



17543 - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Cycle: 31, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Dr. Guangwei Fu (PI) (Contact)	The Johns Hopkins University
Dr. Drake Deming (CoI)	University of Maryland
Dr. Daniel Kitzmann (CoI) (ESA Member)	University of Bern
Dr. Thaddeus Komacek (CoI) (ESA Member)	University of Oxford
Dr. Joshua D. Lothringer (CoI)	Space Telescope Science Institute
Avi Shporer (CoI)	Massachusetts Institute of Technology
Prof. David K. Sing (CoI)	The Johns Hopkins University
Dr. Megan Weiner Mansfield (CoI)	University of Maryland
Dr. Ian Wong (CoI)	Space Telescope Science Institute
Dr. Xianyu Tan (CoI)	Shanghai Jiao Tong University

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) BD+16-3058	WFC3/IR	15	16-Apr-2025 13:00:31.0	yes
07	(1) BD+16-3058	WFC3/IR	15	16-Apr-2025 13:00:55.0	yes
04	(1) BD+16-3058	WFC3/IR	5	16-Apr-2025 13:01:05.0	yes
05	(1) BD+16-3058	WFC3/IR	5	16-Apr-2025 13:01:10.0	yes
06	(1) BD+16-3058	WFC3/IR	5	16-Apr-2025 13:01:16.0	yes

45 Total Orbits Used

ABSTRACT

TOI-2109b is an ultra-hot Jupiter on a 16-hour orbit recently discovered by TESS. It has a measured dayside temperature of 3631K which makes it the second hottest exoplanet ever discovered. The extremely hot dayside and short period make it the perfect target for immediate follow-up phase curve observation. We propose to measure two full phase curves including two eclipses each visit with WFC3/G141 to obtain longitudinally resolved emission spectra from the day to night side of the planet. This dataset will allow us to measure the planet's nightside spectrum and constrain the day-to-night heat circulation. We expect to detect strong hydrogen dissociation/recombination effects and increases H- abundance. TOI-2109b will fill the ultra-hot Jupiter population gap between KELT-9b and the rest of the planets in the ~3500K temperature range.

OBSERVING DESCRIPTION

We request two sets of 15 continuous orbits for the phase curve observation. The two visits will cover the HST phase gaps from Earth occultation. The first visit has a more flexible starting phase window of 48 mins, but the second visit should cover the HST phase gaps from earth occultation during the first visit. This is need for the science goals of measuring the complete planet phase curve and nightside emission.

We request that two 15-orbit visits be performed. Due to problems encountered with APT when trying to specify 15-orbit visits, for the purpose of Phase 2 we have split each 15-rbit visit into three 5-orbit "segment1, segment2, segment3". We request that these visits be performed back-to-back, to achieve a single 15-orbit visit:

i.e. visit1 = "visit1_segment1" + "visit1_segment2" + "visit1_segment3"

Proposal 17543 - visit1_segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Wed Apr 16 17:01:17 GMT 2025

Visit	Proposal 17543, visit1_segment1 (01), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%; Period 1.34494828 D AND ZERO-PHASE HJD2459378.45937					
	(visit1_segment1 (01)) Warning (Orbit Planner): LONG VISIT LIKELY TO INTERSECT THE SAA					
Diagnostics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[EXTRA-SOLAR PLANET, G III-I]						

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.61289663 435832972 TO 0.621 39663435832972	Sequence 1-3 Non-Int in visit1_segment1 (01)	0.833445 Secs (0.833 Secs) [==>]	[1]
	2	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 1-3 Non-Int in visit1_segment1 (01)	134.354049 Secs X 6 (1612.249 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[1]
	3	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 1-3 Non-Int in visit1_segment1 (01)	134.354049 Secs (134.354 Secs) [==>]	[1]
	4	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 4-4 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[2]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

5	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 5-5 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[3]
6	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 6-6 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

7	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 7-7 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs)	
<p>[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]</p>								[5]
8	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip; NEW OBSET FULL ACQ	Sequence 8-8 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs)	
<p>[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]</p>								[6]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

9	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 9-9 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[7]
10	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 10-10 Non-Int in visit1_segment1 (01)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[8]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

11	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 11-11 Non -Int in visit1_segmen t1 (01)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[9]
12	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 12-12 Non -Int in visit1_segmen t1 (01)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[10]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

13	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip; NEW OBSET FULL ACQ	Sequence 13-13 Non -Int in visit1_segmen t1 (01)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[11]
14	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 14-14 Non -Int in visit1_segmen t1 (01)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[12]

Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

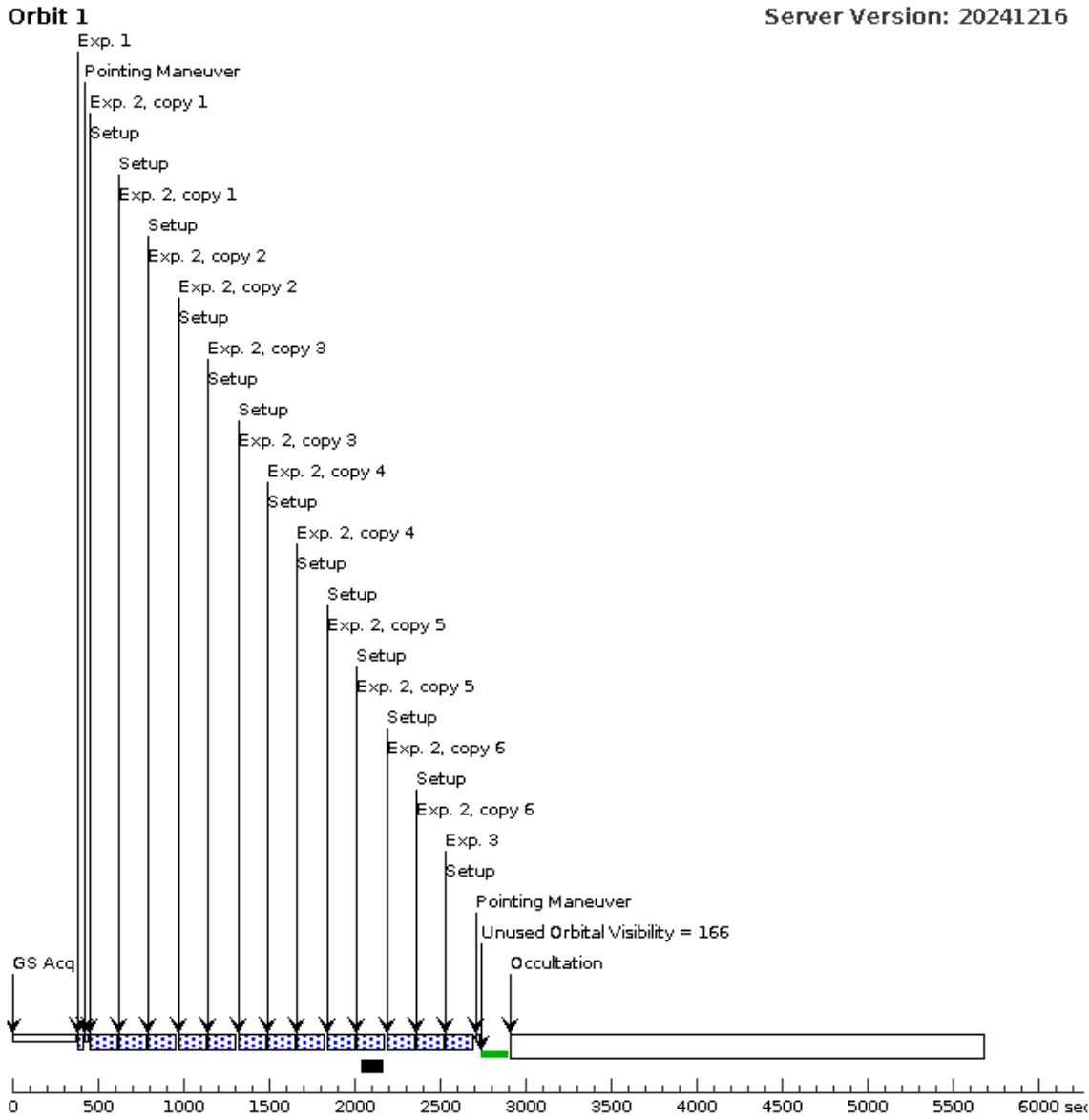
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16	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 16-16 Non -Int in visit1_segmen t1 (01)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[14]

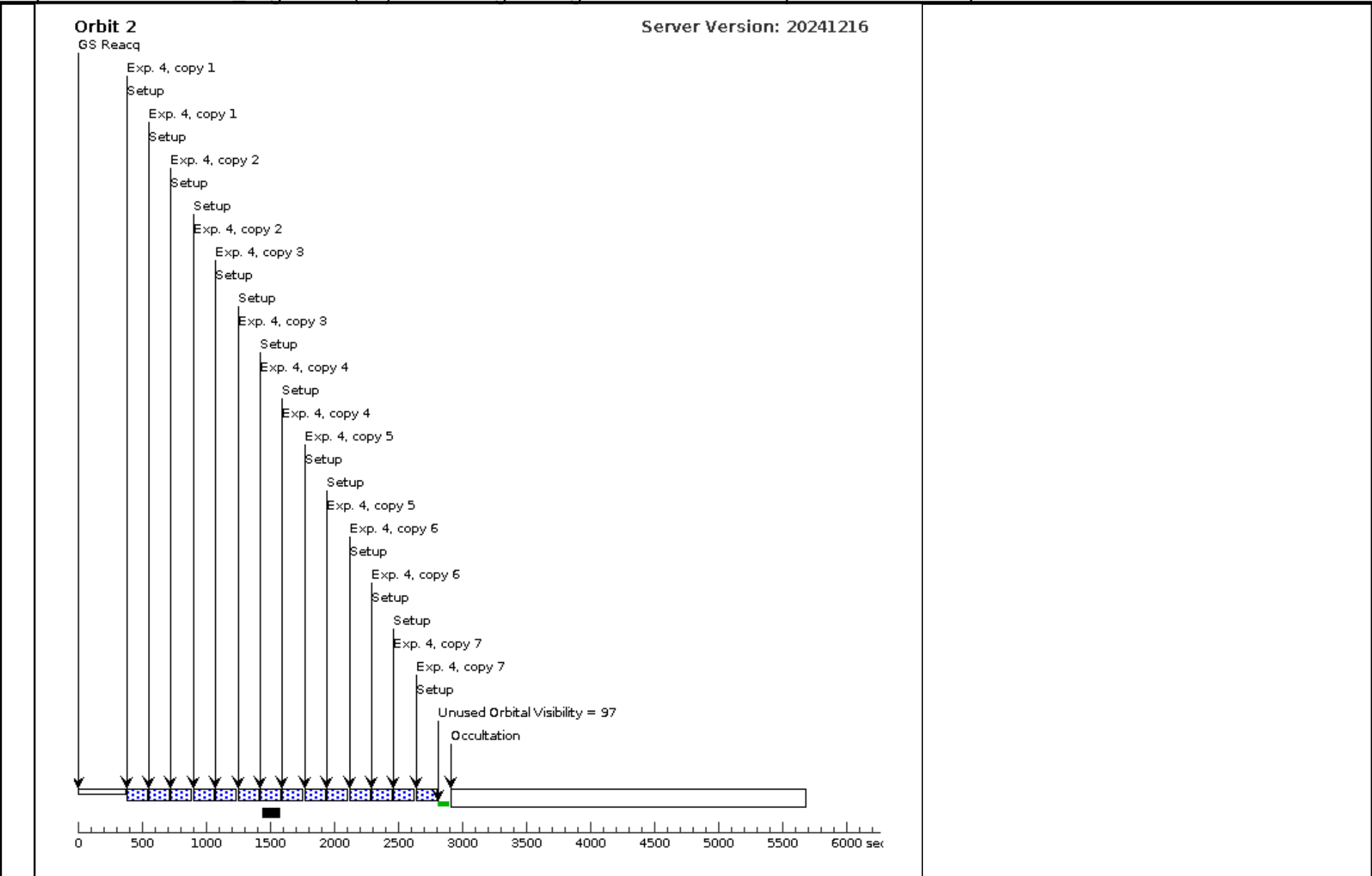
Proposal 17543 - visit1 segment1 (01) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

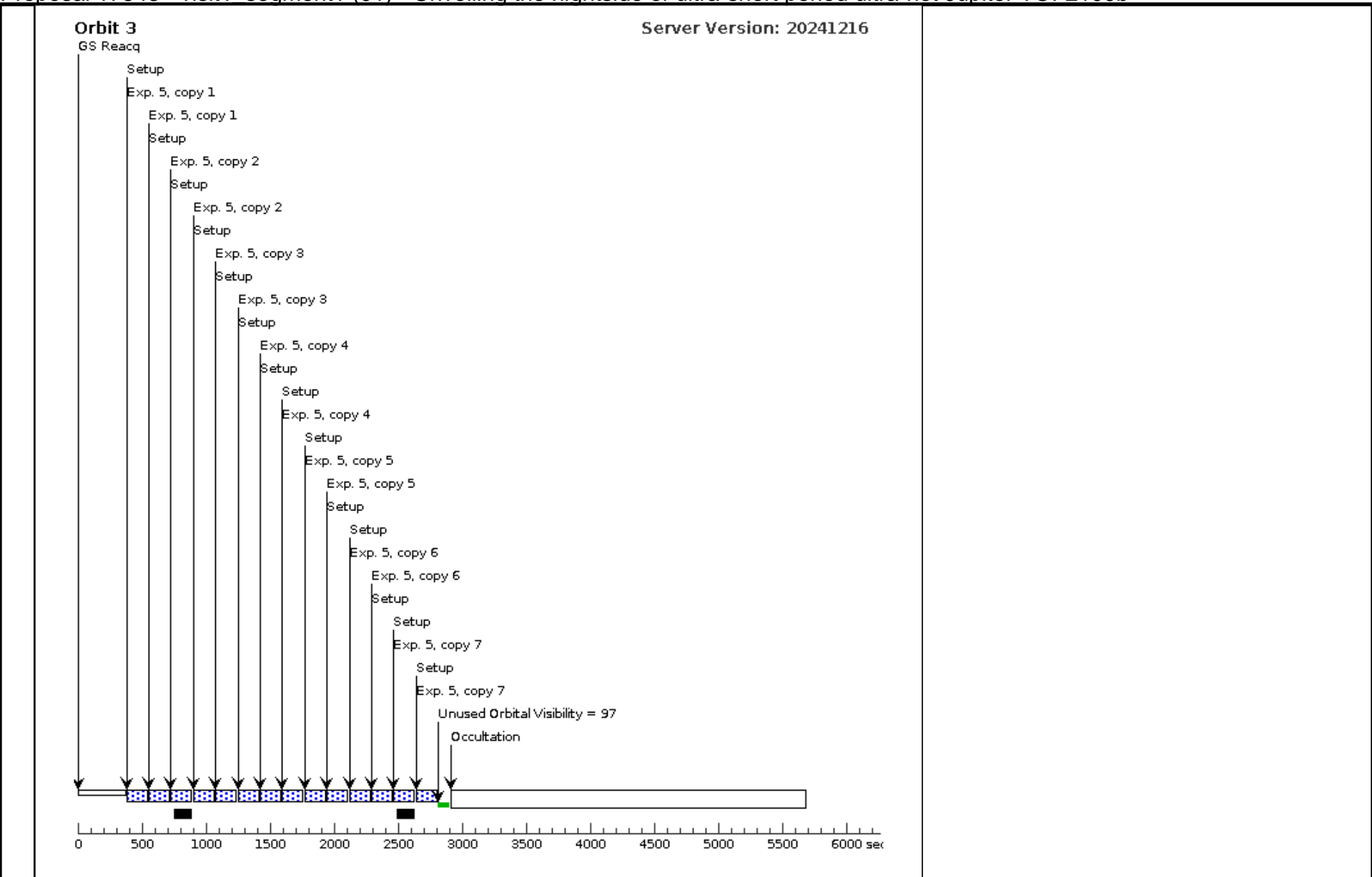
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Orbit Structure

