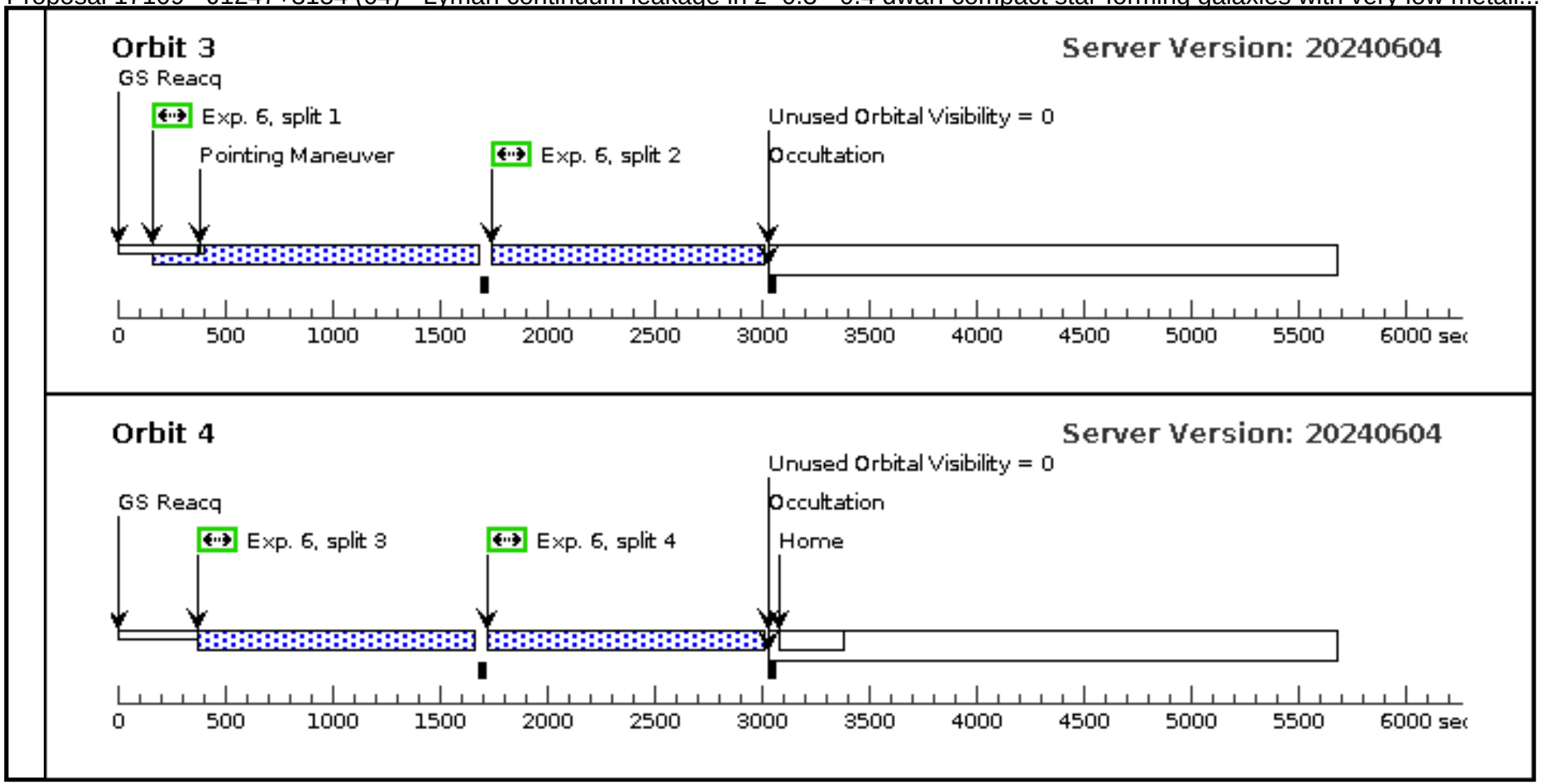
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J1247+3154 ACQ (COS.ta.1808467)	(4) J1247+3154	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				150. Secs (150 Secs) *[==>]*	*[1]*
2	J1247+3154 G160M1 (COS.sp.1808694)	(4) J1247+3154	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			837. Secs (770 Secs) *[==>770.0 Secs]*	*[1]*
3	J1247+3154 G160M2 (COS.sp.1808694)	(4) J1247+3154	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			837. Secs (770 Secs) *[==>770.0 Secs]*	*[1]*
4	J1247+3154 G160M3 (COS.sp.1808694)	(4) J1247+3154	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1193. Secs (1126 Secs) *[==>1126.0 Secs]*	*[2]*
5	J1247+3154 G160M4 (COS.sp.1808694)	(4) J1247+3154	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1193. Secs (1126 Secs) *[==>1126.0 Secs]*	*[2]*
6	J1247+3154 G140L (COS.sp.1808686)	(4) J1247+3154	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1303. Secs (4918 Secs) *[==>1221.0 Secs (Split 1)]* *[==>1222.0 Secs (Split 2)]* *[==>1236.0 Secs (Split 3)]* *[==>1239.0 Secs (Split 4)]*	*[3]* *[4]*

Orbit Structure






Orbit 3
Server Version: 20240604
GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
Unused Orbital Visibility = 0
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Orbit 4
Server Version: 20240604
Unused Orbital Visibility = 0
GS Reacq
Occultation
Exp. 6, split 3
Exp. 6, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17109, J1340+5448 (05), completed Fri Jun 14 16:00:47 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J1340+5448 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1340+5448 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1340+5448 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1340+5448 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1340+5448 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