Server Version: 20241216

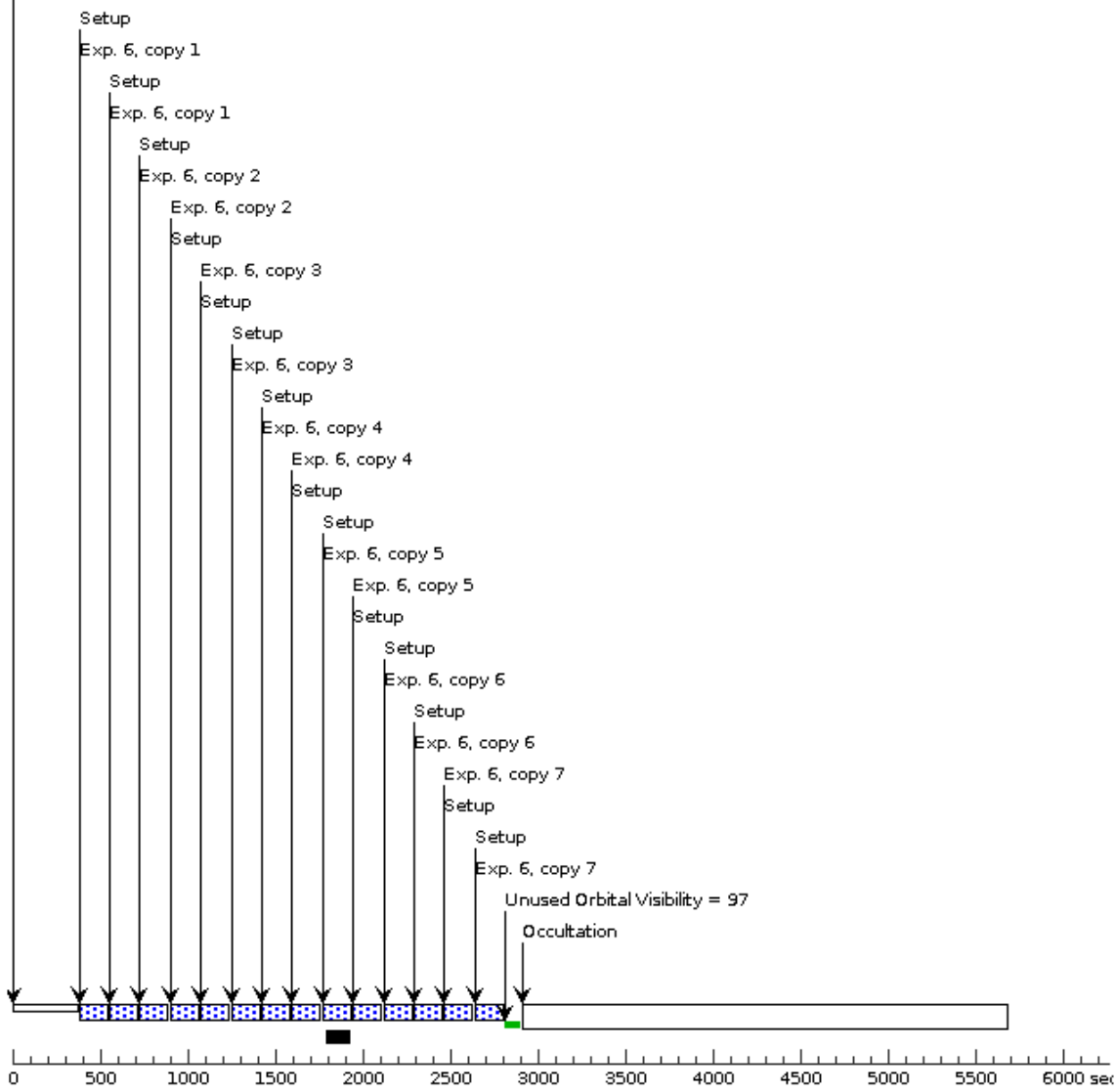


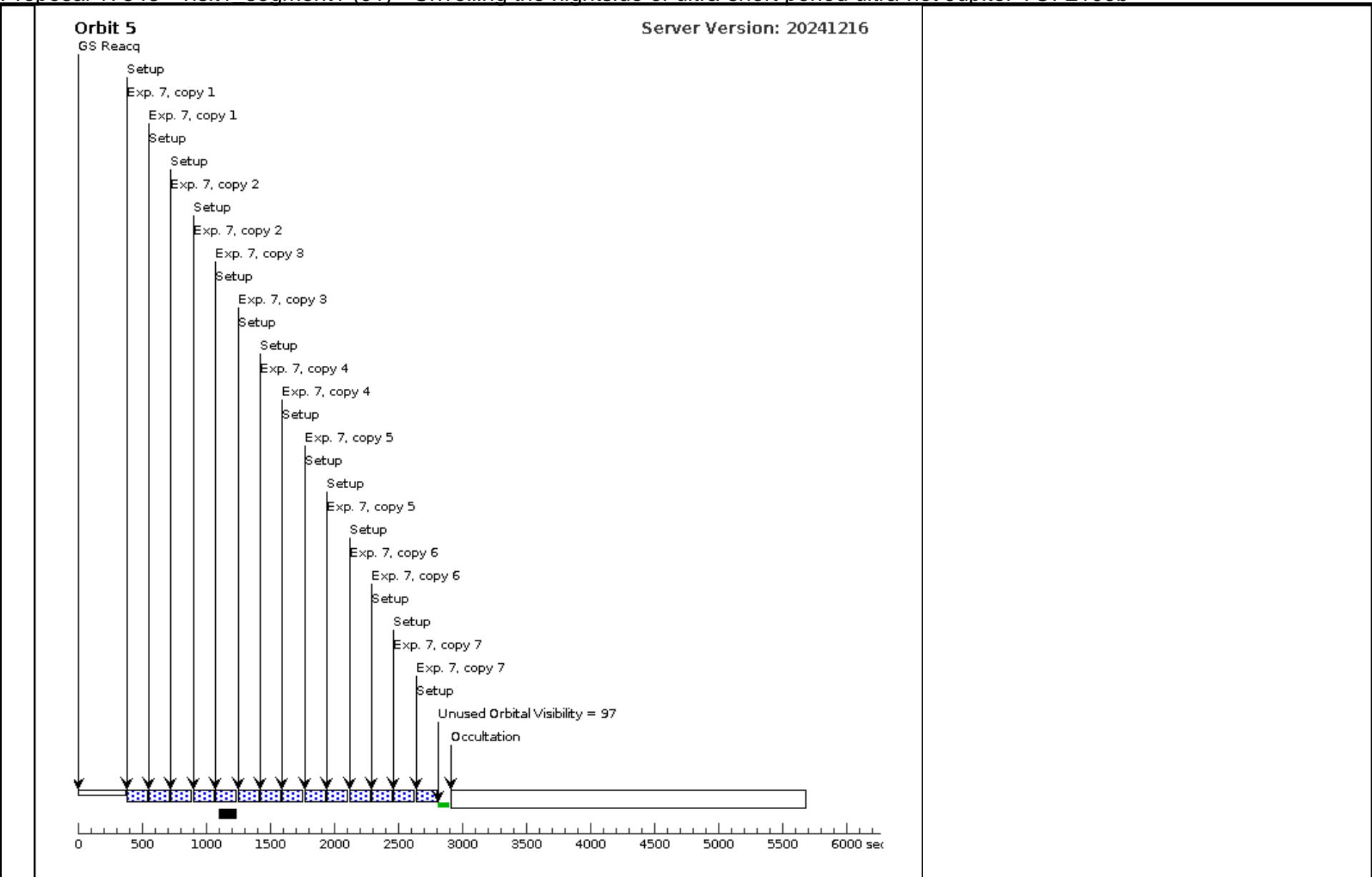




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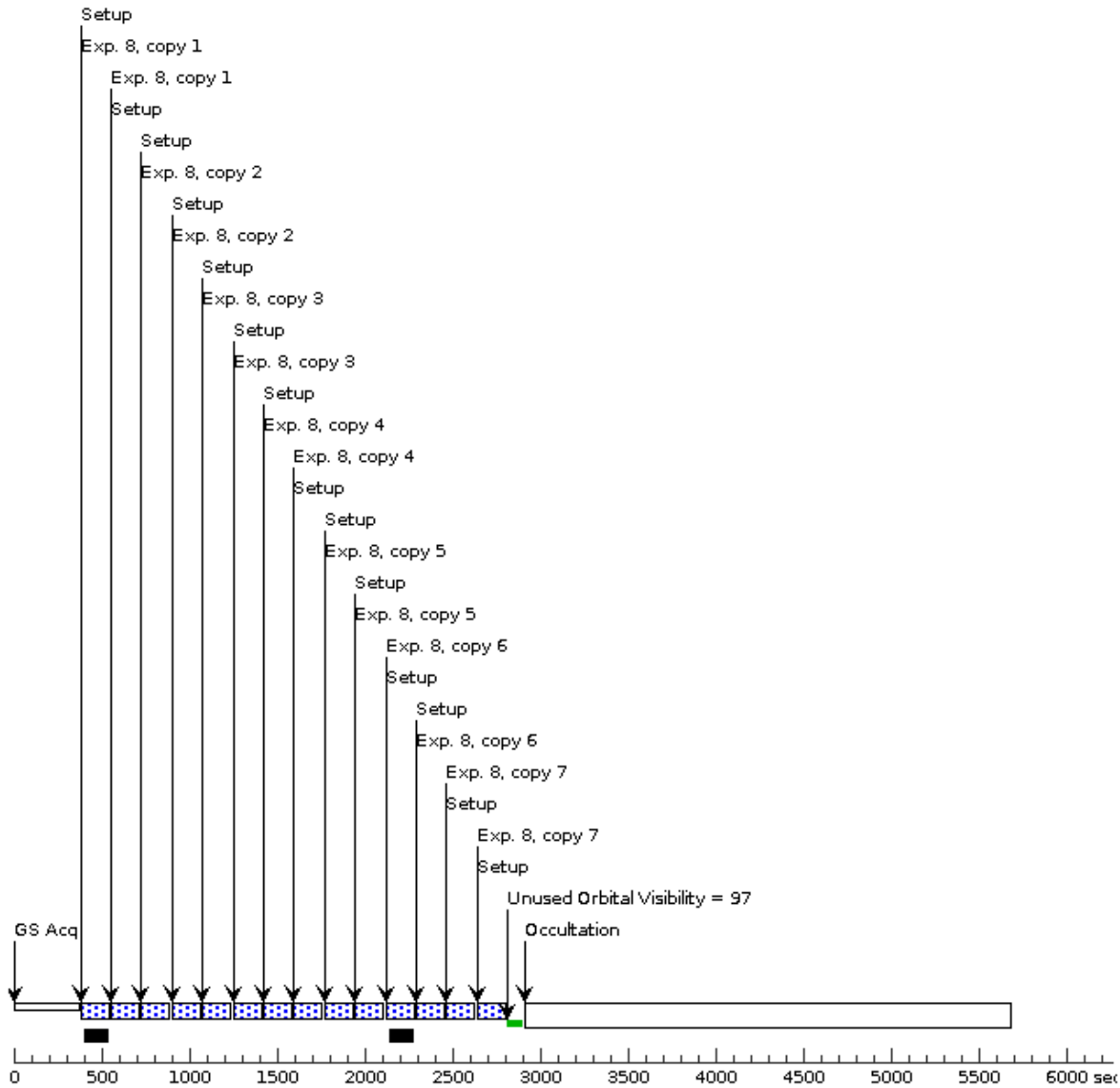
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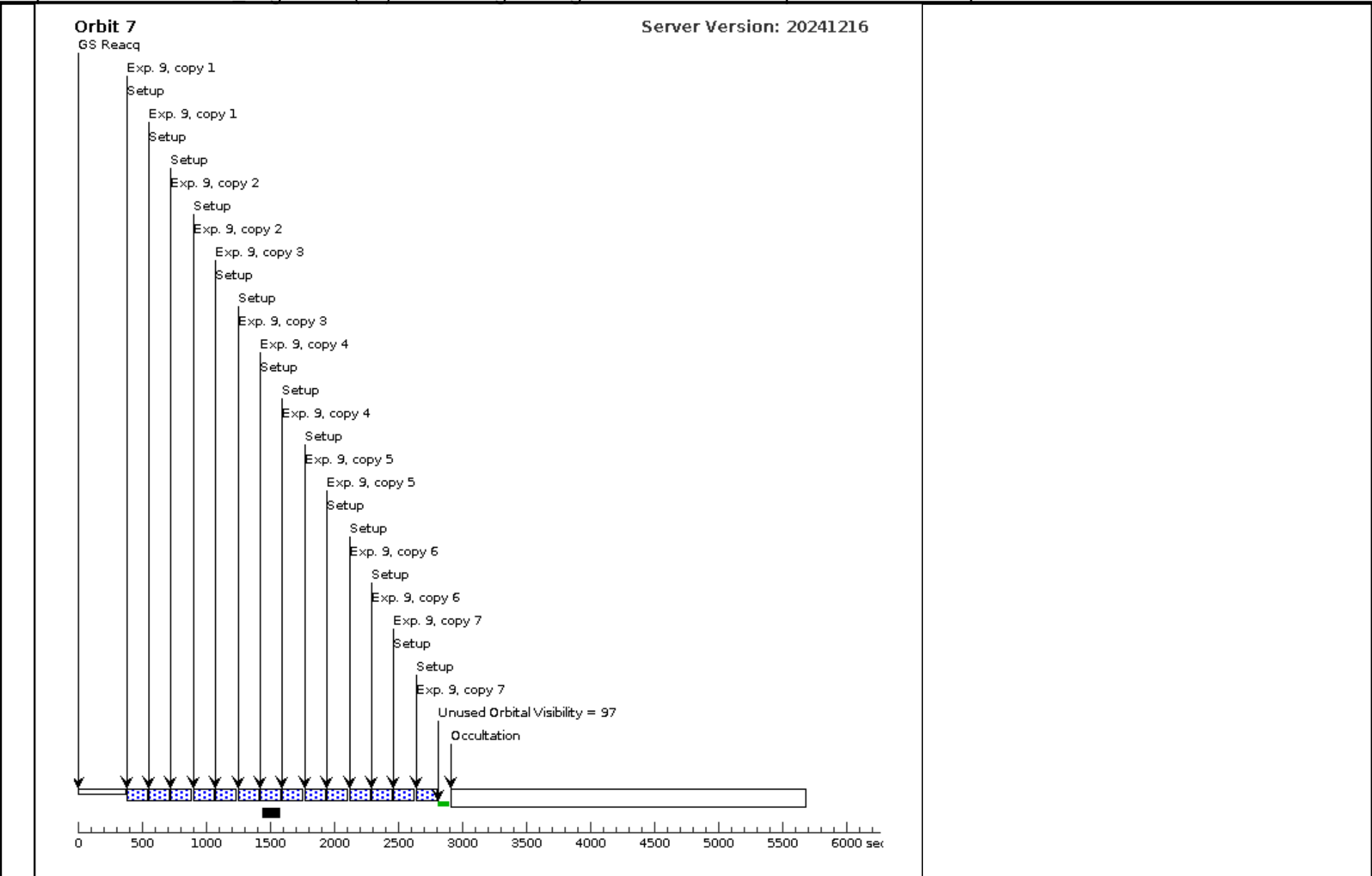


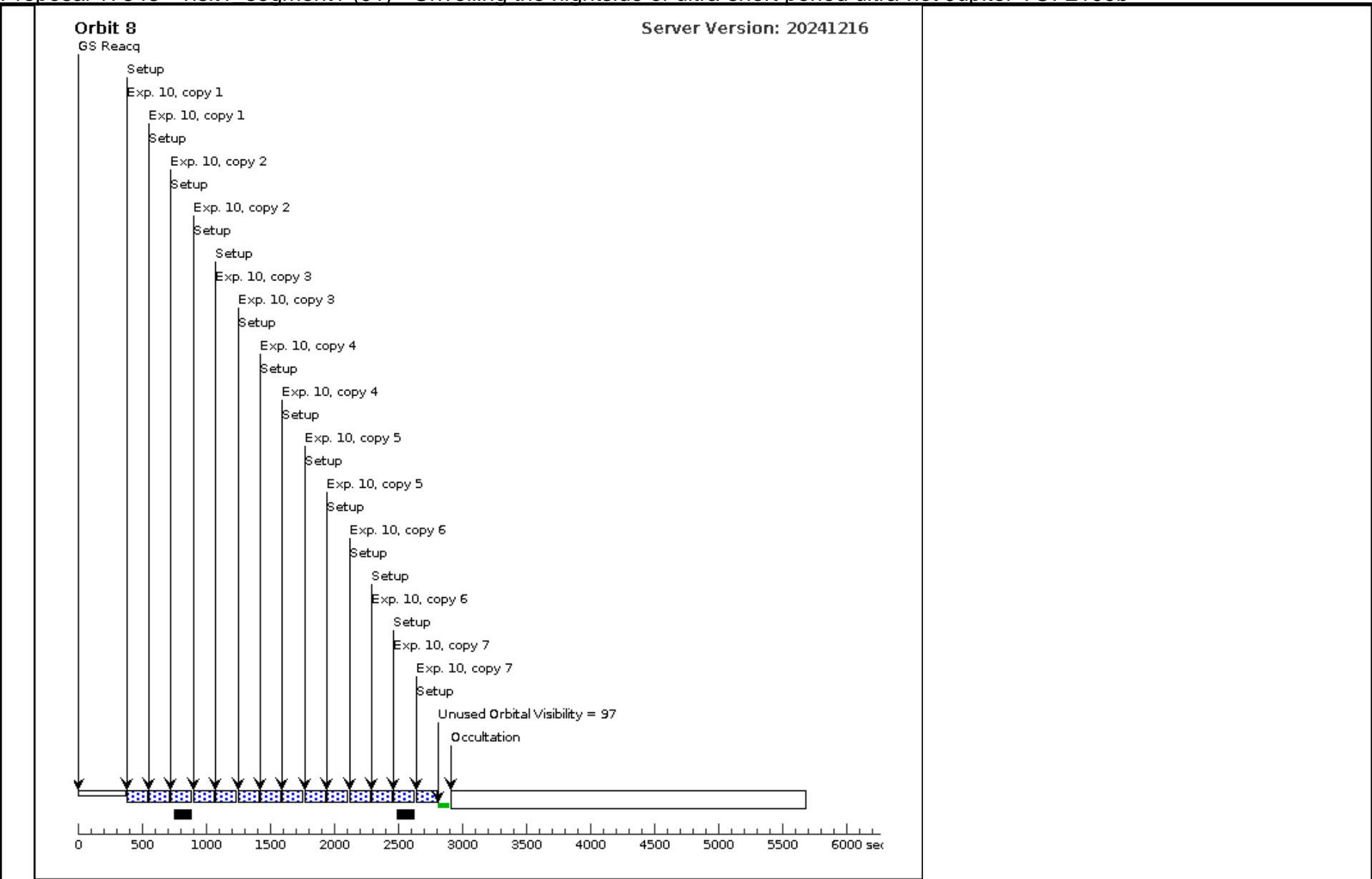


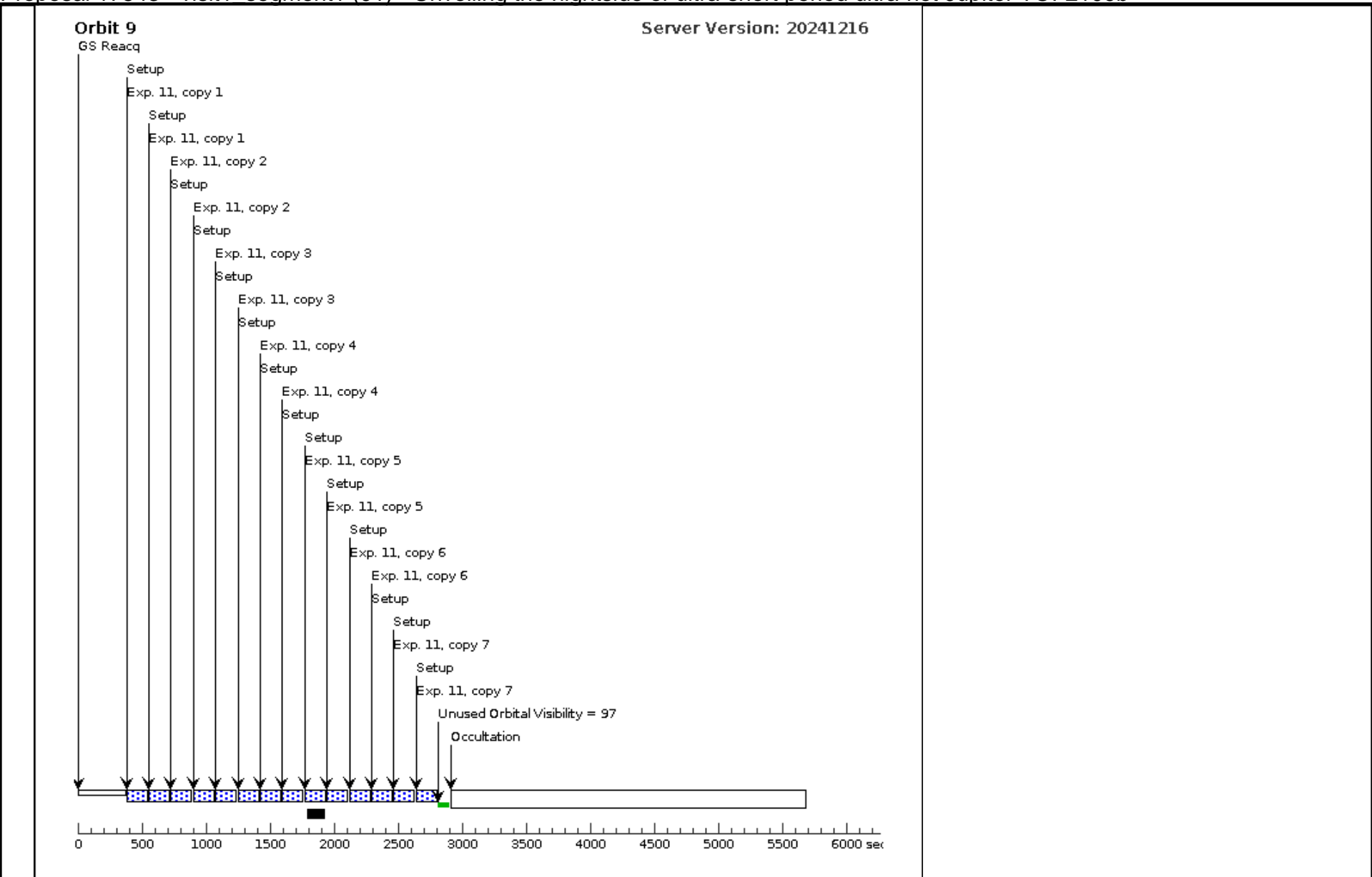
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Orbit 6





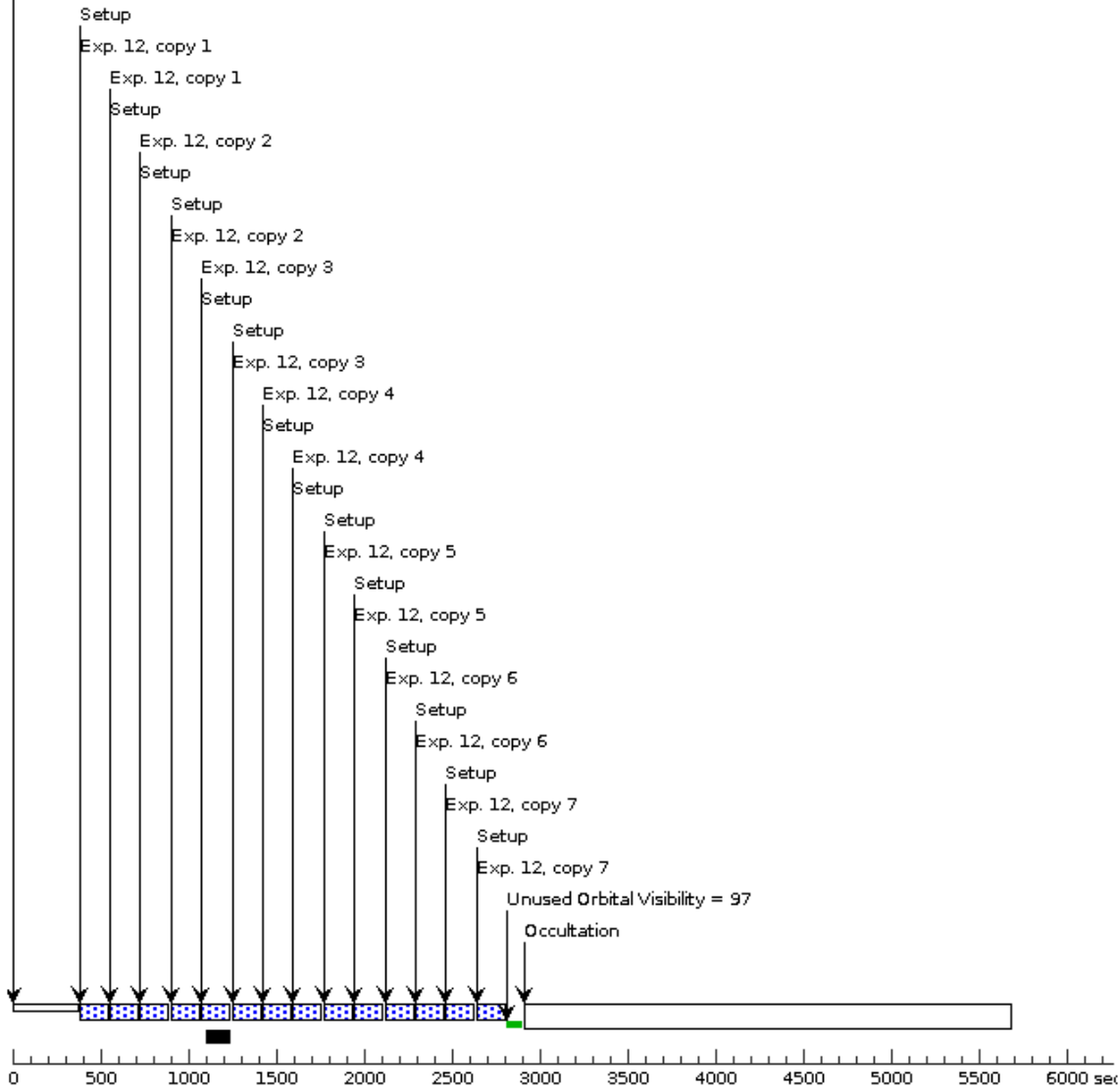




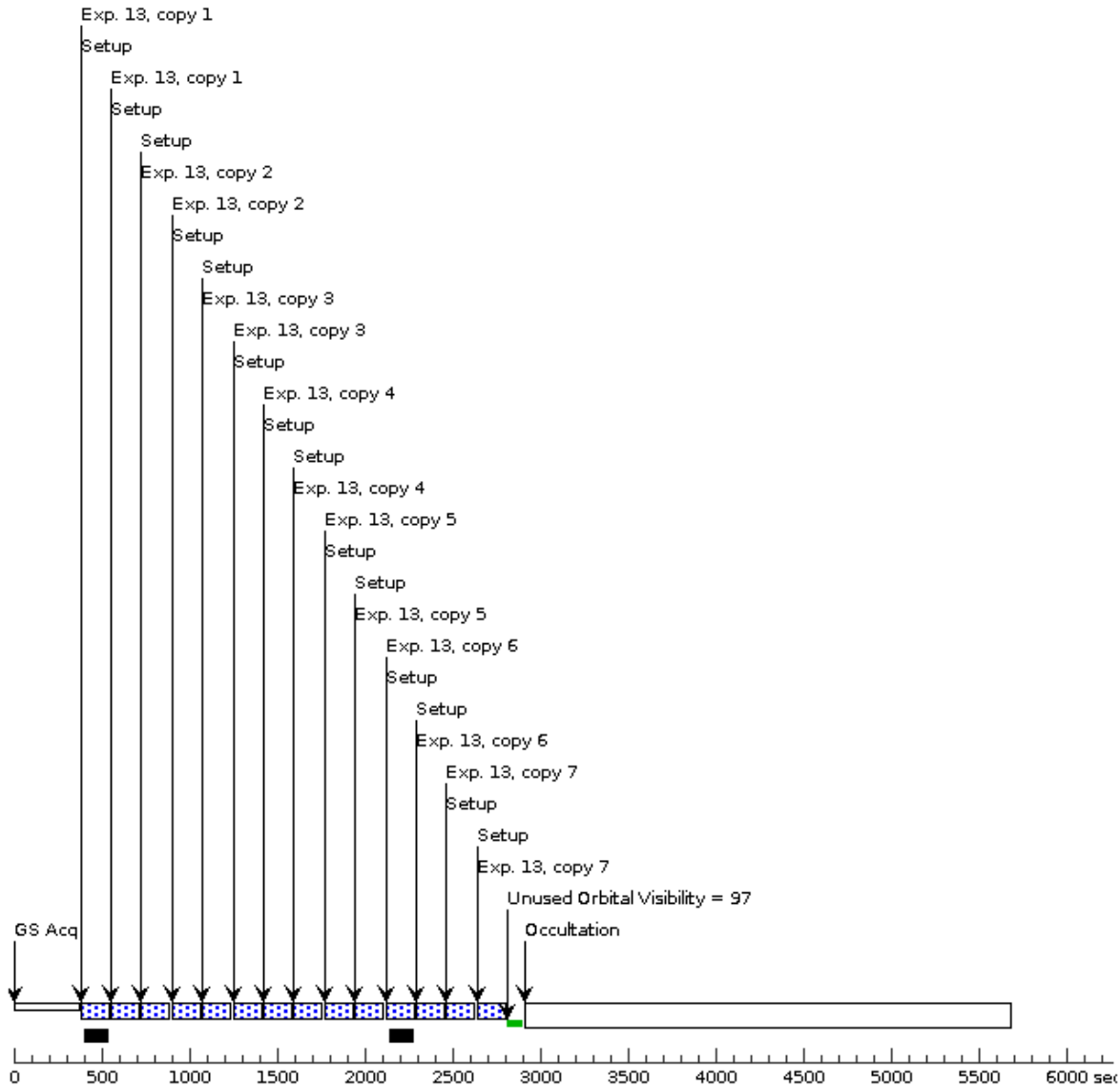
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Orbit 10

GS Reacq

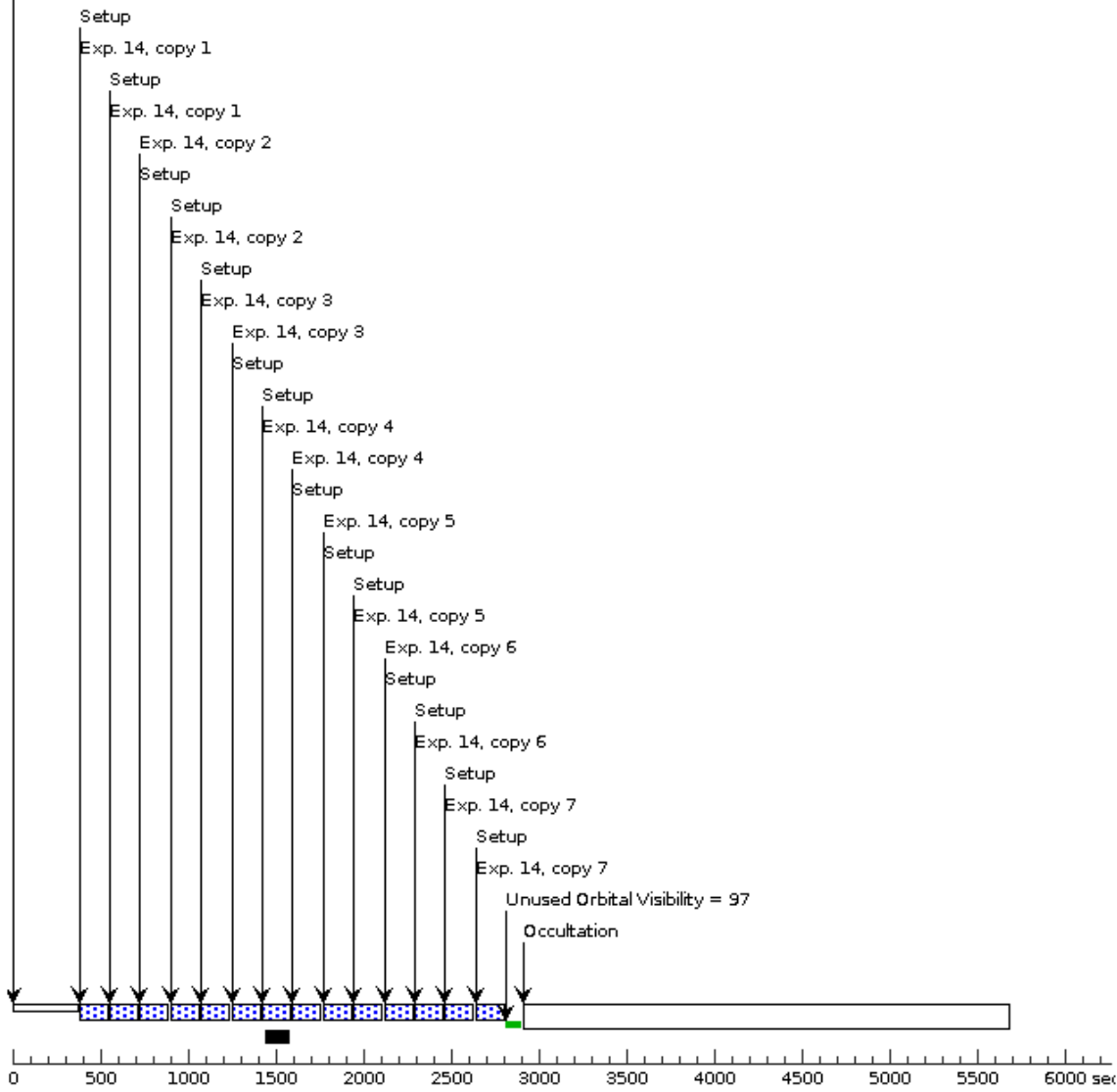


Orbit 11



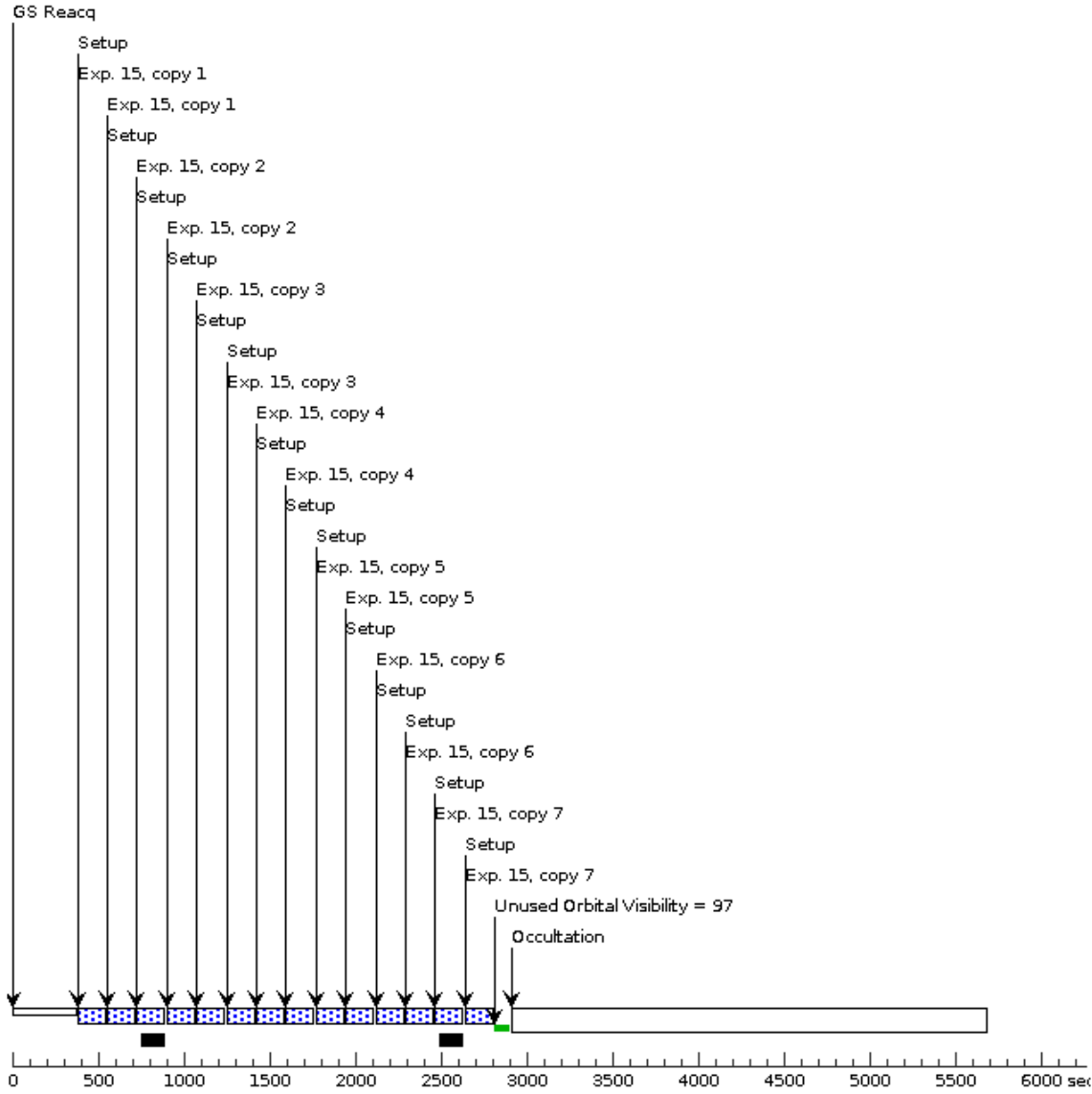
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GS Reacq



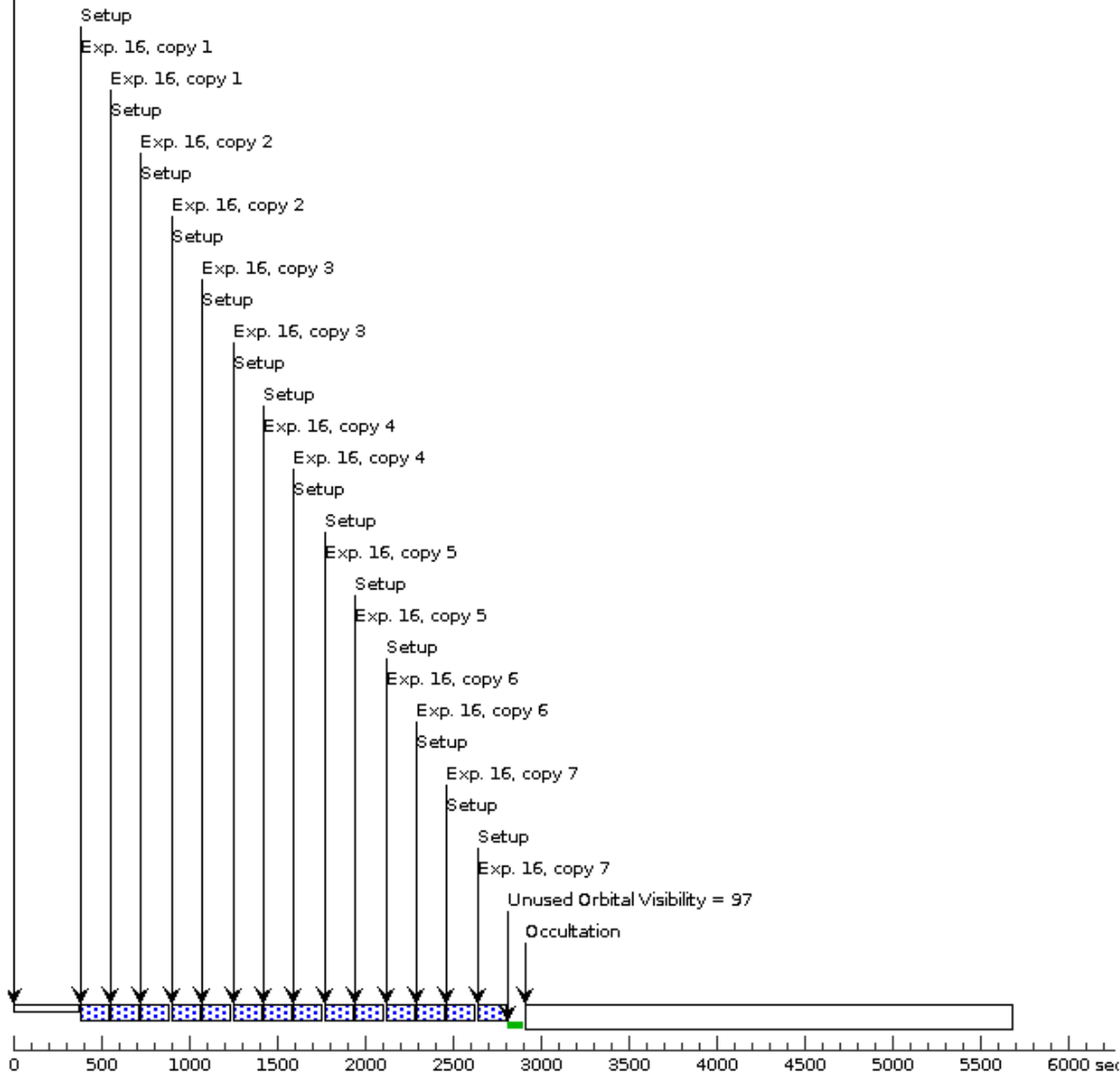
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Orbit 13



Orbit 14

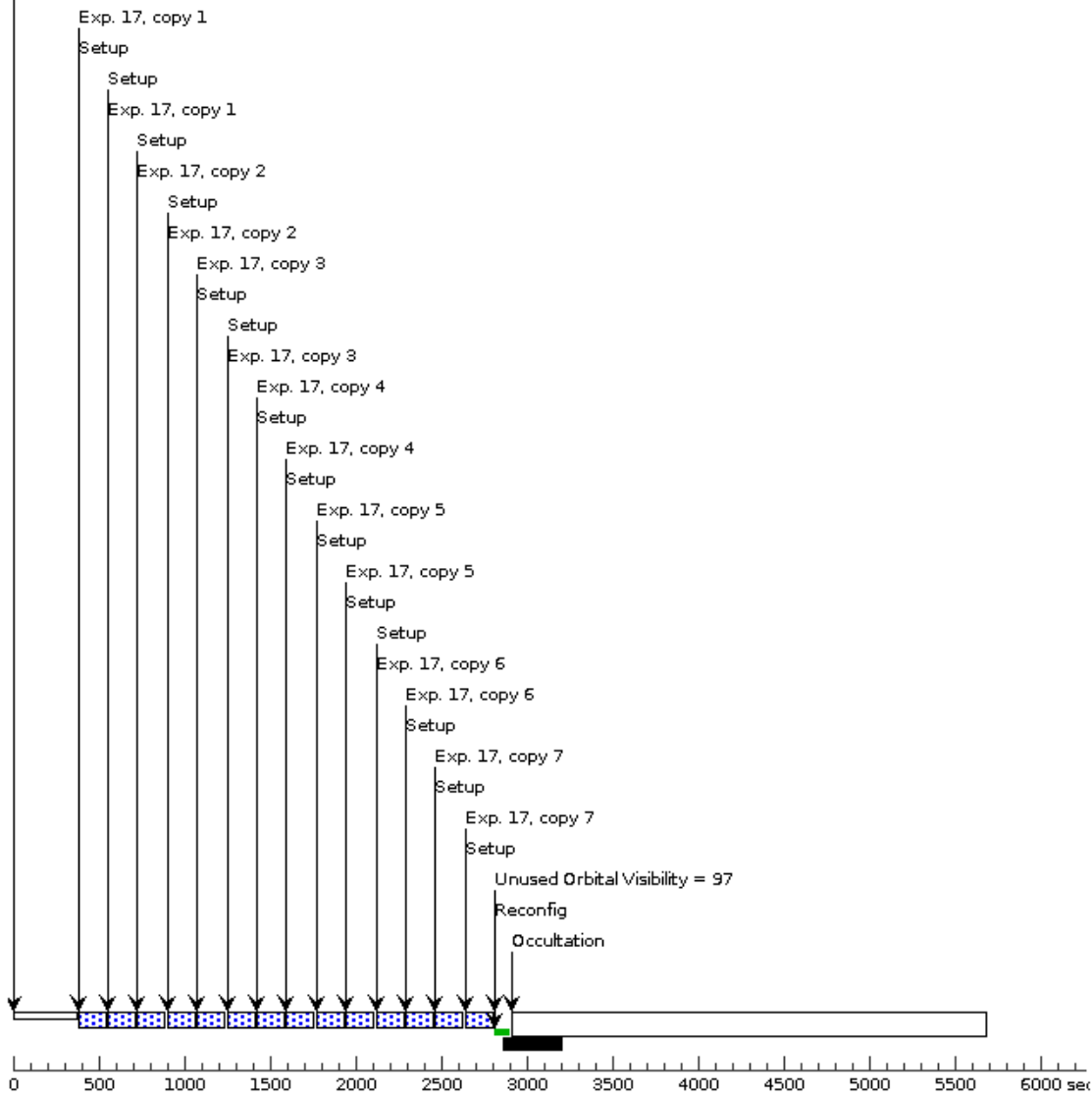
GS Reacq



Server Version: 20241216

Orbit 15

GS Reacq



Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Wed Apr 16 17:01:18 GMT 2025

Visit	Proposal 17543, visit1_segment1 (07), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%; Period 1.34494828 D AND ZERO-PHASE HJD2459378.45937 <i>Comments: alternate phase</i>																
Diagnostics	(visit1_segment1 (07)) Warning (Orbit Planner): LONG VISIT LIKELY TO INTERSECT THE SAA																
Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>BD+16-3058</td> <td> RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000 </td> <td> Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5 </td> <td>V=10.22</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[EXTRA-SOLAR PLANET, G III-I]			
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous												
(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD												