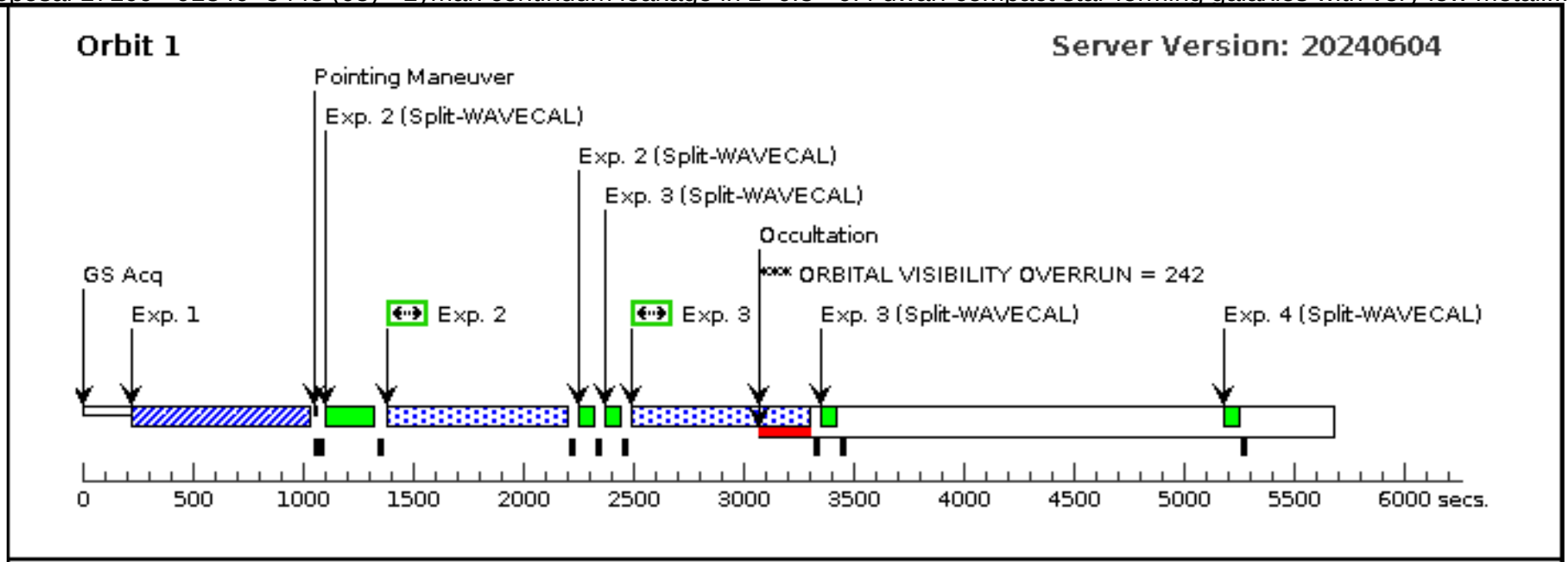
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	J1340+5448	RA: 13 40 2.5600 (205.0106667d) Dec: +54 48 54.81 (54.81522d) Equinox: J2000	Redshift: 0.37795	V=20.98+/-0.05 FUV=22.07+/-0.20, NUV=22.08+/-0.20, F(1216*(1+z)=1675A)=5.7e-17 erg/s/cm2/A, intrinsic F(912*(1+z)=1257)=3.3e-17 erg/s/cm2/A	Reference Frame: ICRS

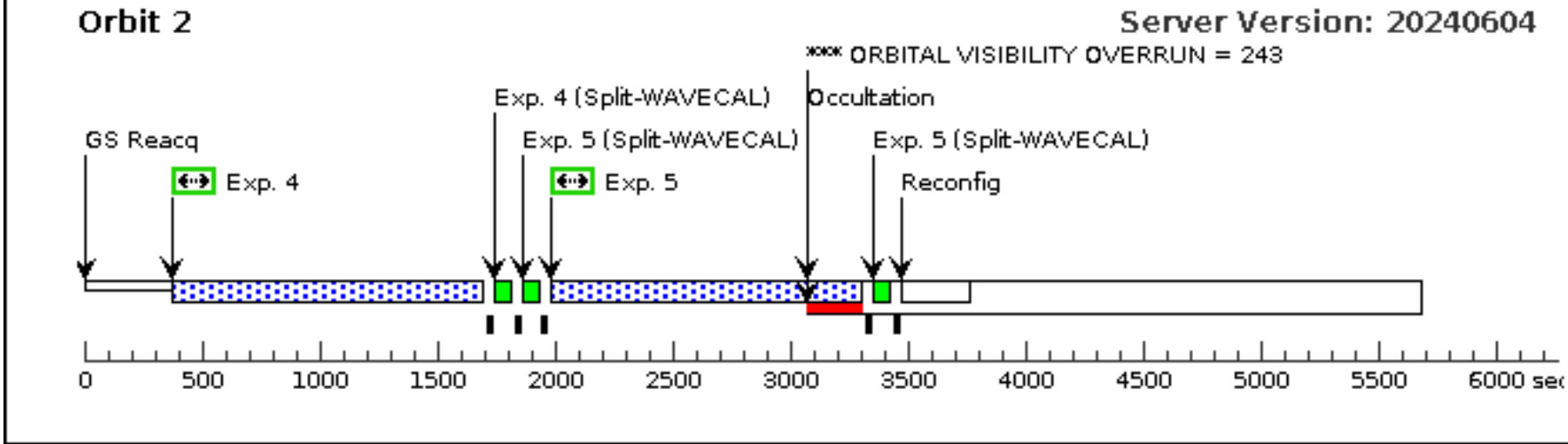
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

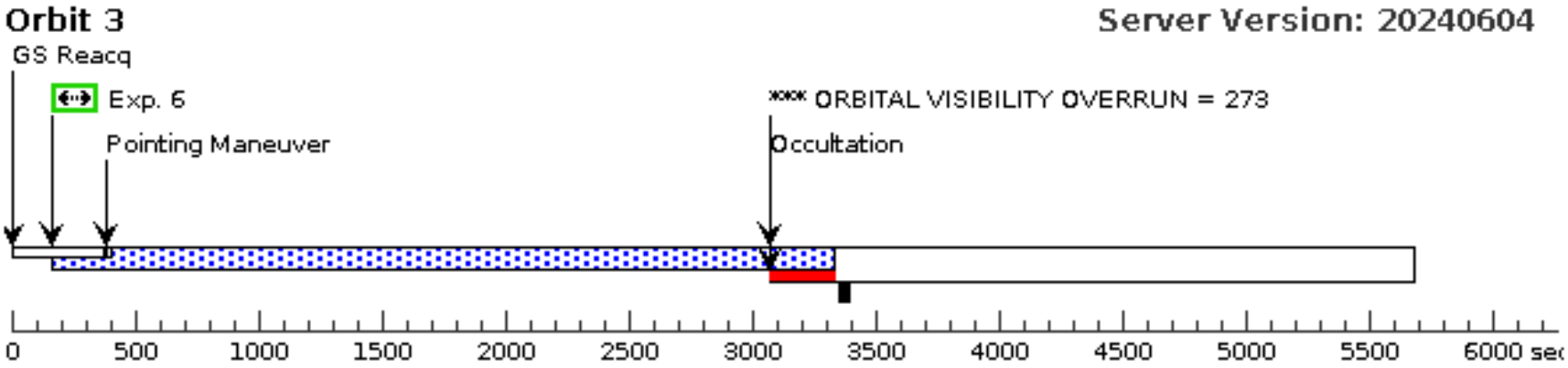
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J1340+5448 ACQ (COS.ta.1808467)	(5) J1340+5448	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				300. Secs (300 Secs) *[==>]*	***[1]***
2	J1340+5448 G160M1 (COS.sp.1808731)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=21500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			766. Secs (766 Secs) *[==>]*	***[1]***
3	J1340+5448 G160M2 (COS.sp.1808731)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=21500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			761. Secs (761 Secs) *[==>]*	***[1]***
4	J1340+5448 G160M3 (COS.sp.1808731)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=21500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1270. Secs (1270 Secs) *[==>]*	***[2]***
5	J1340+5448 G160M4 (COS.sp.1808731)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=21500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1269. Secs (1269 Secs) *[==>]*	***[2]***
6	J1340+5448 G140L1 (COS.sp.1808687)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=1; SEGMENT=A			2500. Secs (2875 Secs) *[==>2875.0 Secs]*	***[3]***
7	J1340+5448 G140L2 (COS.sp.1808687)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=2; SEGMENT=A			2500. Secs (2877 Secs) *[==>2877.0 Secs]*	***[4]***
8	J1340+5448 G140L3 (COS.sp.1808687)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=3; SEGMENT=A			1350. Secs (1350 Secs) *[==>]*	***[5]***
9	J1340+5448 G140L4 (COS.sp.1808687)	(5) J1340+5448	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=4; SEGMENT=A			1350. Secs (1412 Secs) *[==>1412.0 Secs]*	***[5]***