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#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.10942441 21 TO 0.1248688566	Sequence 1-3 Non-Int in visit1_segment1 (07)	0.833445 Secs (0.833 Secs) [==>]	[1]
	2	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 1-3 Non-Int in visit1_segment1 (07)	134.354049 Secs X 6 (1612.249 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[1]
	3	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 1-3 Non-Int in visit1_segment1 (07)	134.354049 Secs (134.354 Secs) [==>]	[1]
	4	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 4-4 Non-Int in visit1_segment1 (07)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[2]

Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

5	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 5-5 Non-Int in visit1_segment1 (07)	134.354049 Secs X 7 (1880.957 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[3]
6	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 6-6 Non-Int in visit1_segment1 (07)	134.354049 Secs X 7 (1880.957 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]
7	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 7-8 Non-Int in visit1_segment1 (07)	134.354049 Secs X 6 (1612.249 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[5]

Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

8	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 7-8 Non-Int in visit1_segment1 (07)	134.354049 Secs (134.354 Secs)	[==>]	[5]
9	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip; NEW OBSET FULL ACQ	Sequence 9-9 Non-Int in visit1_segment1 (07)	134.354049 Secs X 7 (1880.957 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[6]
10	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 10-10 Non-Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Secs)	[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[7]

Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

11	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 11-11 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[8]
12	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 12-12 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[9]
13	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 13-14 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 6 (1612.249 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[10]

Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

14	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 13-14 Non -Int in visit1_segmen t1 (07)	134.354049 Secs (134.354 Secs) [==>]	[10]
15	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip; NEW OBSET FULL ACQ	Sequence 15-15 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[11]
16	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 16-16 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[12]

Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

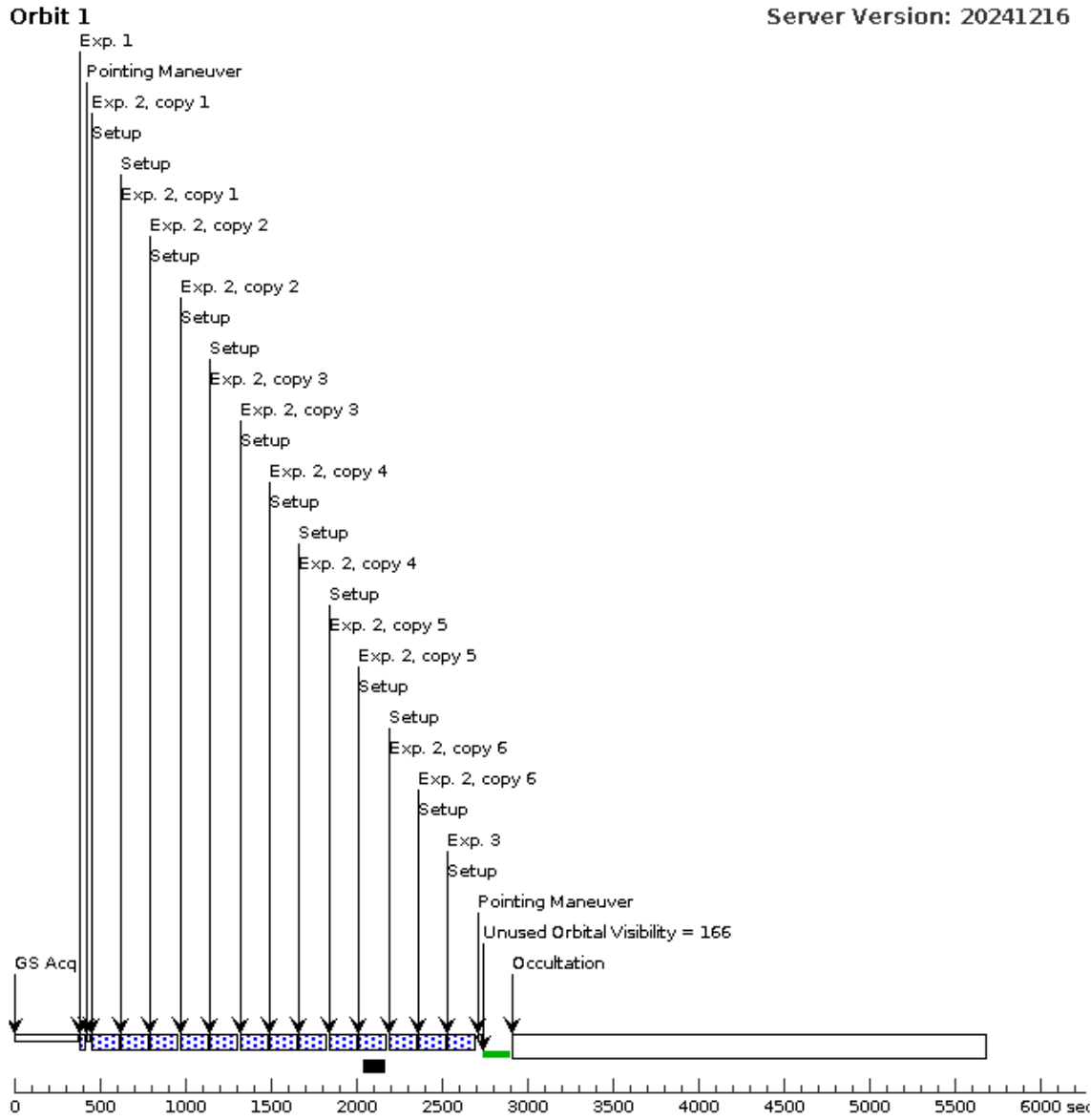
17	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 17-17 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[13]
18	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 18-18 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 7 (1880.957 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[14]
19	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 19-20 Non -Int in visit1_segmen t1 (07)	134.354049 Secs X 6 (1612.249 Sec s) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[15]

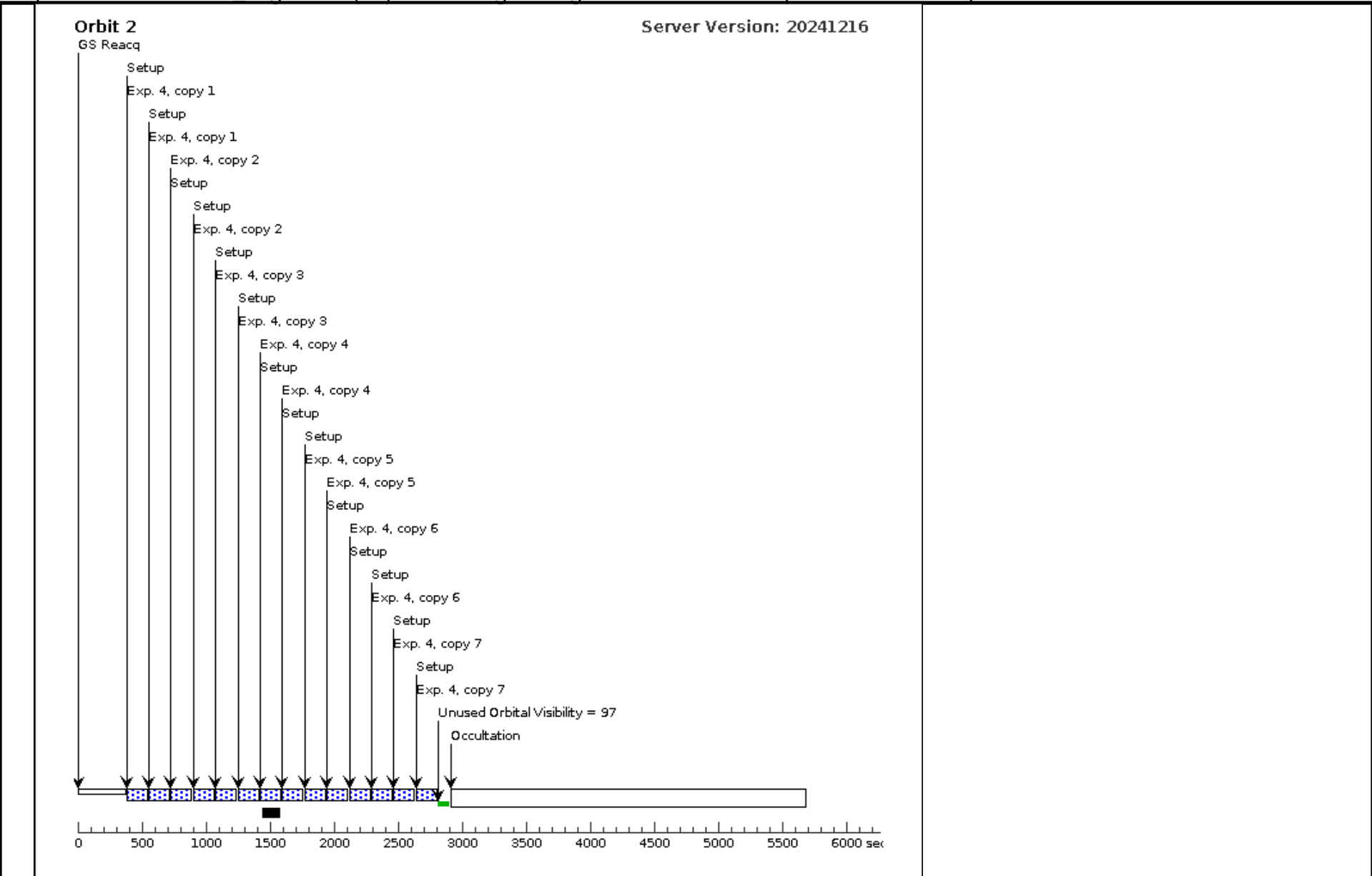
Proposal 17543 - visit1 segment1 (07) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

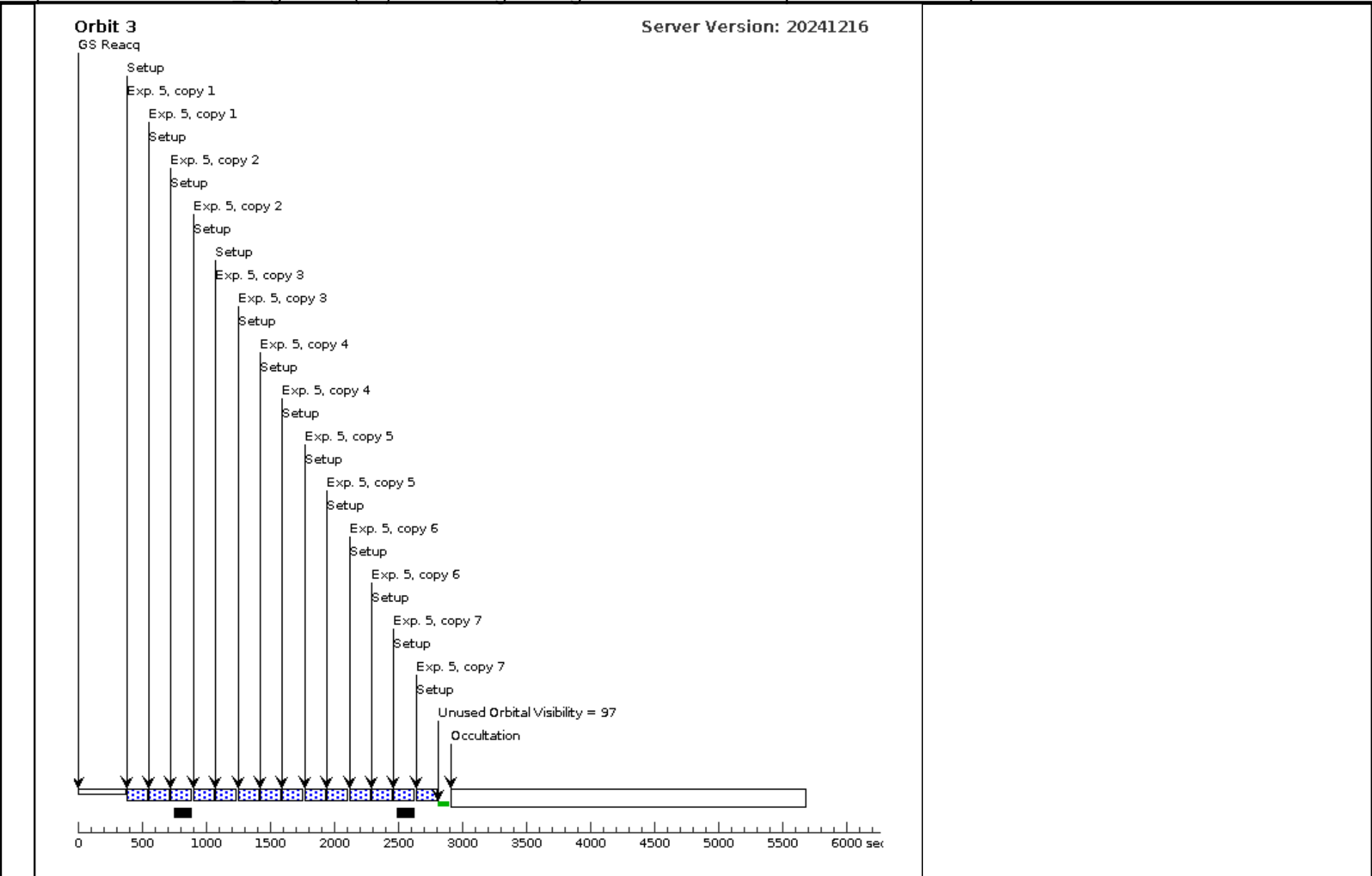
20	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 19-20 Non -Int in visit1_segmen t1 (07) [==>]	134.354049 Secs (134.354 Secs)	[15]
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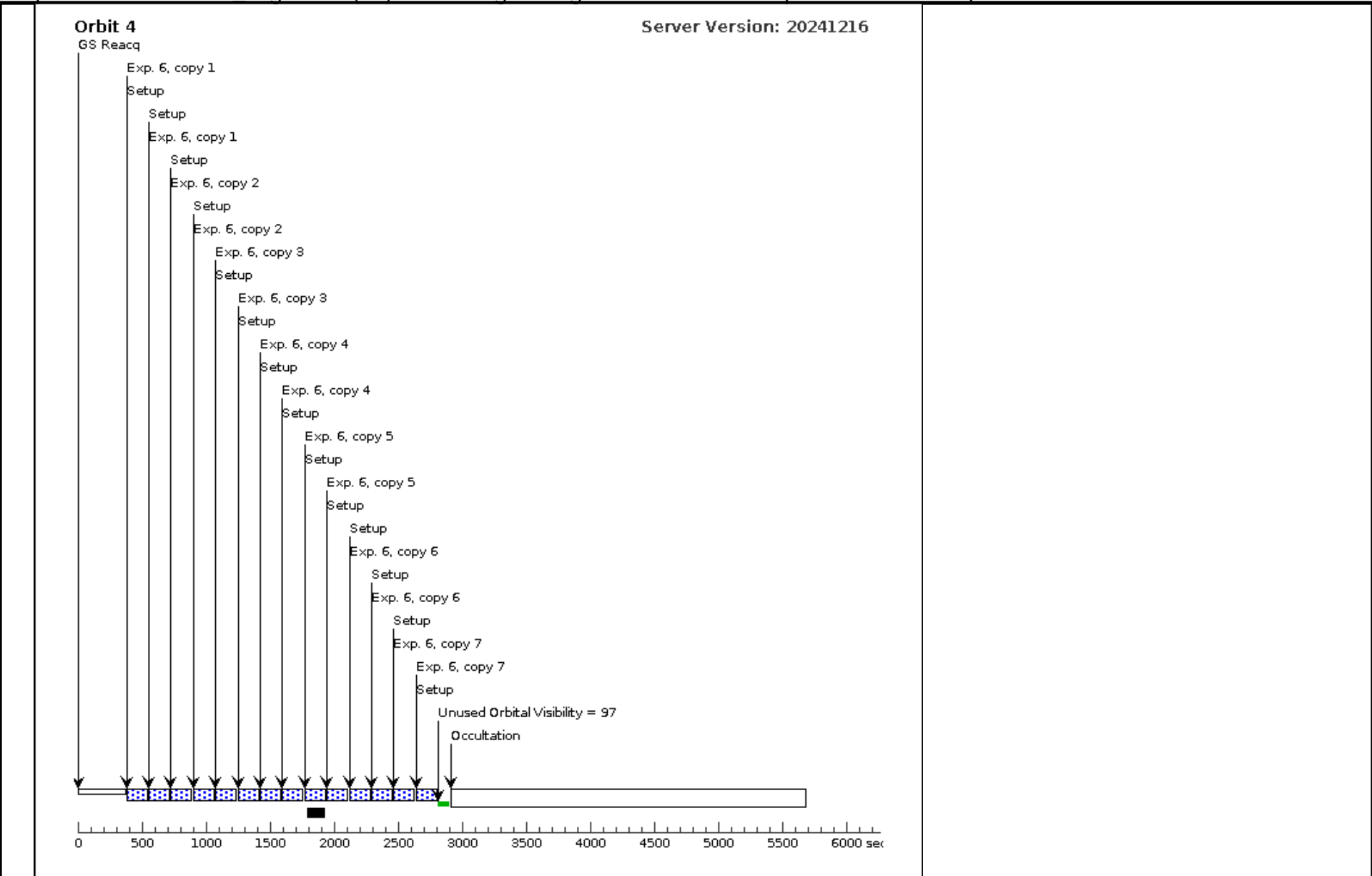
Orbit Structure

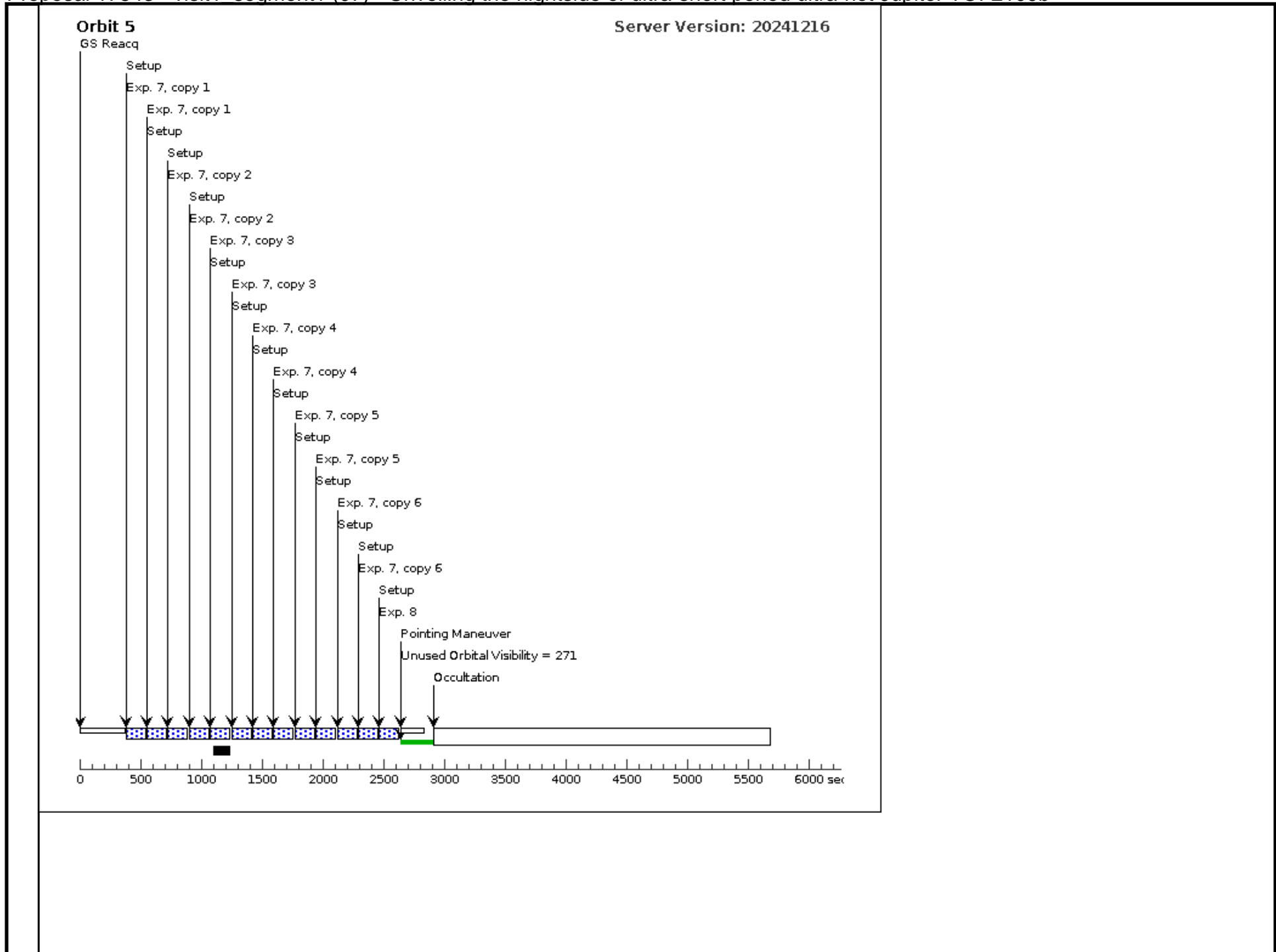
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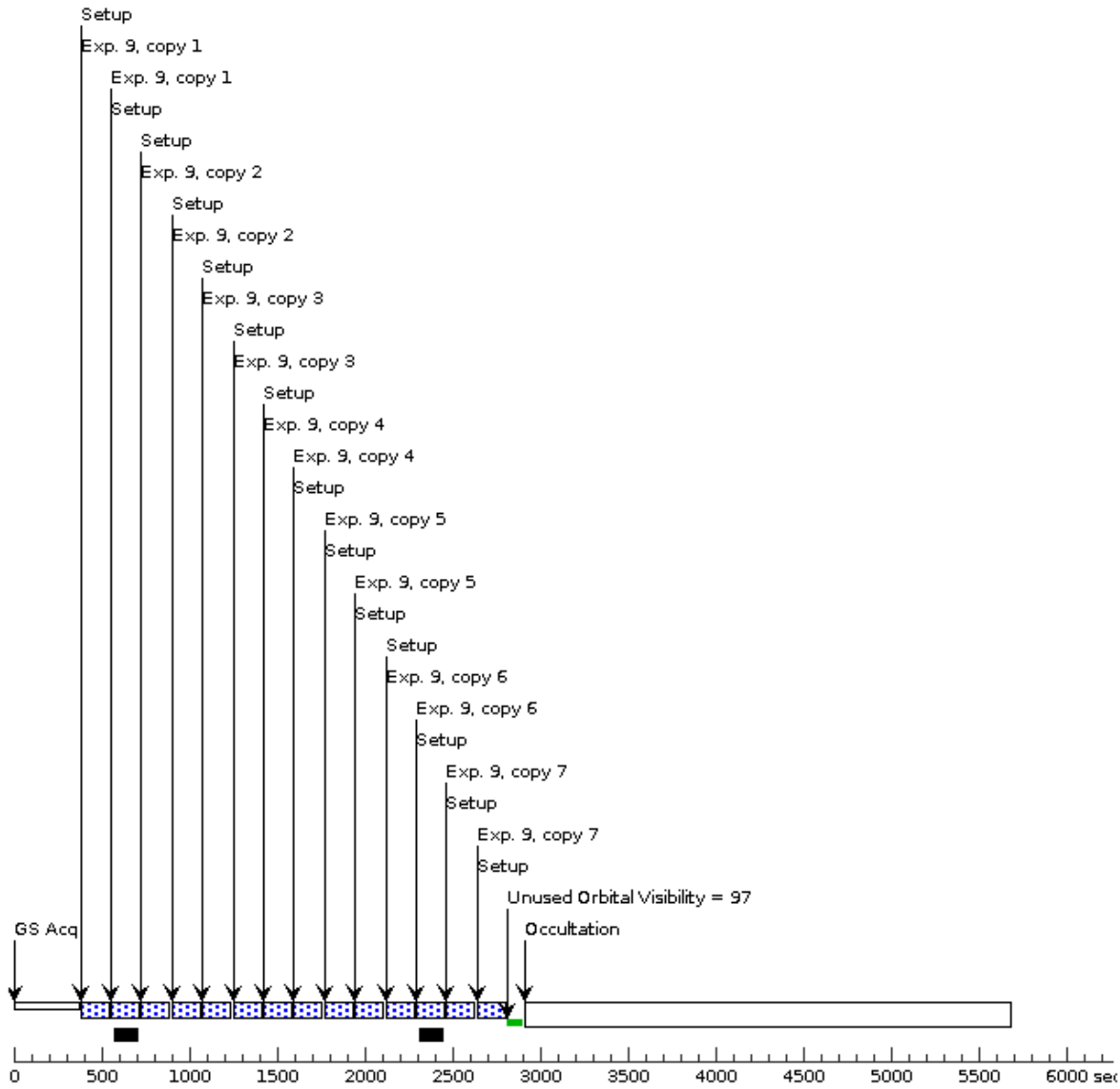


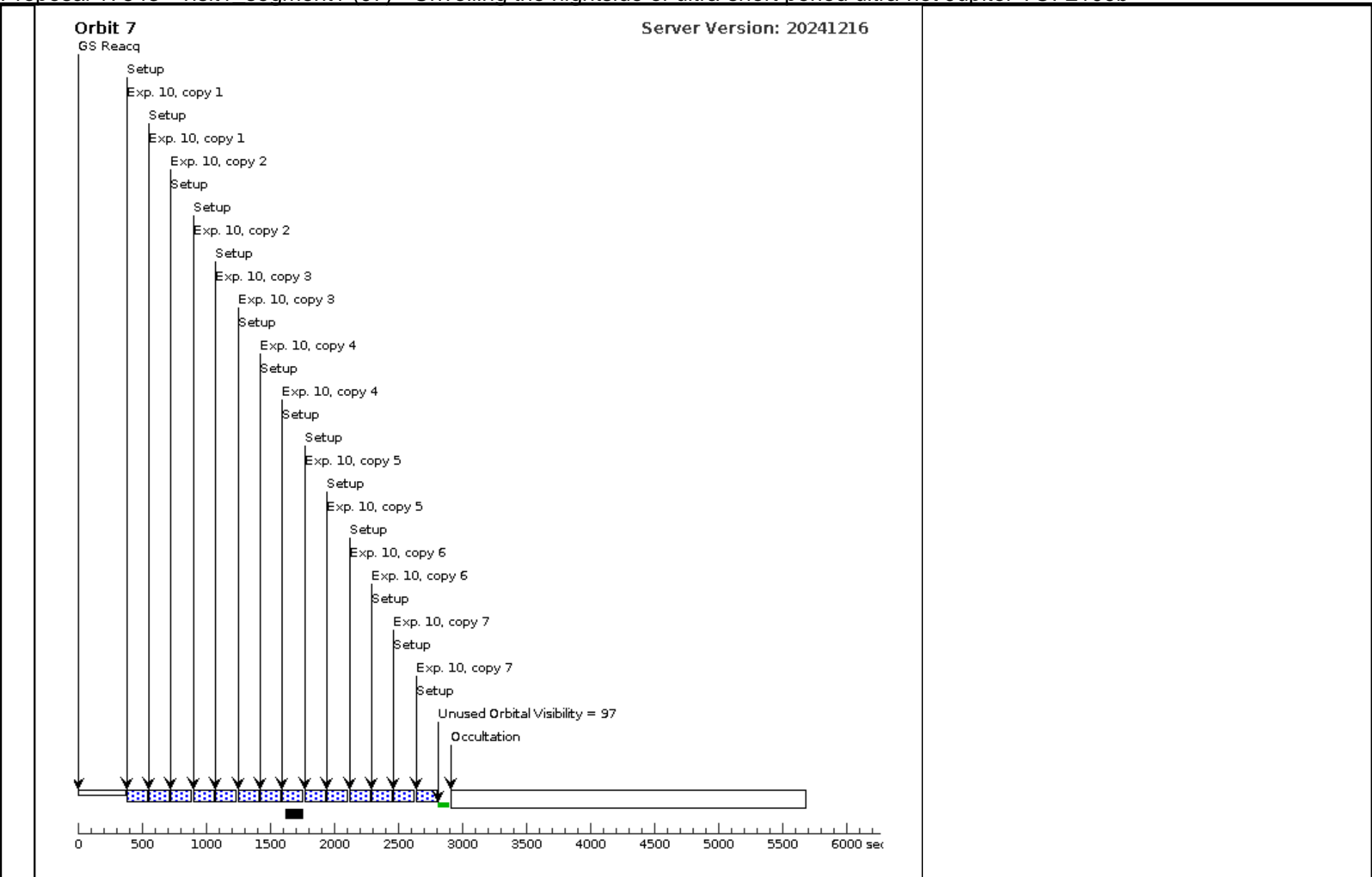


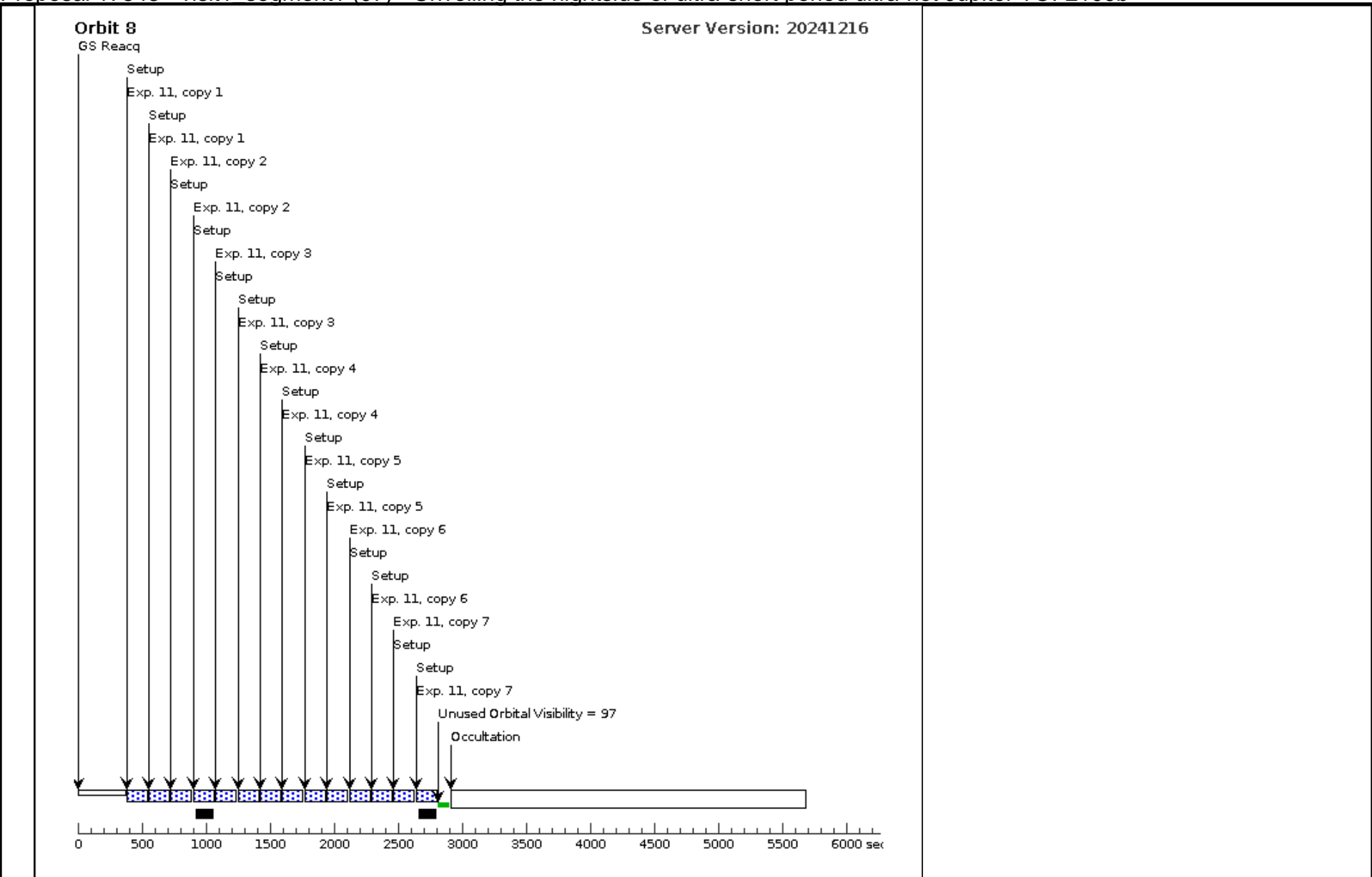


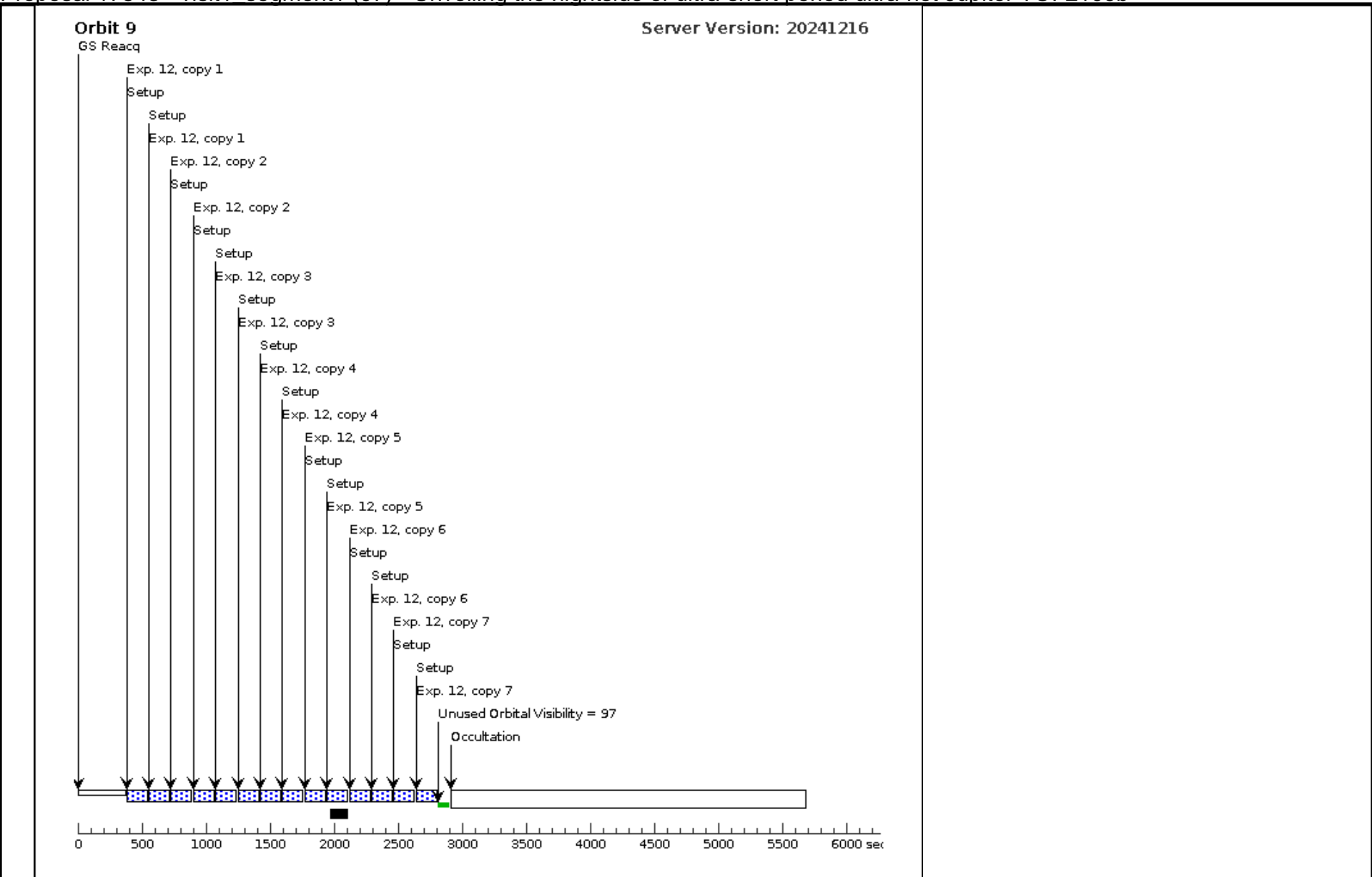
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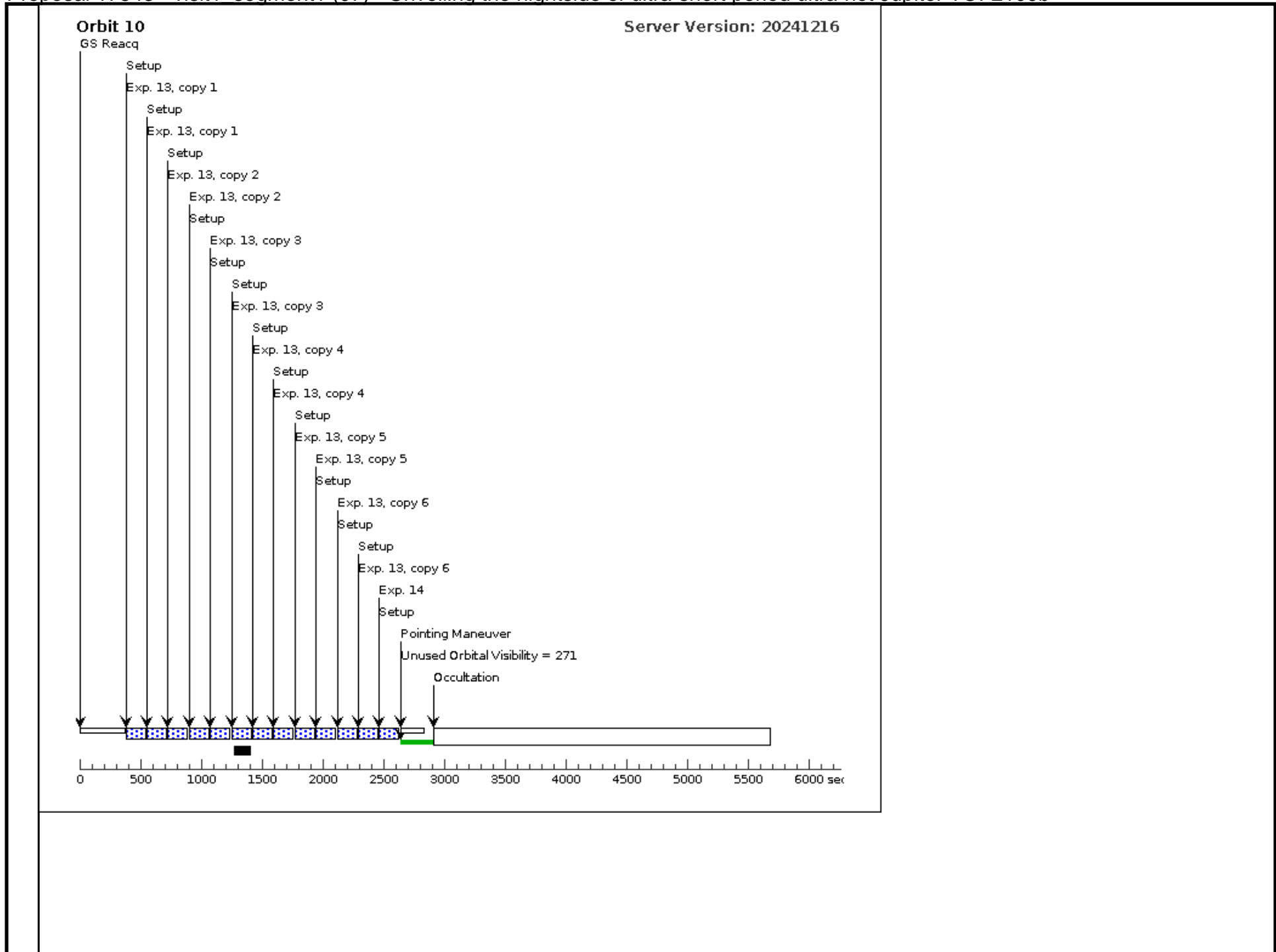
Orbit 6