Orbit Structure






Orbit 3
Server Version: 20240604
GS Reacq
Exp. 6
Pointing Maneuver
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3500
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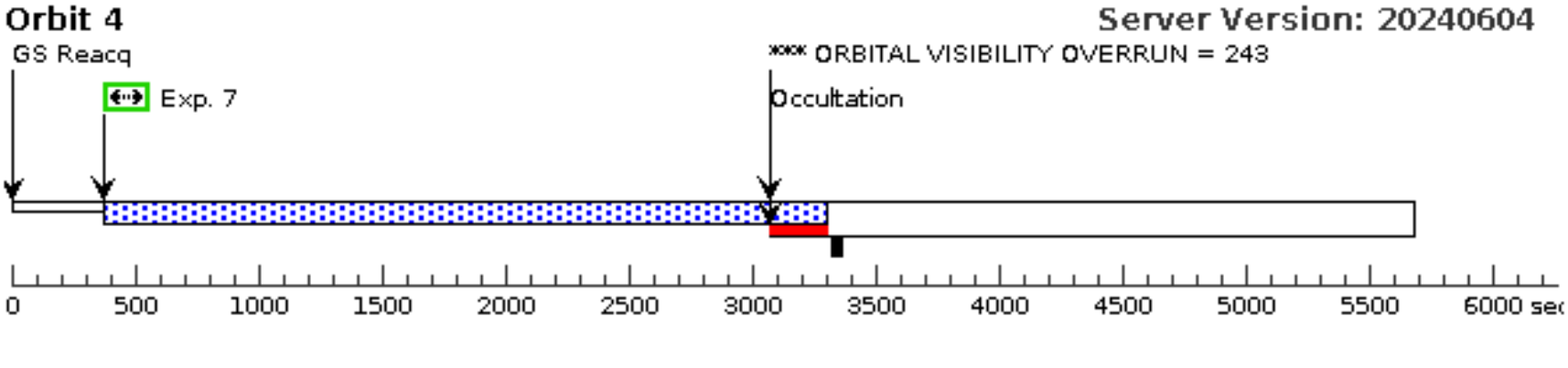
4500
5000
5500
6000 sec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Server Version: 20240604
GS Reacq
Exp. 7
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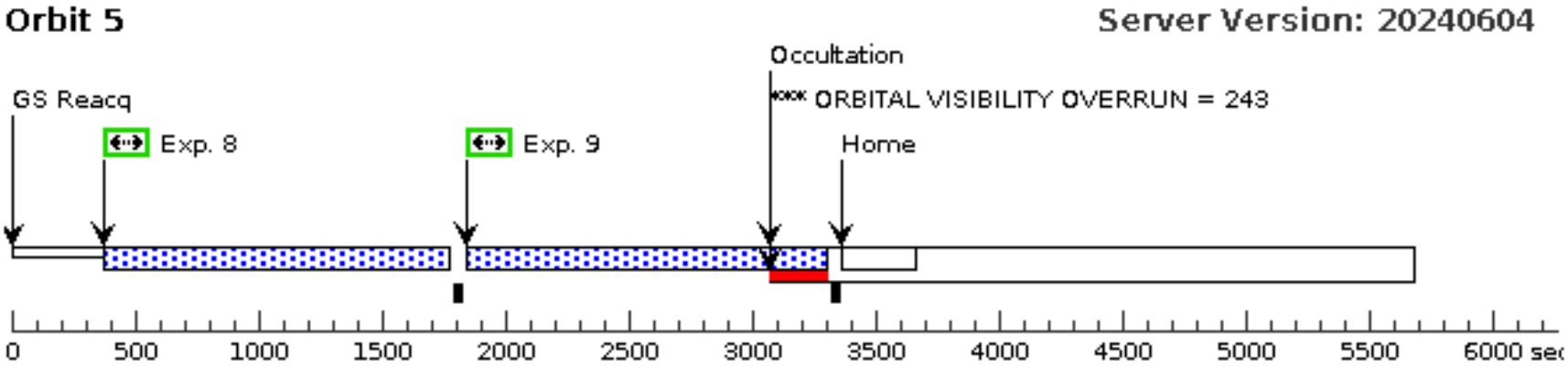
4500
5000
5500
6000 sec


Orbit 5
Server Version: 20240604
Occultation
GS Reacq
*** ORBITAL VISIBILITY OVERRUN = 243
Exp. 8
Exp. 9
Home
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500
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2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17109, J1607+3217 (06), completed Fri Jun 14 16:00:47 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J1607+3217 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1607+3217 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1607+3217 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1607+3217 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

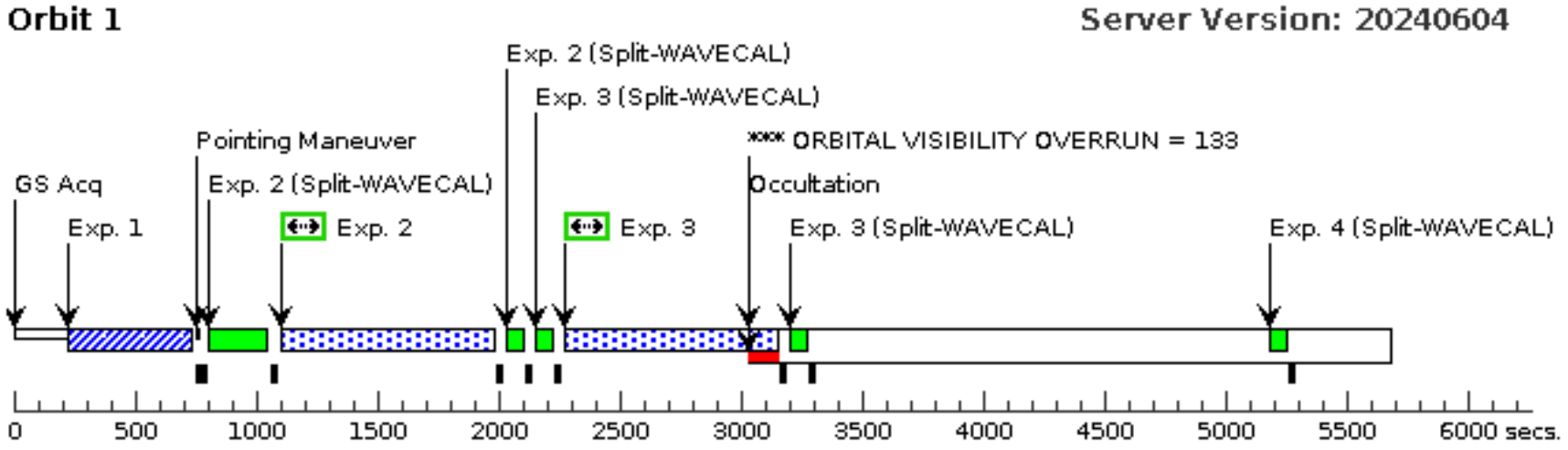
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	J1607+3217	RA: 16 07 45.6800 (241.9403333d) Dec: +32 17 51.96 (32.29777d) Equinox: J2000	Redshift: 0.30118	V=21.59+/-0.05 FUV=20.33+/-0.20, NUV=20.36+/-0.20, F(1216*(1+z)=1582A)=3.3e-16 erg/s/cm2/A, intrinsic F(912*(1+z)=1187)=2.4e-16 erg/s/cm2/A	Reference Frame: ICRS