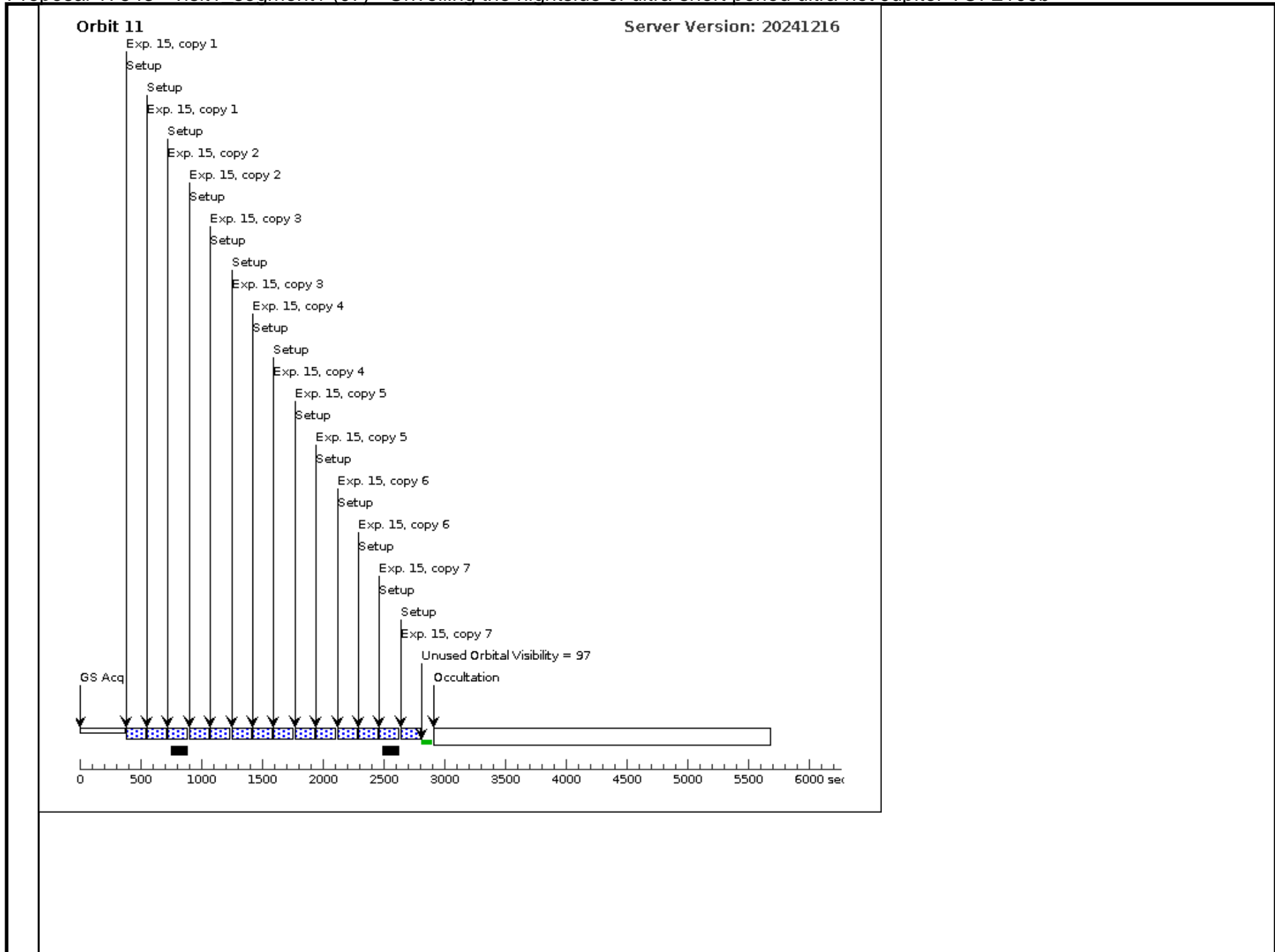








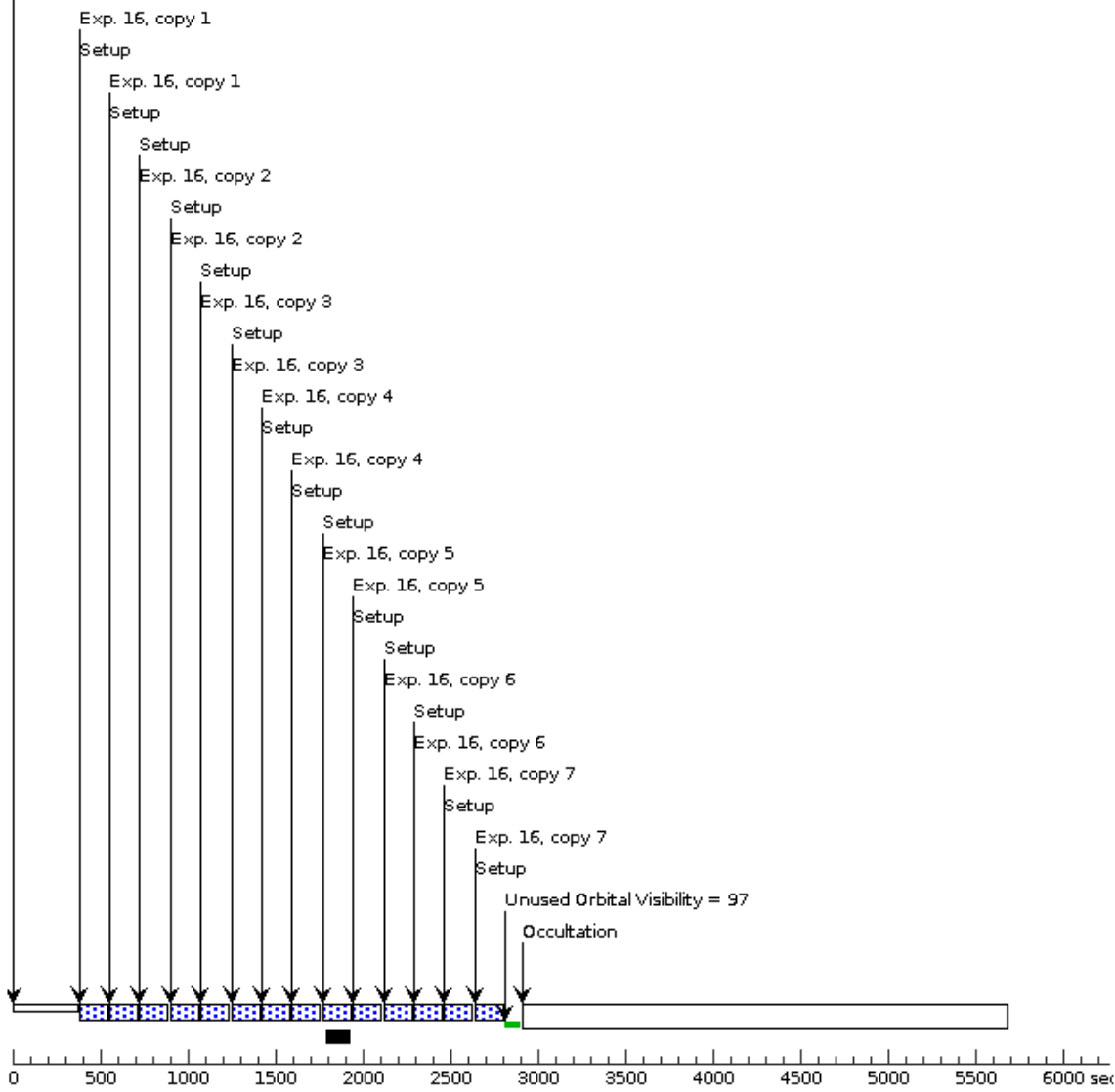


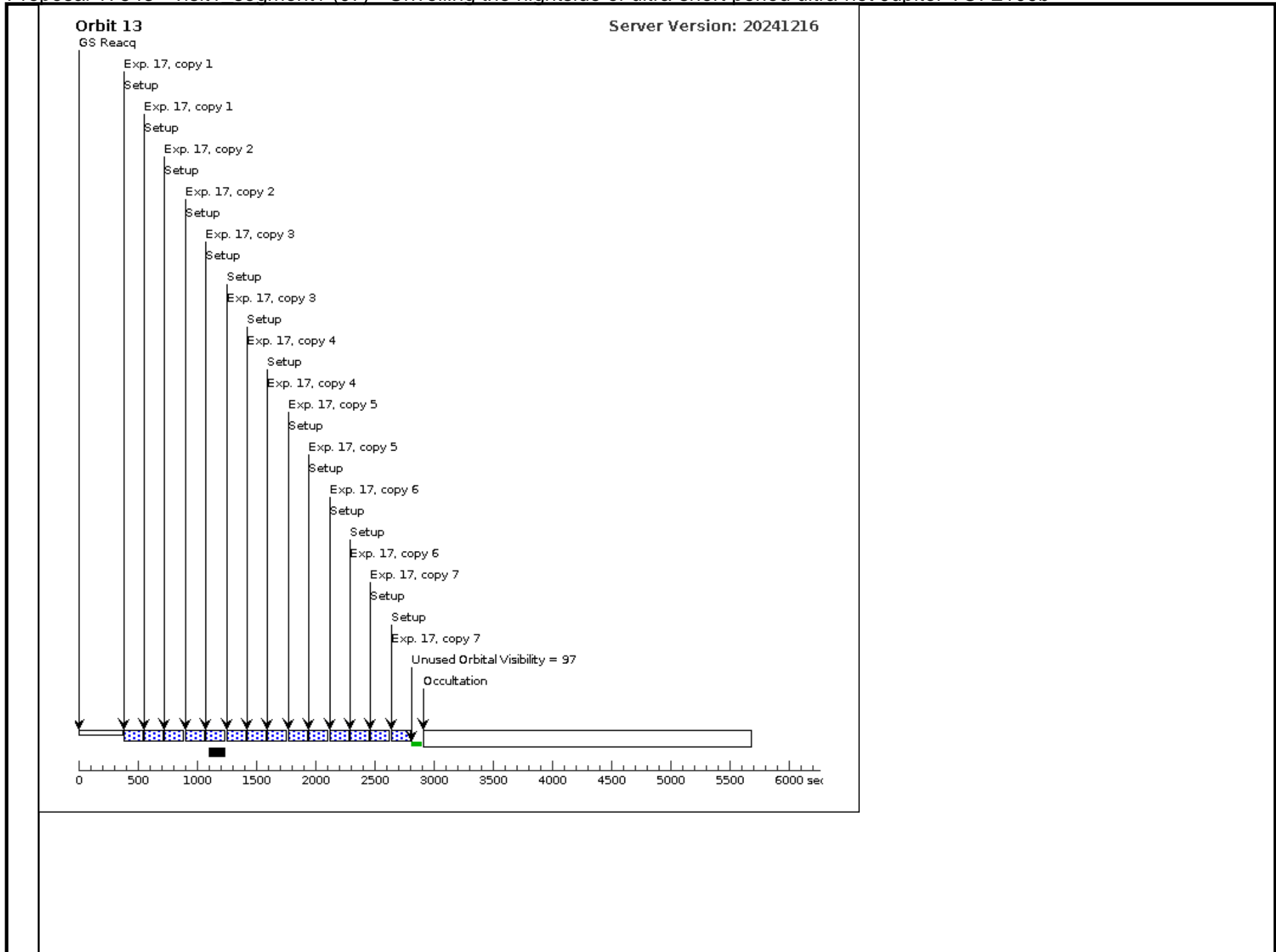


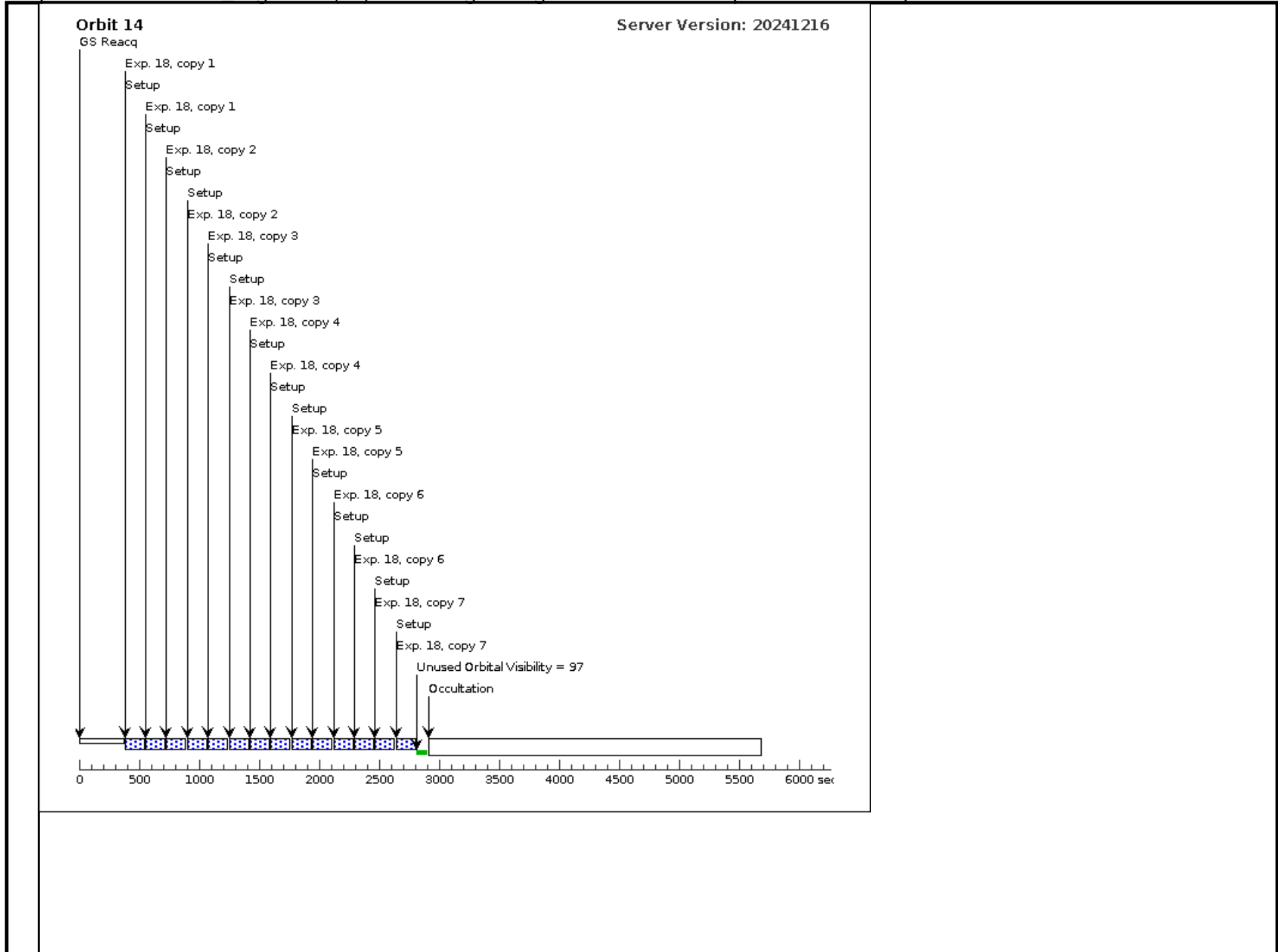
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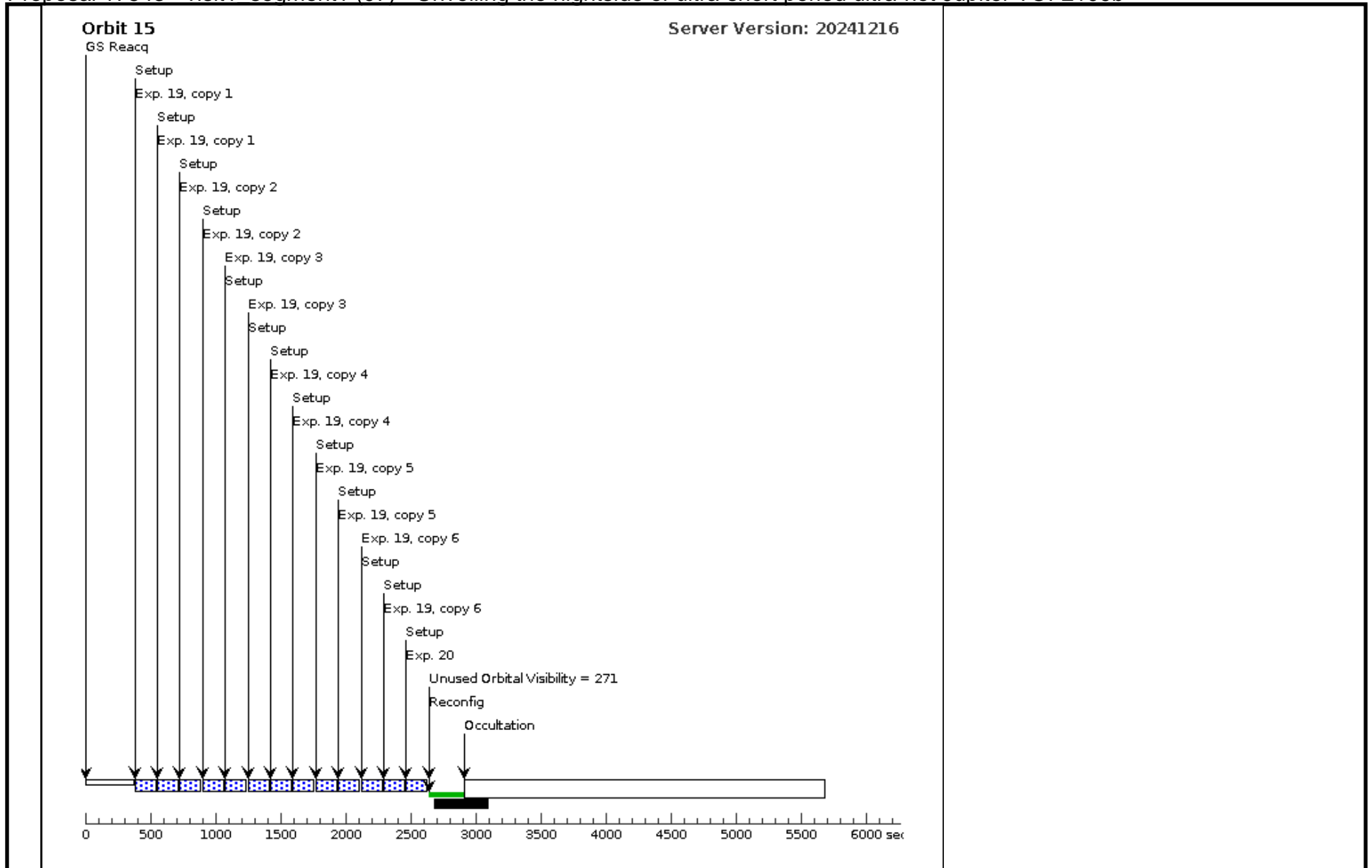
Orbit 12

GS Reacq









Proposal 17543 - visit2 segment1 (04) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Visit	Proposal 17543, visit2_segment1 (04), completed Wed Apr 16 17:01:18 GMT 2025 Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%; Period 0.67247414 D AND ZERO-PHASE HJD2459378.45937					
	(visit2_segment1 (04)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE (Exposure 1 (Sequence 1-3 Non-Int in visit2_segment1 (04)) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.					
Diagnosics						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[EXTRA-SOLAR PLANET, G III-I]						

Proposal 17543 - visit2 segment1 (04) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	F130N	NSAMP=3; SAMP-SEQ=RAPID	PHASE 0.25259079 40489727 TO 0.3021 589950408106; GS ACQ SCENARIO BASE1BR	Sequence 1-3 Non-Int in visit2_segment1 (04)	0.833445 Secs (0.833 Secs) [==>]	[1]
	2	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 1-3 Non-Int in visit2_segment1 (04)	134.354049 Secs X 6 (1612.249 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[1]
	3	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 1-3 Non-Int in visit2_segment1 (04)	134.354049 Secs (134.354 Secs) [==>]	[1]
	4	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 4-5 Non-Int in visit2_segment1 (04)	134.354049 Secs X 6 (1612.249 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[2]
	5	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPARS25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 4-5 Non-Int in visit2_segment1 (04)	134.354049 Secs (134.354 Secs) [==>]	[2]

Proposal 17543 - visit2 segment1 (04) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

6	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 6-7 Non-Int in visit2_segment1 (04)	134.354049 Secs X 6 (1612.249 Secs)	
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[3]
7	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 6-7 Non-Int in visit2_segment1 (04)	134.354049 Secs (134.354 Secs)	
							[==>]	[3]
8	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 8-8 Non-Int in visit2_segment1 (04)	134.354049 Secs X 7 (1880.957 Secs)	
							[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]