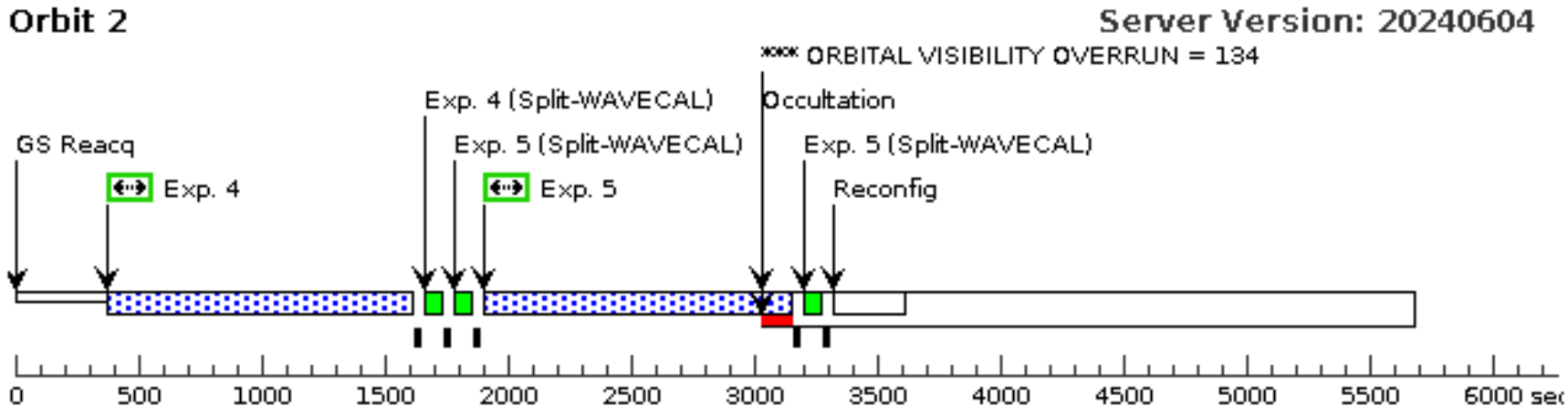
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

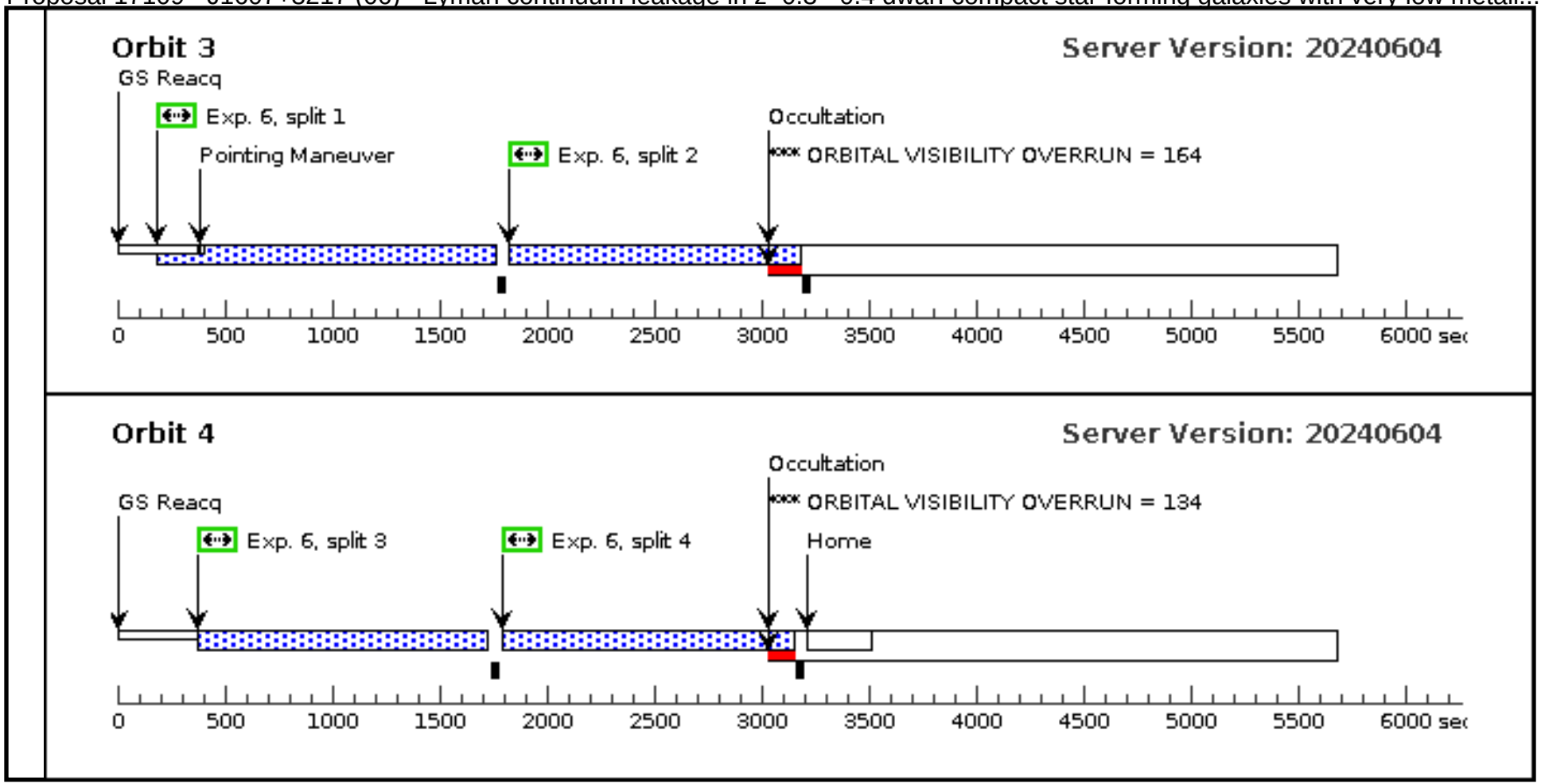
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J1607+3217 ACQ (COS.ta.1808467)	(6) J1607+3217	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				150. Secs (150 Secs) *[==>]*	 ***[1]***
2	J1607+3217 G160M1 (COS.sp.1808732)	(6) J1607+3217	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20000.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			829. Secs (829 Secs) *[==>]*	 ***[1]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
3	J1607+3712 G160M2 (COS.sp.1808732)	(6) J1607+3217	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20000.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			830. Secs (830 Secs) *[==>]*	 ***[1]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
4	J1607+3217 G160M3 (COS.sp.1808732)	(6) J1607+3217	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20000.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1188. Secs (1188 Secs) *[==>]*	 ***[2]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
5	J1607+3217 G160M4 (COS.sp.1808732)	(6) J1607+3217	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20000.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1198. Secs (1198 Secs) *[==>]*	 ***[2]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
6	J1607+3217 G140L (COS.sp.1808688)	(6) J1607+3217	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1200. Secs (5216 Secs) *[==>1300.0 Secs (Split 1)]* *[==>1307.0 Secs (Split 2)]* *[==>1300.0 Secs (Split 3)]* *[==>1309.0 Secs (Split 4)]*	 ***[3]*** ***[4]***

Orbit Structure



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GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
Occultation
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1000
1500
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3500
4000
4500
5000
5500
6000 sec
Orbit 4
Server Version: 20240604
Occultation
**** ORBITAL VISIBILITY OVERRUN = 134
GS Reacq
Exp. 6, split 3
Exp. 6, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17109, J1638+3348 (07), completed Fri Jun 14 16:00:47 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J1638+3348 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1638+3348 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1638+3348 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1638+3348 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1638+3348 (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

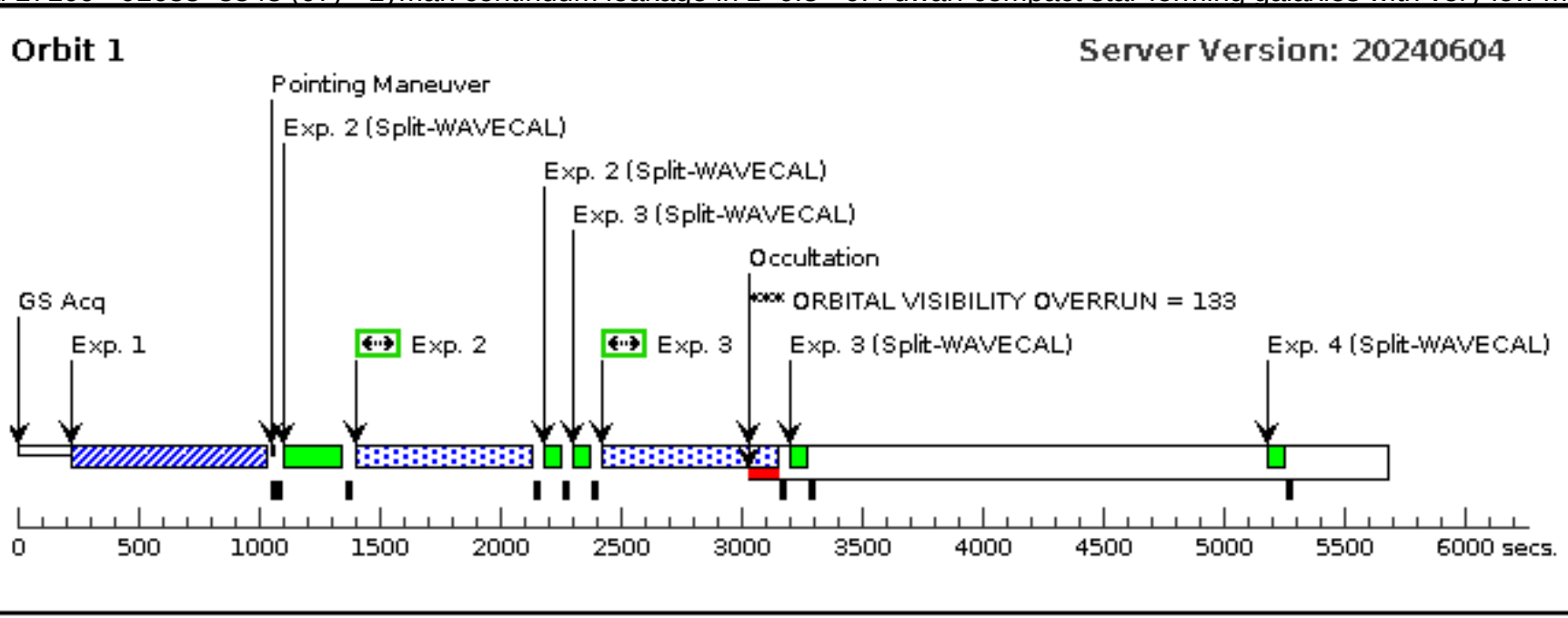
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	J1638+3348	RA: 16 38 10.3800 (249.5432500d) Dec: +33 49 31.09 (33.82530d) Equinox: J2000	Redshift: 0.30890	V=22.16+/-0.05 FUV=21.93+/-0.35, NUV=21.59+/-0.20, F(1216*(1+z)=1592A)=1.1e-16 erg/s/cm2/A, intrinsic F(912*(1+z)=1194)=8.7e-17 erg/s/cm2/A	Reference Frame: ICRS

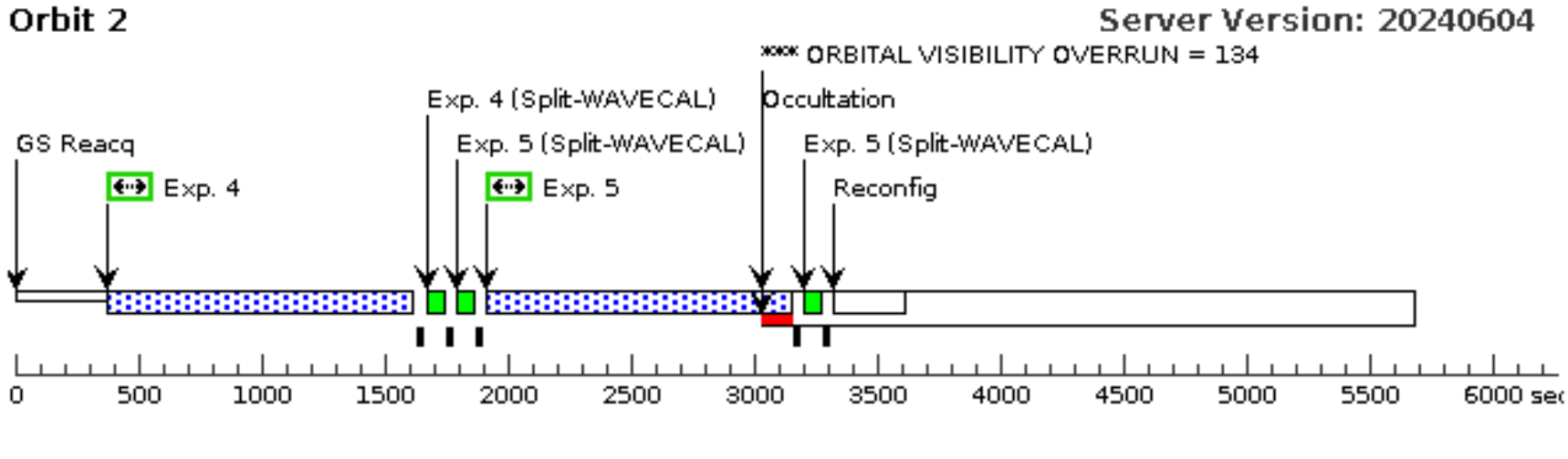
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