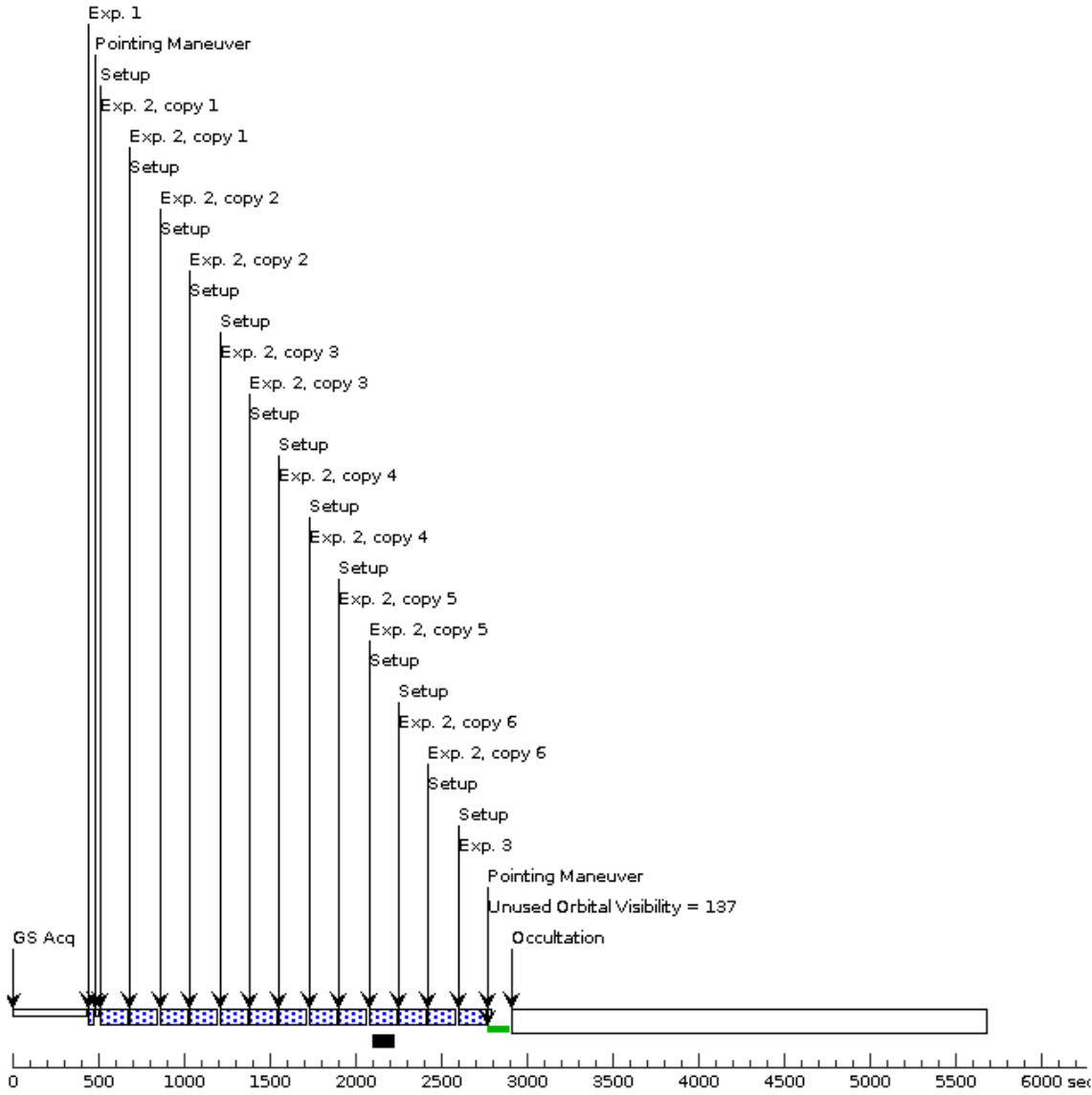
Proposal 17543 - visit2 segment1 (04) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

9	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 9-9 Non-Int in visit2_segment1 (04) 134.354049 Secs X 7 (1880.957 Secs)	[5]
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Orbit Structure

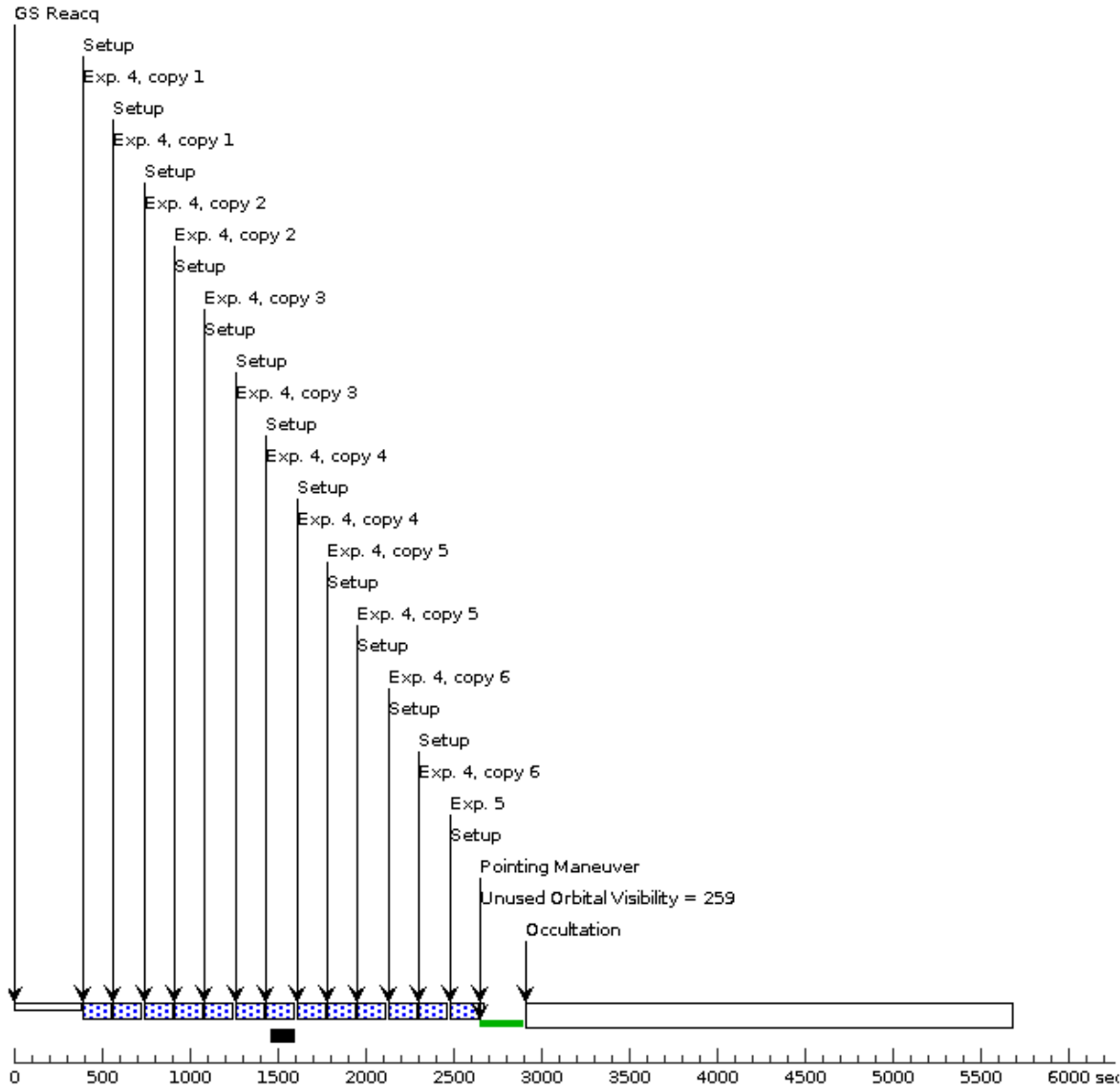
Orbit 1

Server Version: 20241216



Server Version: 20241216

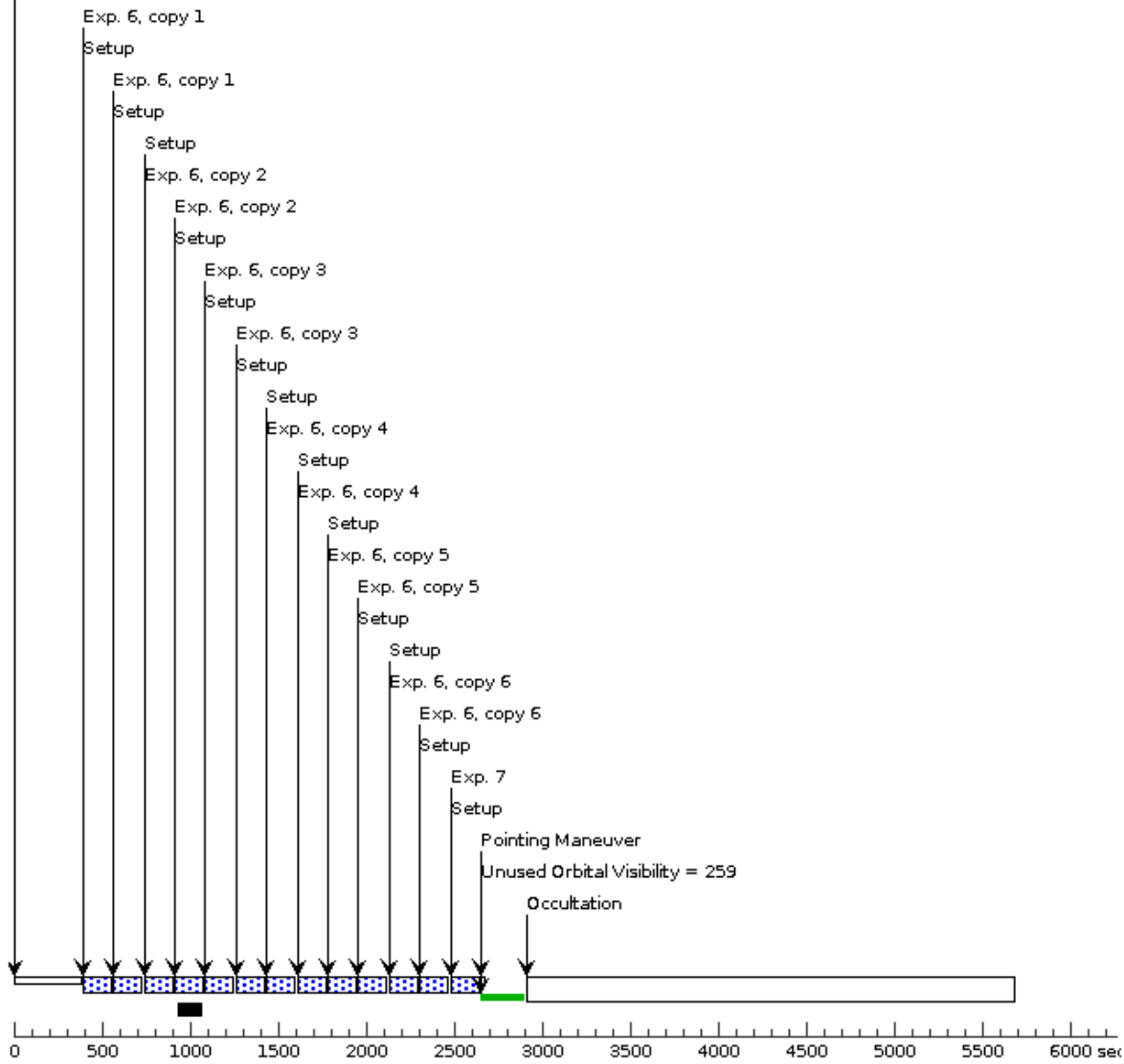
Orbit 2

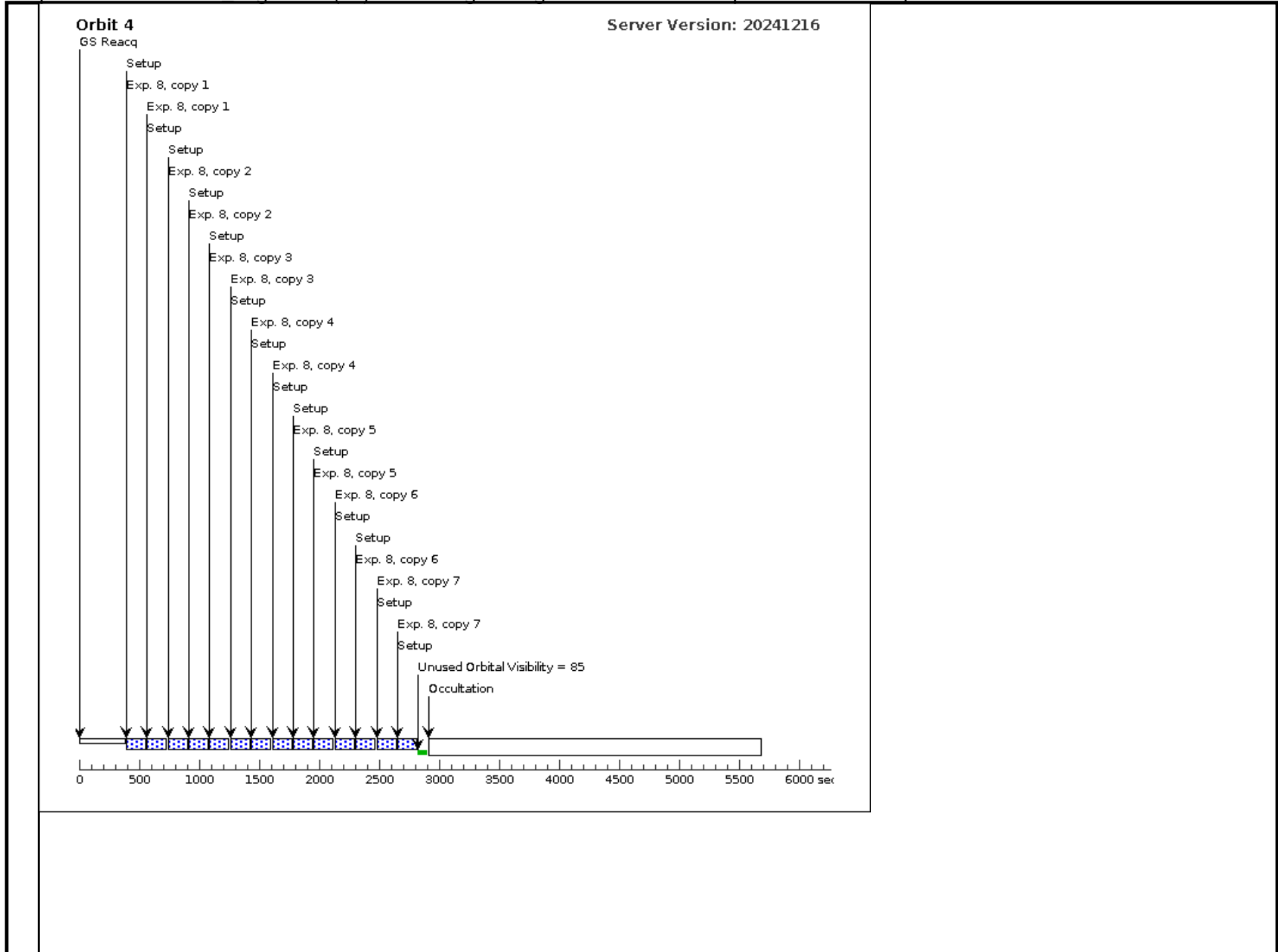


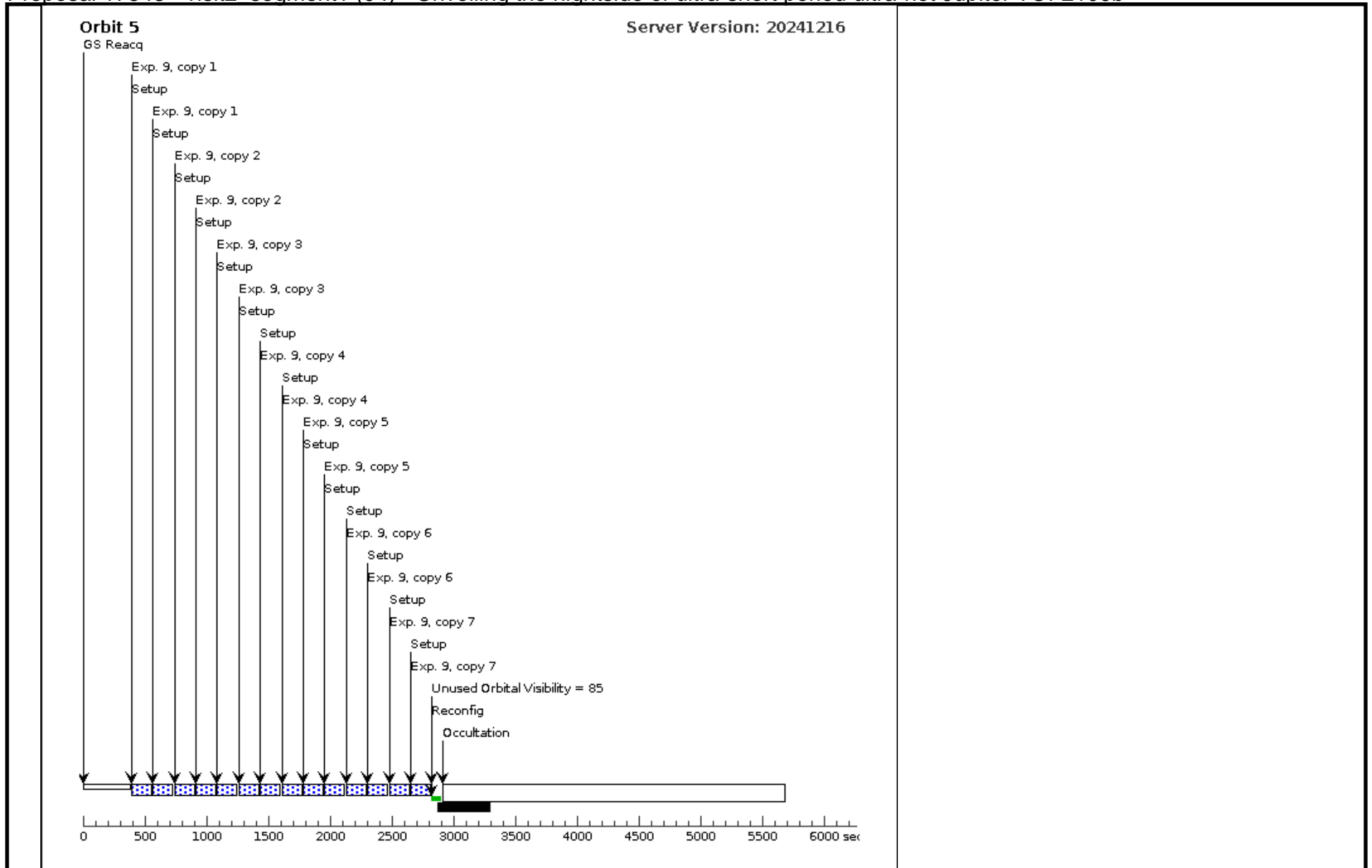
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Orbit 3

GS Reacq







Proposal 17543 - visit2 segment2 (05) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Visit	Proposal 17543, visit2_segment2 (05), completed Wed Apr 16 17:01:18 GMT 2025 Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%; AFTER_04 BY 4.9 Orbits TO 5.1 Orbits																
	(visit2_segment2 (05)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE (Exposure 1 (Sequence 1-1 Non-Int in visit2_segment2 (05)) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.																
Diagnosics																	
Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>BD+16-3058</td> <td> RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000 </td> <td> Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5 </td> <td>V=10.22</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD				
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Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[EXTRA-SOLAR PLANET, G III-I]																	

Proposal 17543 - visit2 segment2 (05) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip; GS ACQ SCENARI O BASE1BR	Sequence 1-1 Non-Int in visit2_segment2 (05)		134.354049 Secs X 7 (1880.957 Secs)	
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[1]
2	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 2-2 Non-Int in visit2_segment2 (05)		134.354049 Secs X 7 (1880.957 Secs)	
								[==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[2]

Exposures

Proposal 17543 - visit2 segment2 (05) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

3	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 3-3 Non-Int in visit2_segment2 (05)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[3]
4	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 4-4 Non-Int in visit2_segment2 (05)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]
5	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 5-6 Non-Int in visit2_segment2 (05)	134.354049 Secs X 6 (1612.249 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)]	[5]

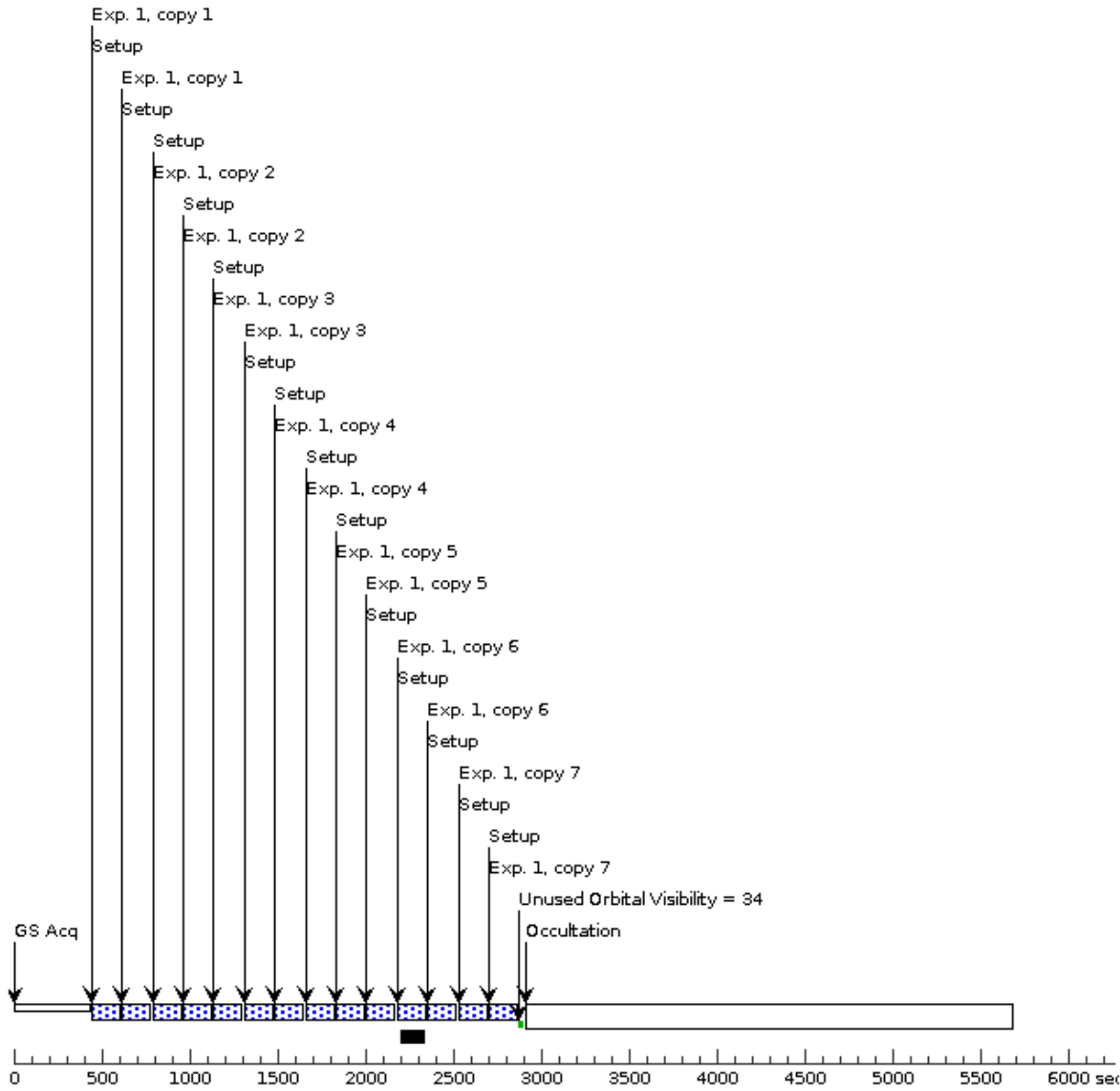
Proposal 17543 - visit2 segment2 (05) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

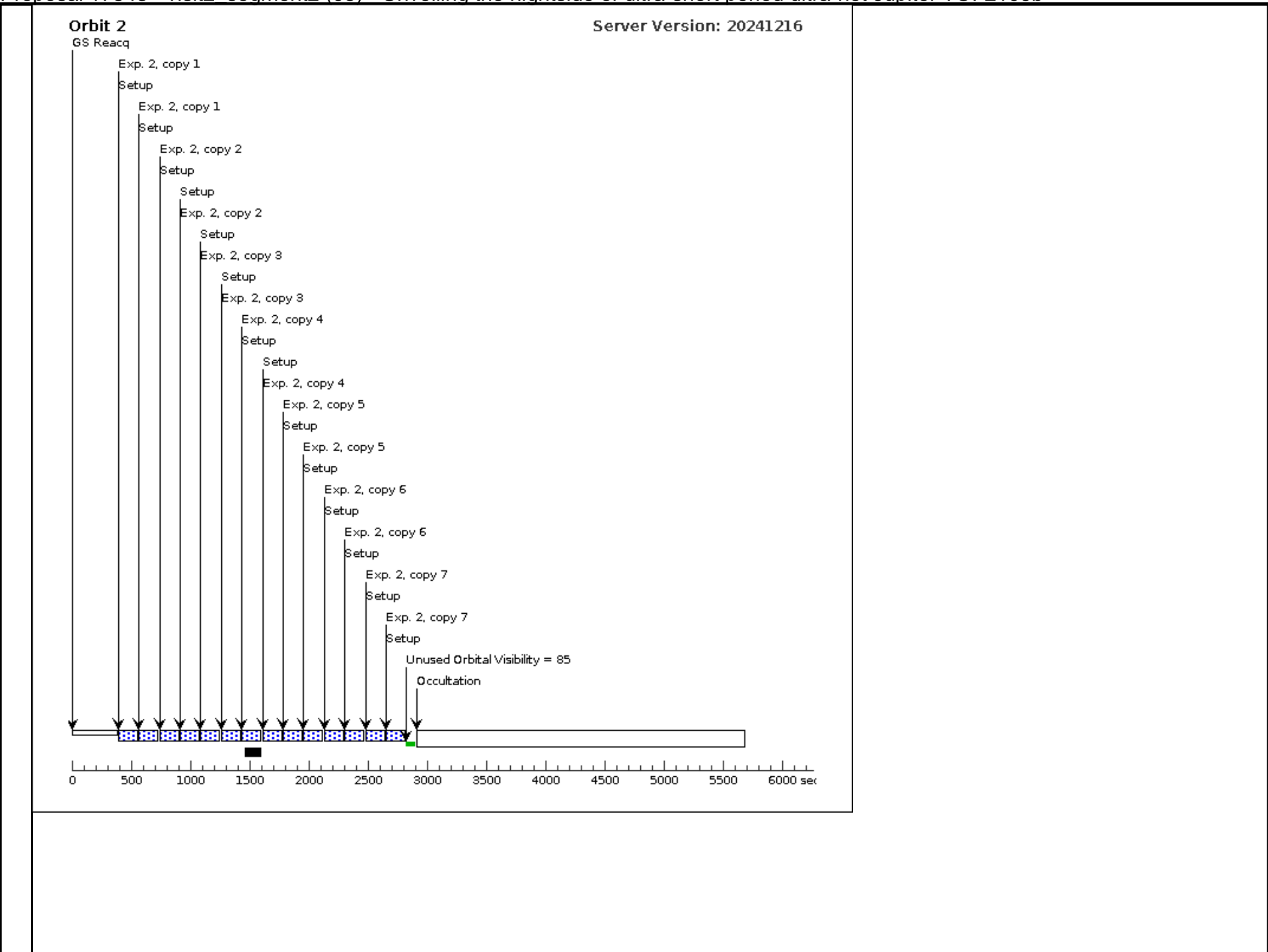
6	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 5-6 Non-Int in visit2_segment2 (05) [==>]	134.354049 Secs (134.354 Secs)	[5]
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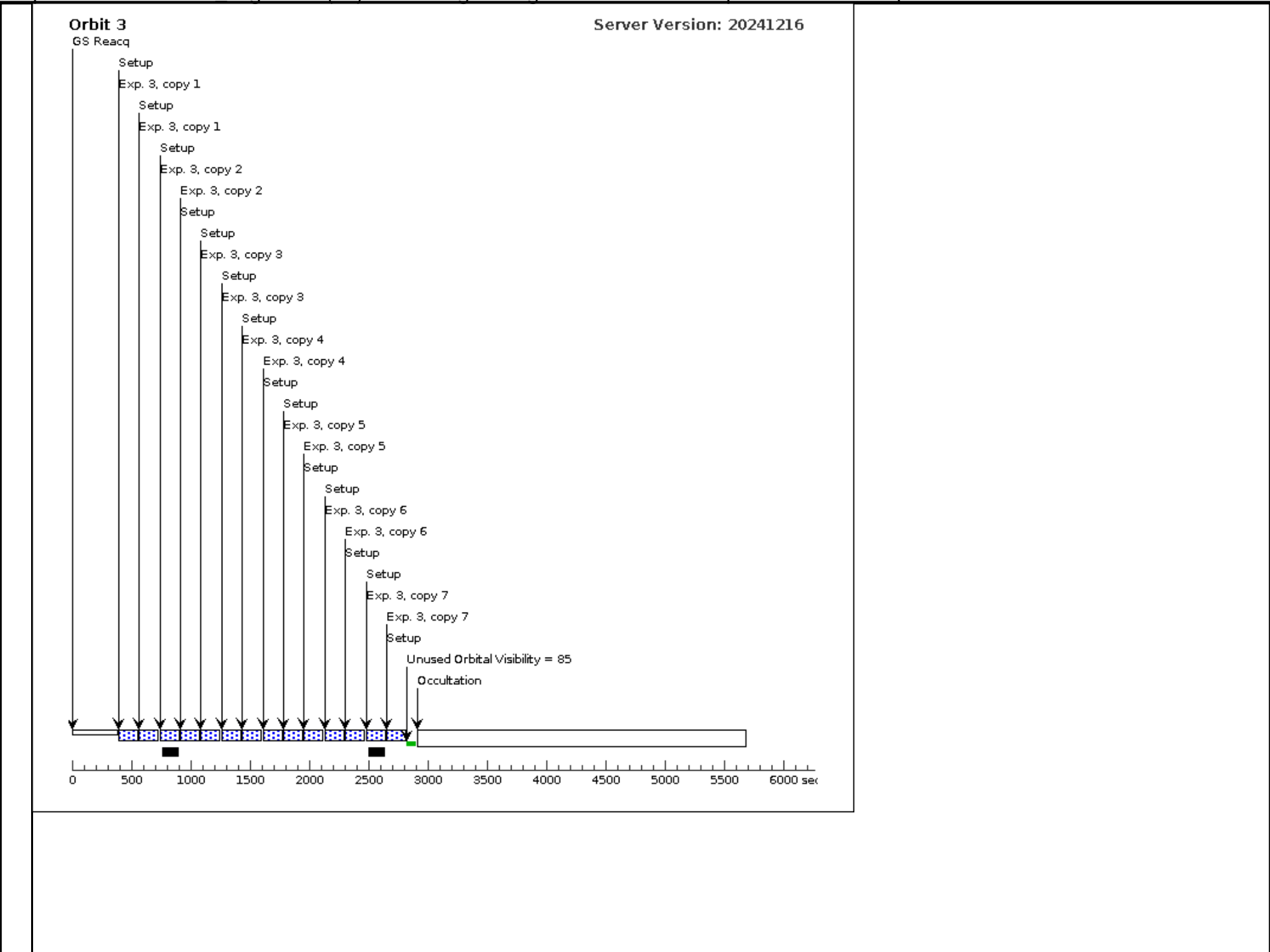
Orbit Structure

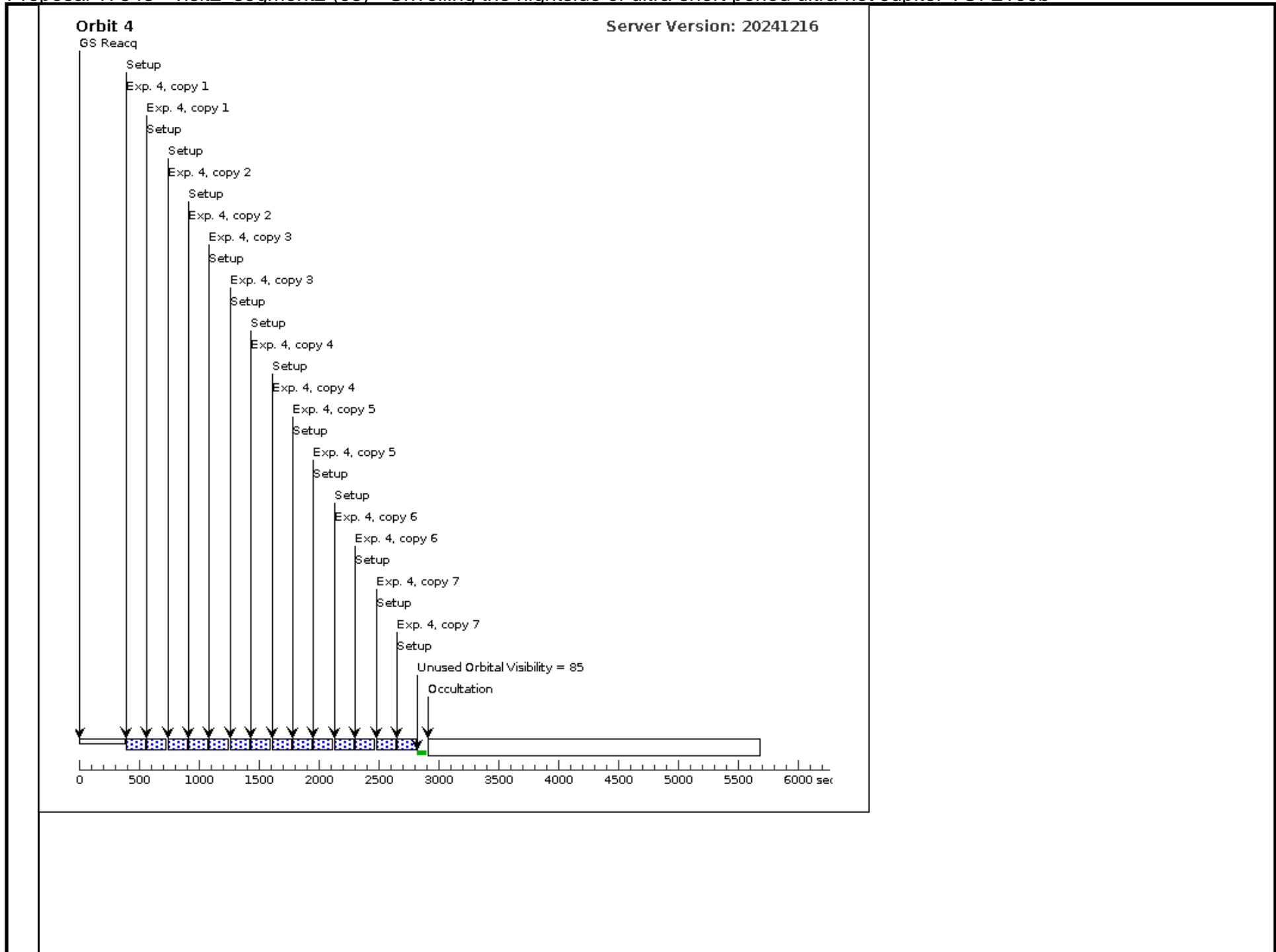
Orbit 1

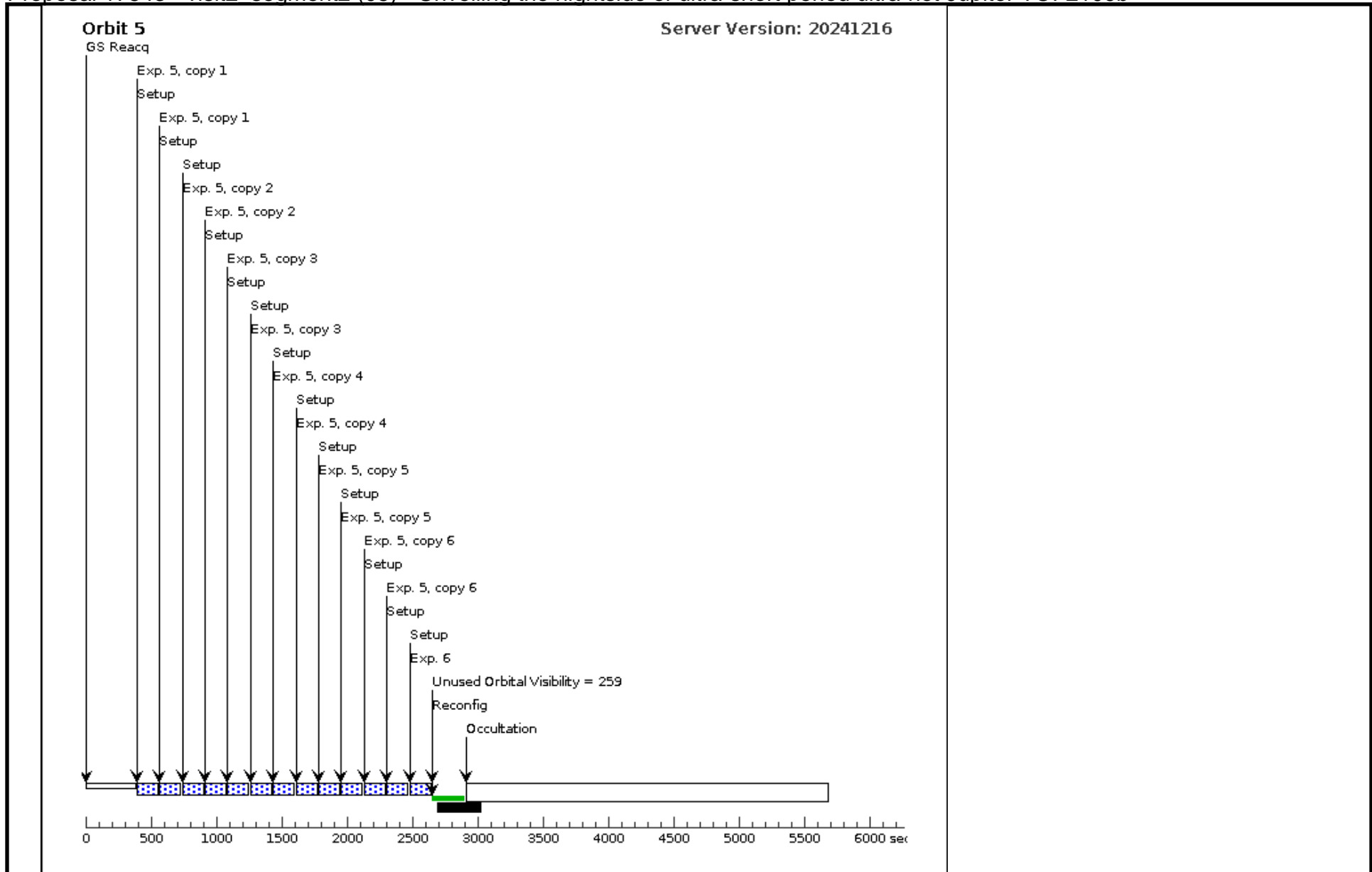
Server Version: 20241216











Proposal 17543 - visit2 segment3 (06) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

Visit	Proposal 17543, visit2_segment3 (06), completed Wed Apr 16 17:01:18 GMT 2025 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%; AFTER_05 BY 4.9 Orbits TO 5.1 Orbits												
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>BD+16-3058</td> <td> RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000 </td> <td> Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5 </td> <td>V=10.22</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table> <p> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[EXTRA-SOLAR PLANET, G III-I] </p>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous								
(1)	BD+16-3058	RA: 16 52 44.7113 (253.1862971d) Dec: +16 34 47.70 (16.57992d) Equinox: J2000	Proper Motion RA: -5.783113115237809E-4 sec of time/yr Proper Motion Dec: -0.009350999948765093 arcsec/yr Epoch of Position: 2015.5	V=10.22	Reference Frame: SIMBAD								

Proposal 17543 - visit2 segment3 (06) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 1-2 Non-Int in visit2_segment3 (06)	134.354049 Secs X 6 (1612.249 Secs)	[1]	
							[==>(Copy 1, Forward)]		
							[==>(Copy 1, Reverse)]		
2	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Forward	Sequence 1-2 Non-Int in visit2_segment3 (06)	134.354049 Secs (134.354 Secs)	[1]	
							[==>]		
3	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 3-3 Non-Int in visit2_segment3 (06)	134.354049 Secs X 7 (1880.957 Secs)	[2]	
							[==>(Copy 1, Forward)]		
							[==>(Copy 1, Reverse)]		

Exposures

Proposal 17543 - visit2 segment3 (06) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

4	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 4-4 Non-Int in visit2_segment3 (06)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[3]
5	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 5-5 Non-Int in visit2_segment3 (06)	134.354049 Secs X 7 (1880.957 Secs) [==>(Copy 1, Forward)] [==>(Copy 1, Reverse)] [==>(Copy 2, Forward)] [==>(Copy 2, Reverse)] [==>(Copy 3, Forward)] [==>(Copy 3, Reverse)] [==>(Copy 4, Forward)] [==>(Copy 4, Reverse)] [==>(Copy 5, Forward)] [==>(Copy 5, Reverse)] [==>(Copy 6, Forward)] [==>(Copy 6, Reverse)] [==>(Copy 7, Forward)] [==>(Copy 7, Reverse)]	[4]

Proposal 17543 - visit2 segment3 (06) - Unveiling the nightside of ultra-short period ultra-hot Jupiter TOI-2109b

6	(1) BD+16-3058	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-10; SPATIAL SCAN 0.1 12283,90.0 Degrees, Round trip	Sequence 6-6 Non-Int in visit2_segment3 (06) 134.354049 Secs X 7 (1880.957 Secs)	[5]
<p>[==>(Copy 1, Forward)]</p> <p>[==>(Copy 1, Reverse)]</p> <p>[==>(Copy 2, Forward)]</p> <p>[==>(Copy 2, Reverse)]</p> <p>[==>(Copy 3, Forward)]</p> <p>[==>(Copy 3, Reverse)]</p> <p>[==>(Copy 4, Forward)]</p> <p>[==>(Copy 4, Reverse)]</p> <p>[==>(Copy 5, Forward)]</p> <p>[==>(Copy 5, Reverse)]</p> <p>[==>(Copy 6, Forward)]</p> <p>[==>(Copy 6, Reverse)]</p> <p>[==>(Copy 7, Forward)]</p> <p>[==>(Copy 7, Reverse)]</p>							