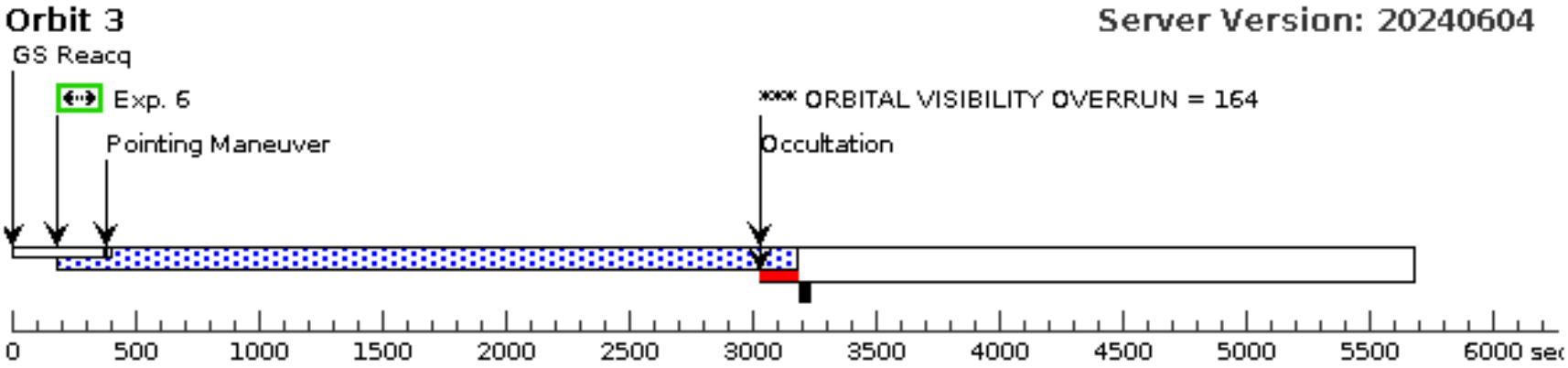
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J1638+3348 ACQ (COS.ta.1808467)	(7) J1638+3348	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				300. Secs (300 Secs) *[==>]*	*[1]*
2	J1638+3348 G160M1 (COS.sp.1808733)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			680. Secs (680 Secs) *[==>]*	*[1]*
3	J1638+3348 G160M2 (COS.sp.1808733)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			679. Secs (679 Secs) *[==>]*	*[1]*
4	J1638+3348 G160M3 (COS.sp.1808733)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1193. Secs (1193 Secs) *[==>]*	*[2]*
5	J1638+3348 G160M4 (COS.sp.1808733)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1193. Secs (1193 Secs) *[==>]*	*[2]*
6	J1638+3348 G140L1 (COS.sp.1808689)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=1; SEGMENT=A			2722. Secs (2722 Secs) *[==>]*	*[3]*
7	J1638+3348 G140L2 (COS.sp.1808689)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=2; SEGMENT=A			2724. Secs (2724 Secs) *[==>]*	*[4]*
8	J1638+3348 G140L3 (COS.sp.1808689)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=3; SEGMENT=A			1304. Secs (1304 Secs) *[==>]*	*[5]*
9	J1638+3348 G140L4 (COS.sp.1808689)	(7) J1638+3348	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=4; SEGMENT=A			1305. Secs (1305 Secs) *[==>]*	*[5]*

Orbit Structure



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GS Reacq
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Pointing Maneuver
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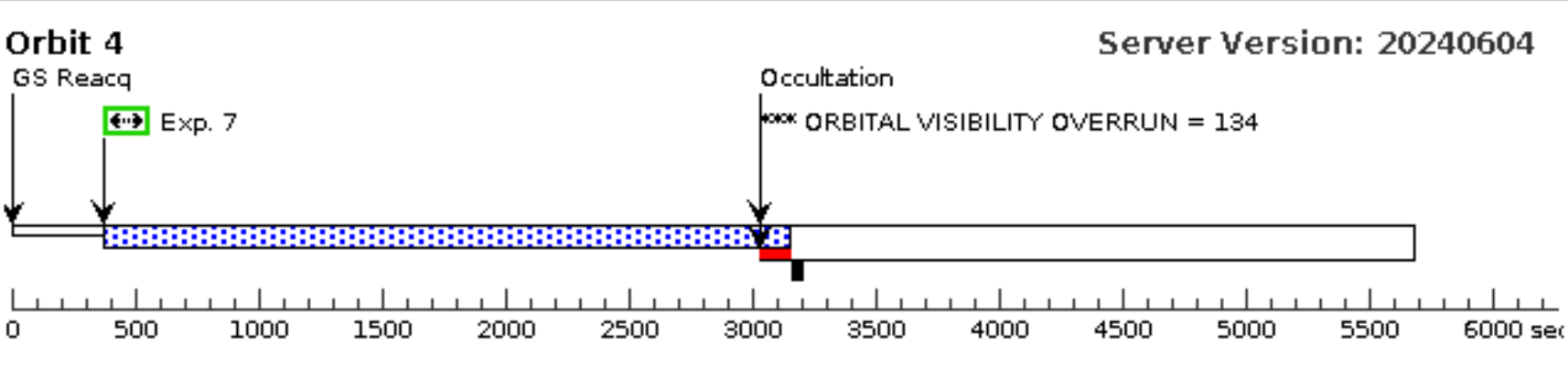
6000 sec


Orbit 4
Server Version: 20240604
GS Reacq
Exp. 7
Occultation
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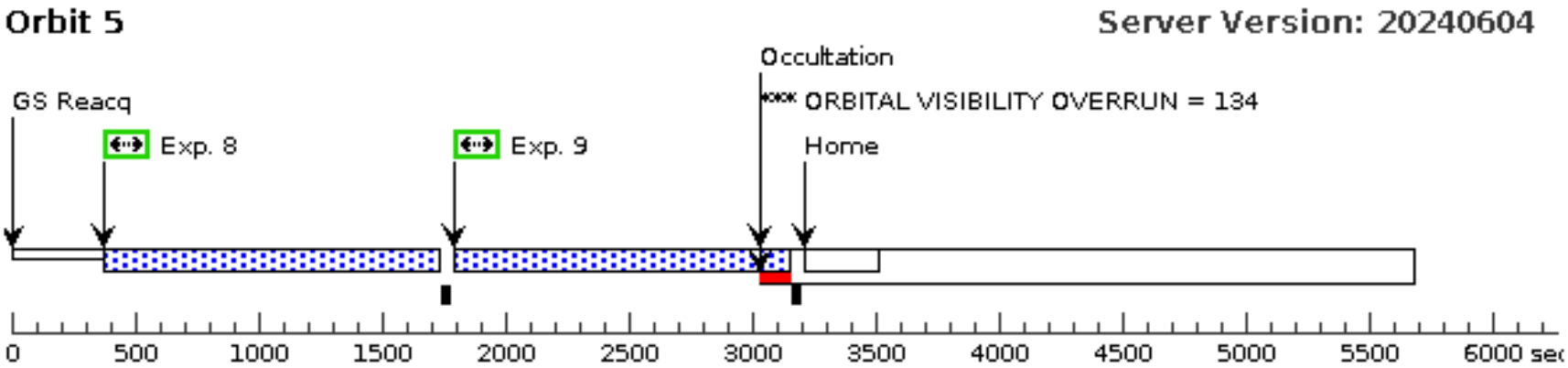
6000 sec


Orbit 5
Server Version: 20240604
GS Reacq
Exp. 8
Exp. 9
Occultation
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4500
5000
5500
6000 sec

Visit

Proposal 17109, J1658+3647 (08), completed Fri Jun 14 16:00:47 GMT 2024

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(J1658+3647 (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1658+3647 (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1658+3647 (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(J1658+3647 (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

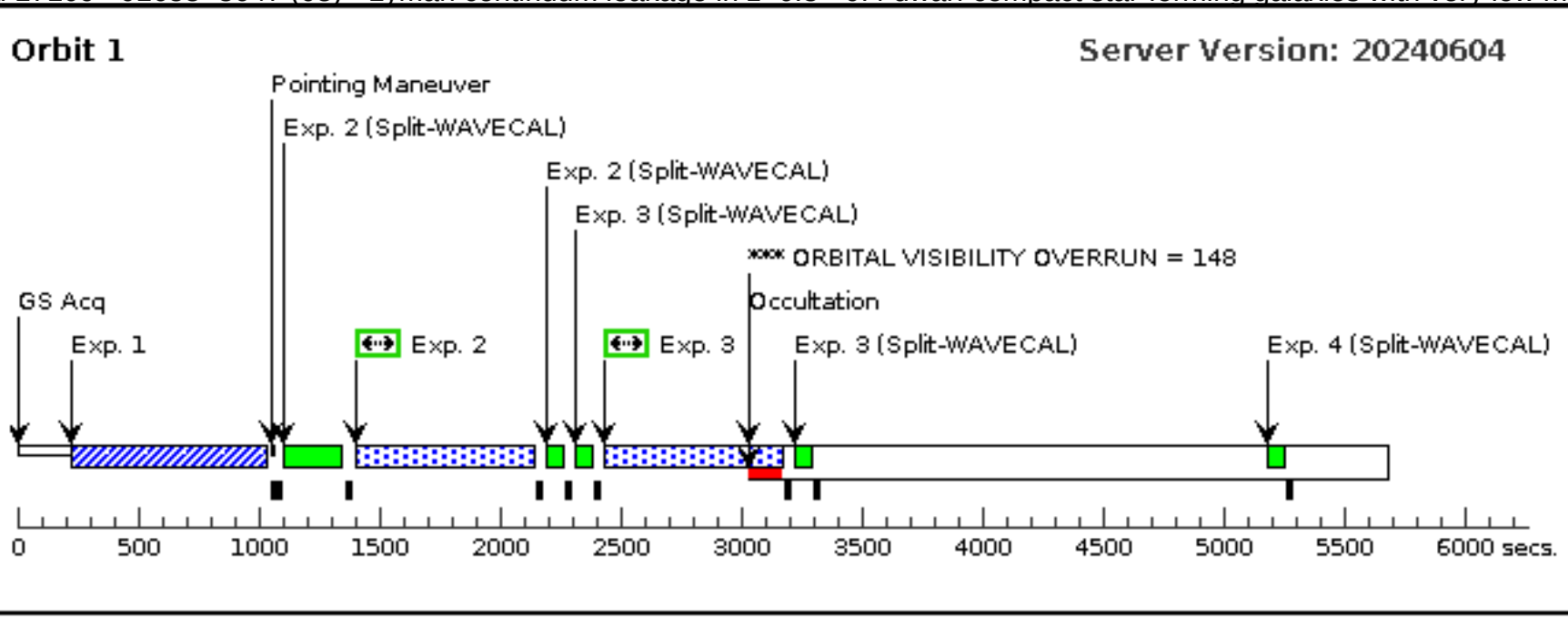
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	J1658+3647	RA: 16 58 35.3800 (254.6474167d) Dec: +36 47 29.36 (36.79149d) Equinox: J2000	Redshift: 0.30800	V=22.00+/-0.05 FUV=21.48+/-0.20, NUV=21.51+/-0.20, F(1216*(1+z)=1591A)=1.2e-16 erg/s/cm2/A, intrinsic F(912*(1+z)=1193)=8.9e-17 erg/s/cm2/A	Reference Frame: ICRS

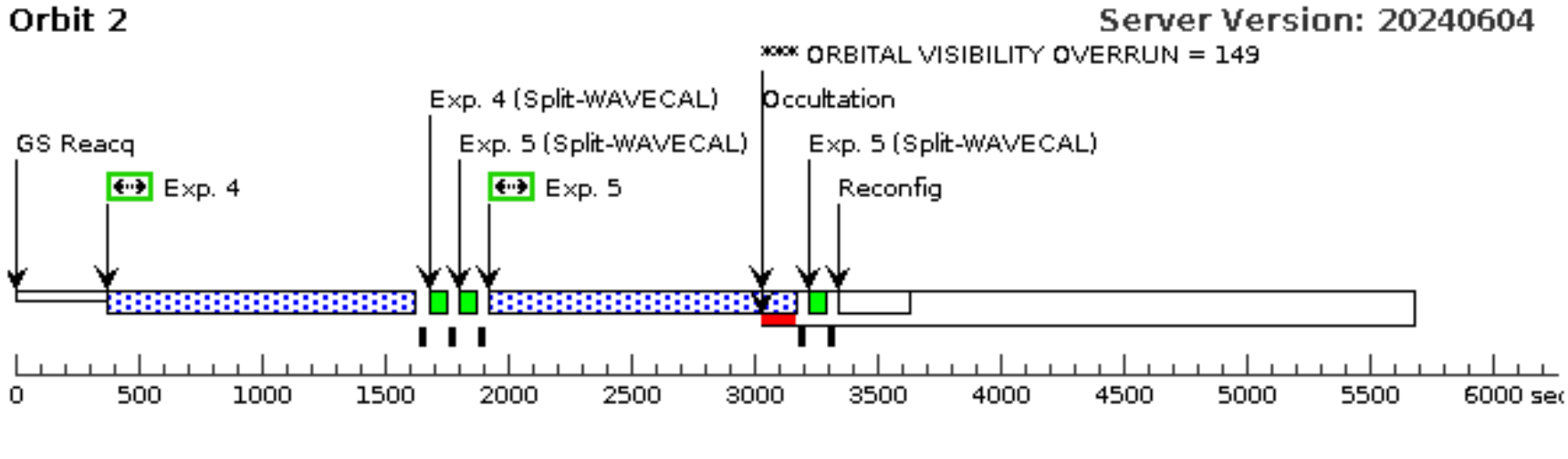
Comments:
Category=GALAXY
Description=[DWARF COMPACT, STARBURST]
Extended=NO

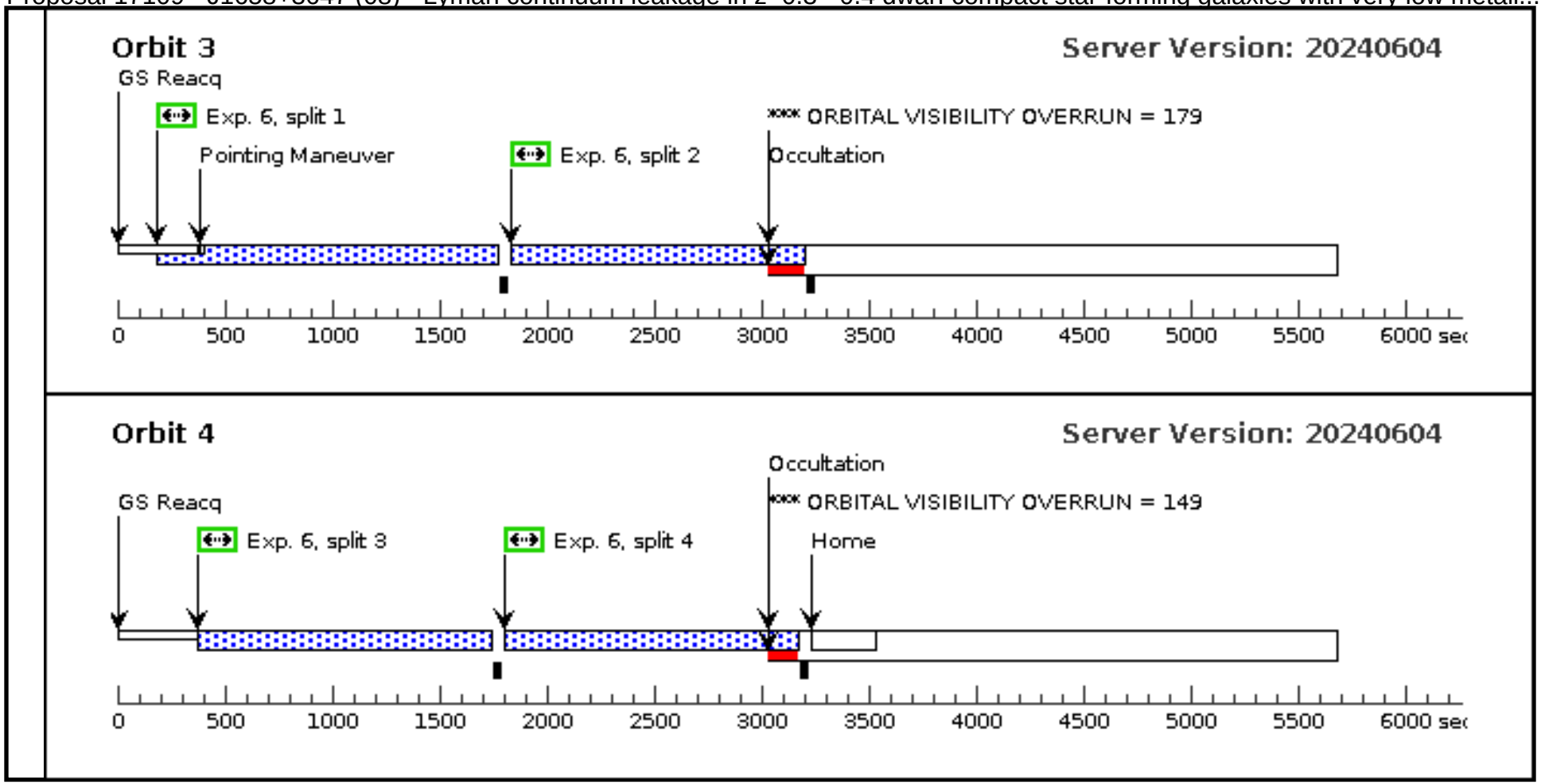
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	J1658+3647 ACQ (COS.ta.1808467)	(8) J1658+3647	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				300. Secs (300 Secs) *[==>]*	***[1]***
2	J1658+3647 G160M1 (COS.sp.1808734)	(8) J1658+3647	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=1; SEGMENT=BOTH			689. Secs (689 Secs) *[==>]*	***[1]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
3	J1658+3647 G160M2 (COS.sp.1808734)	(8) J1658+3647	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=2; SEGMENT=BOTH			690. Secs (690 Secs) *[==>]*	***[1]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
4	J1658+3647 G160M3 (COS.sp.1808734)	(8) J1658+3647	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=3; SEGMENT=BOTH			1203. Secs (1203 Secs) *[==>]*	***[2]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
5	J1658+3647 G160M4 (COS.sp.1808734)	(8) J1658+3647	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=20500.; FLASH=NO; FP-POS=4; SEGMENT=BOTH			1203. Secs (1203 Secs) *[==>]*	***[2]***
Comments: The central wavelength 1589 (Phase I proposal) of the G160M grating is replaced with 1533 in order to place the redshifted Ly-alpha line within segment A.									
6	J1658+3647 G140L (COS.sp.1808689)	(8) J1658+3647	COS/FUV, TIME-TAG, PSA	G140L 800 A	BUFFER-TIME=10000.; FLASH=YES; FP-POS=ALL; SEGMENT=A			1303. Secs (5256 Secs) *[==>1313.0 Secs (Split 1)]* *[==>1314.0 Secs (Split 2)]* *[==>1314.0 Secs (Split 3)]* *[==>1315.0 Secs (Split 4)]*	***[3]*** ***[4]***

Orbit Structure



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GS Reacq
Exp. 6, split 1
Pointing Maneuver
Exp. 6, split 2
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3500
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4500
5000
5500
6000 sec
Orbit 4
Server Version: 20240604
Occultation
GS Reacq
*** ORBITAL VISIBILITY OVERRUN = 149
Exp. 6, split 3
Exp. 6, split 4
Home
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec