15947 - Dancing with the Dwarfs: Very High Quality Spatial and Spectral Maps of Hot Jupiters Proxies

Cycle: 27, Proposal Category: GO

(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?*
A1	(1) BPS-CS-29504-0036	WFC3/IR	5	28-Jul-2020 17:00:44.0	yes
B1	(2) GD-1400	WFC3/IR	8	28-Jul-2020 17:01:42.0	yes
C1	(3) LSPM-J0135+1445	WFC3/IR	3	28-Jul-2020 17:01:48.0	yes
C2	(3) LSPM-J0135+1445	WFC3/IR	3	28-Jul-2020 17:01:50.0	yes
D1	(4) SDSS-J141126.20+200911.1	WFC3/IR	6	28-Jul-2020 17:01:55.0	yes
E1	(5) SDSS-J155720.78+091624.7	WFC3/IR	5	28-Jul-2020 17:01:59.0	yes
E2	(5) SDSS-J155720.78+091624.7	WFC3/IR	5	28-Jul-2020 17:02:03.0	yes
F1	(6) GSC2.3-SBBO006229	WFC3/IR	4	28-Jul-2020 17:02:06.0	yes
Z1	(5) SDSS-J155720.78+091624.7	WFC3/IR	5	28-Jul-2020 17:02:09.0	yes

44 Total Orbits Used

ABSTRACT

Hot Jupiters are fascinating, but have complex atmospheres, in which the interplay of radiation transport, atmospheric dynamics, condensation, and chemistry shape the atmospheres's structure and spectra. Current data on hot Jupiters offers tantalizing insight into these worlds, but do not have high enough quality to settle several fundamental questions. A rare group of tight white dwarf-brown dwarf binaries provide a unique opportunity to sample highly irradiated ultracool atmospheres with very high significance level observations. In these systems the signal level between dayside and nightside spectra are typically a hundred times higher than that for any hot jupiter.

We propose HST time-resolved spectroscopy of six BD+WD pairs that encompass the entire temperature range of hot Jupiters and ultra hot jupiters: from 800K to 4300K. The very high data quality and the complete temperature sequence will allow us to address three key processes that challenge hot Jupiter models: a) Localized formation and destruction of condensate clouds; b) Day/nightside heat transport and irradiation- driven circulation; and 3) Dayside thermal dissociation of molecules. Our observations will provide a high- fidelity, spatially resolved spectral library for objects spanning the entire temperature range of hot jupiters with less telescope time than that is typically spent on detailed study of a single hot Jupiter. The high quality benchmark spectra will verify temperature- and irradiation-dependent trends and will provide a reference library for future hot Jupiter studies. HST can uniquely obtain the high-precision, time-resolved, near-infrared spectroscopy required by our science goals.

OBSERVING DESCRIPTION

Sample Size: In this proposal we explore three atmospheric processes: cloud formation through silicate condensation, day-night heat transport, and molecular dissociation and recombination. We will obtain longitudinal spectral maps of our targets, allowing us to explore how a given atmosphere changes with longitude. The most important parameter influencing these processes is temperature; therefore, we will observe a sample of WD+BD pairs that define a temperature sequence, encompassing the temperature range from hottest to coldest hot jupiters. The targeted six WD+BD pairs have brown dwarf equilibrium temperatures that are almost uniformly distributed from 700 K to 4,000 K. Our targets encompass the near-complete temperature range present in hot jupiters and ultra-hot jupiters (e.g., Parmentier et al. 2018). The six targets are the smallest sample that is robust to outliers when exploring trends in three different processes.

Target Selection: There are nine known detached WD+BD systems (Parsons et al. 2017). In evaluating the possible targets we considered the J-band brightness of the system, the predicted range of near-infrared variability, the predicted difference between the day and night spectra, and the orbital

period of the system. On the basis of our comprehensive assessment we identified six targets as ideal systems for this study. Our sample of six objects encompasses the near-complete range of effective temperatures represented in hot jupiters.

Predicted Results: In our calculations we included a realistic observing efficiency and sampling strategy and used the WFC3 ETC 26.1 to estimate the signal-to-noise ratio. In summary, we will be able to observe 5--10%-level near-infrared modulations at SNRs of 169--1325 for the WFC3/G141 white light curves at cadences of 100--400 seconds or SNRs of 94--1071 for the phase-folded spectral light curves with seven-pixels-wide bands at a sample rate of 15 samples per full phase. Such high-quality spectral series will enable us to retrieve longitudinally resolved maps for every target.

Observing Mode: All observations will use the WFC3/IR G141 instrument in time-series mode. The instrument's high throughput from 1.1 to 1.7 μm, the remarkable sensitivity in the 1.4\,μm water absorption band, and the extraordinary photometric stability make WFC3/IR G141 the best and only choice to achieve our goals. Due to the relative faintness of our targets, we opt to conduct the observations in staring mode. Depending on the brightness of the targets, the exposure setup will be SPARS25, NSAMP=5-15, which result in cadences from 130 to 410 seconds. Light curves at these cadences will resolve the spectral modulations at sample rates greater than ten per brown dwarf orbit.

Exposure Time Calculation and Signal-to-Noise Ratio Estimate: We estimate the required exposure times and SNR achieved using the WFC3 Exposure Time Calculator. For the three brightest targets in our sample (GD1400, WD 0137-349, and NLTT5306) we will achieve an SNR> 1,000 in a single G141 exposure in white light. With a 10 pixel-wide spectral bins---typical in exoplanet transmission spectroscopy---the average SNR in the each bin will exceed 300. For the faintest target in our sample, WD~1557+0916, we will obtain an SNR of 169 in white light for a single SPARS25, NSAMP=15 exposure (exposure time: 313~s.), and an average SNR of 53 for the 10-pixel wide spectral bands. All targets have precise period measurements from radial velocity measurements, allowing us to phase-fold the light curves, further increasing the precision.

Telescope Time Justification: We request the minimum number of HST orbits to meet the goals we identified previously. Our goals require full phase coverage for the brown dwarf orbits and high-SNR spectral time series. WD+BD binaries GD1400 and NLTT5306 require a special approach for obtaining full phase coverage. For GD1400, which has the longest orbital period (10.0 hours) in our sample, we request eight consecutive orbits to ensure complete phase coverage. NLTT5306's orbital period is only 0.06% longer than the HST period. For this object we will use two 3-orbit-long visits separated by eight orbits to sample its complete phase curve.

We calculate the SNR requirements on the basis of distinguishing spectral modulations from three representative cases that are outlined in the Predicted Results section. We set the SNR criterion so that the day/night differential spectra are separated by more than 5σ at 1.4~μm. In

the simulation we also assume a J-band modulation amplitude of 6% (same as WD~0137-329 in J Casewell et al. (2015)). With this criterion, we request six and ten HST orbits for the two faintest targets, WD~1411+2009 and WD~1557+0916.

Special Requirements

For NLTT5306 we require two coordinated visits, separated by 8 orbits. For our faintest object WD~1557+0916 we require 10 orbits, preferably obtained consecutively. However, two 5-orbit visits are also suitable. In the apt file, we set two 5-orbit visits and place a timing constraint so that the two visits do not separate for more than 4 orbits.

Visit

Proposal 15947, WD0137-329 (A1), completed Tue Jul 28 21:02:10 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(WD0137-329 (A1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WD0137-329 (A1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

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(WD0137-329 (A1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	BPS-CS-29504-0036	RA: 01 39 42.8003 (24.9283346d) Dec: -34 42 40.34 (-34.71121d) Equinox: J2000	Proper Motion RA: -0.0034079747235994887 sec of time/yr Proper Motion Dec: -0.0489959999868006 arcsec/yr Epoch of Position: 2015.5	V=15.33	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct-Imaging (WFC3IR.im.1366475)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs (29.664 Secs) *[==>]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366468)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=9; SAMP-SEQ=SPARS25			179.046127 Secs X 14 (2506.646 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]*	***[1]***
3	Direct-Imaging (WFC3IR.im.1366475)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs (29.664 Secs) *[==>]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366468)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=9; SAMP-SEQ=SPARS25			179.046127 Secs X 14 (2506.646 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]*	***[2]***
5	Direct-Imaging (WFC3IR.im.1366475)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs (29.664 Secs) *[==>]*	***[3]***

	6	Spectroscopy (WFC3IR.sp.1366468)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=9; SAMP-SEQ=SPARS25	179.046127 Secs X 14 (2506.646 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]*	***[3]***
	7	Direct-Imaging (WFC3IR.im.1366475)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=5	29.663763 Secs (29.664 Secs)	
							[==>]	***[4]***
	8	Spectroscopy (WFC3IR.sp.1366468)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=9; SAMP-SEQ=SPARS25	179.046127 Secs X 14 (2506.646 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]*	***[4]***
	9	Direct-Imaging (WFC3IR.im.1366475)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=5	29.663763 Secs (29.664 Secs)	
							[==>]	***[5]***

	10	Spectroscopy (WFC3IR.sp.1366468)	(1) BPS-CS-29504-0036	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=9; SAMP-SEQ=SPARS25	179.046127 Secs X 14 (2506.646 Secs)	
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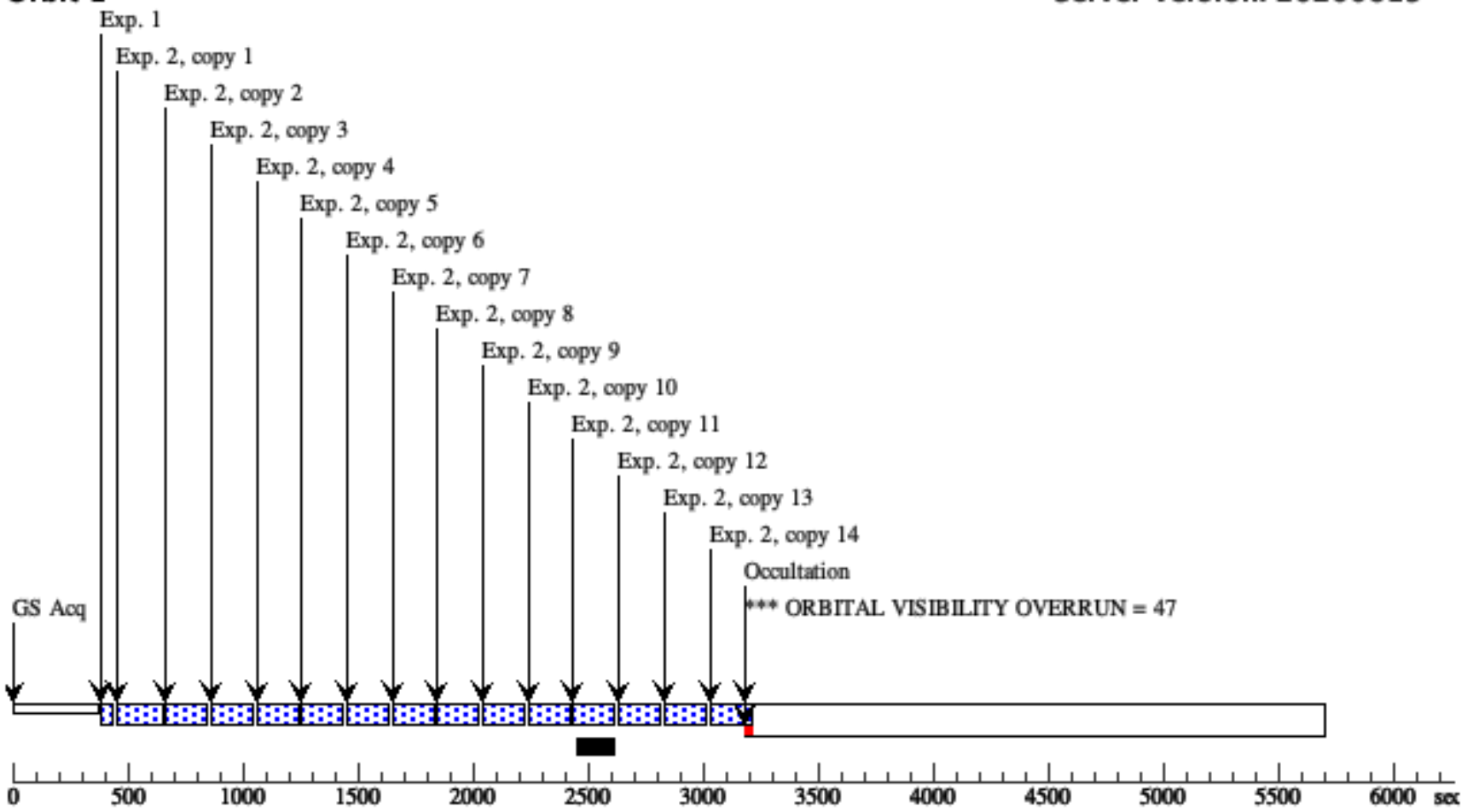
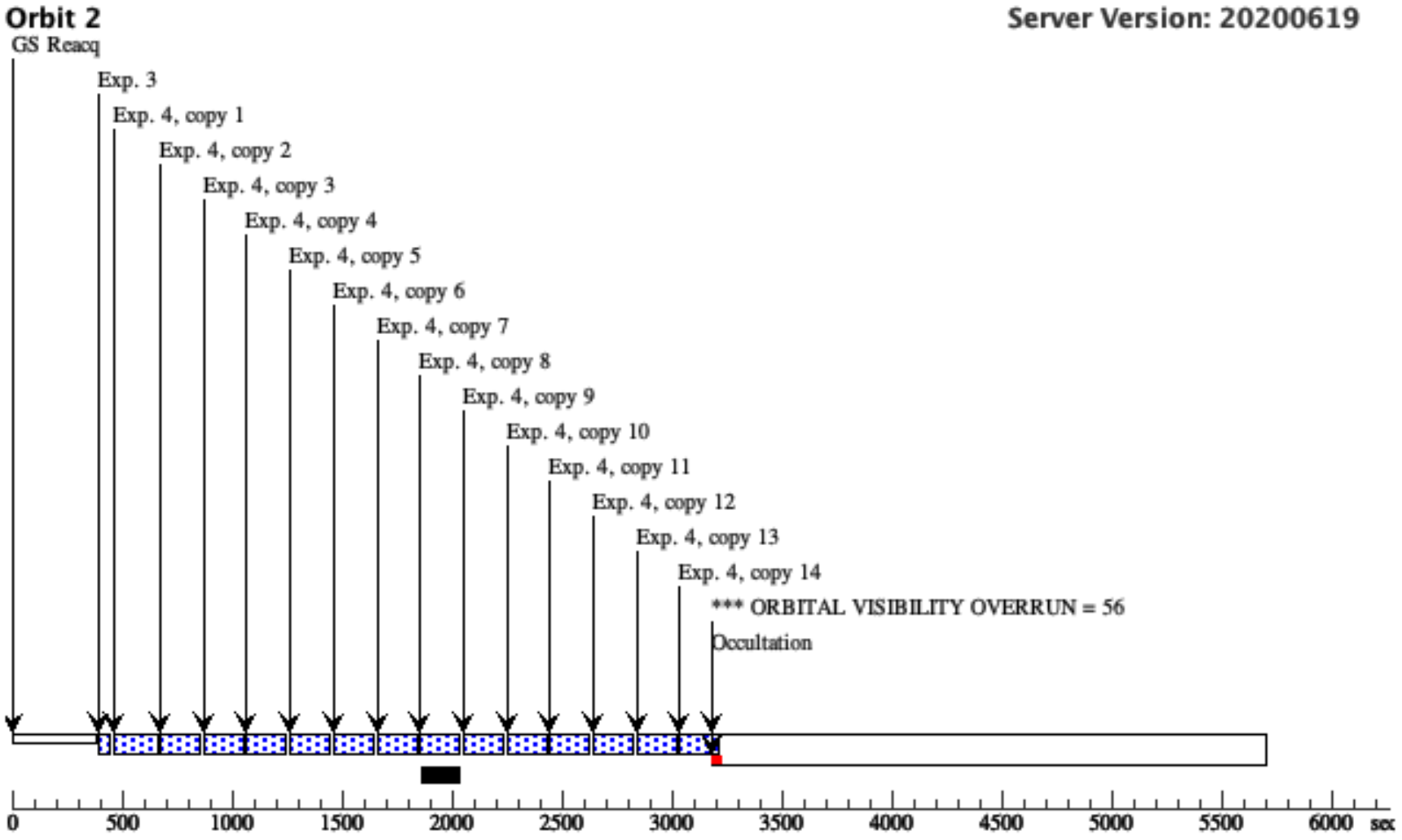
Orbit Structure

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Exp. 4, copy 3
Exp. 4, copy 4
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Exp. 4, copy 6
Exp. 4, copy 7
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Exp. 4, copy 9
Exp. 4, copy 10
Exp. 4, copy 11
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Exp. 4, copy 13
Exp. 4, copy 14
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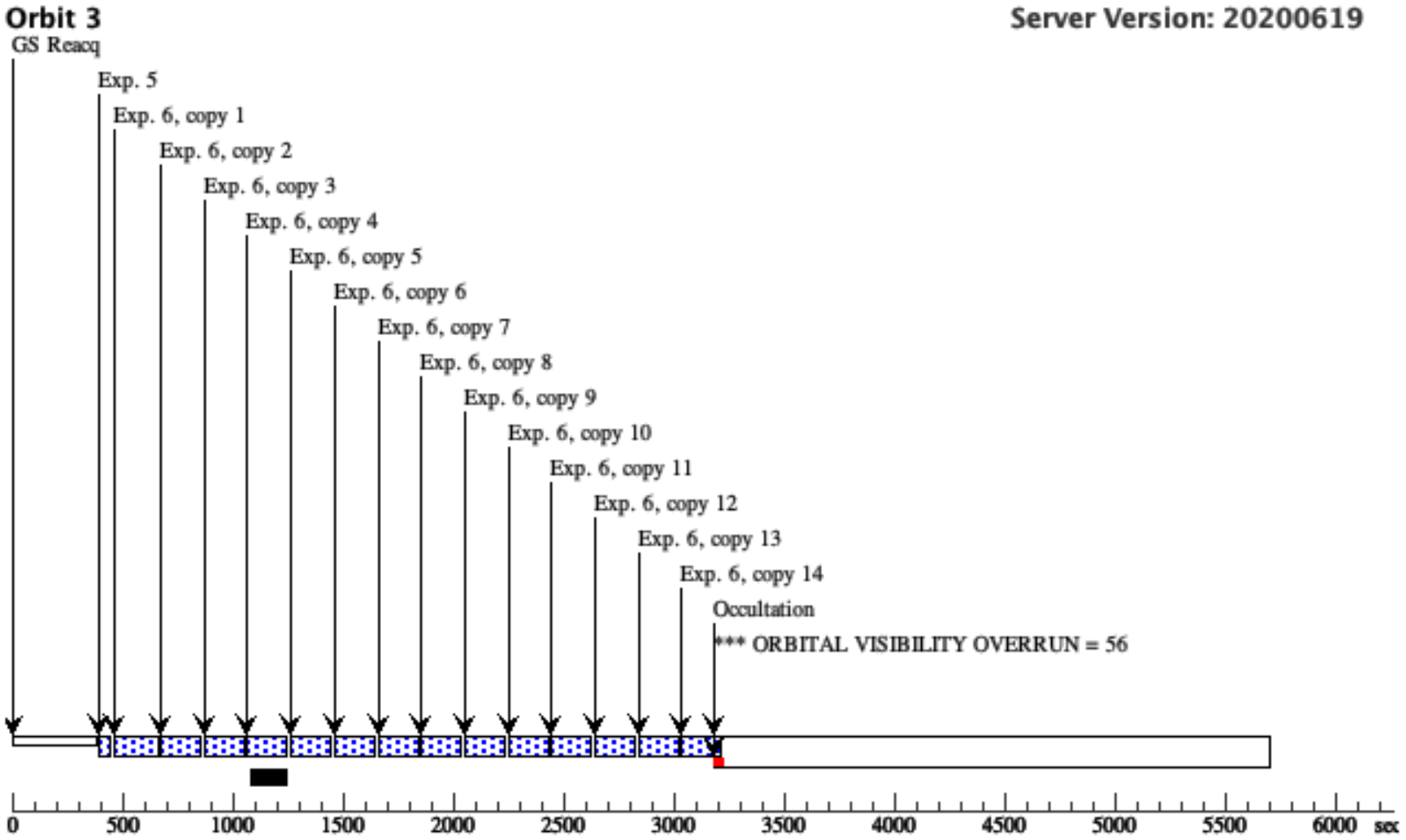
Orbit 3
Server Version: 20200619
GS Reacq
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Exp. 6, copy 9
Exp. 6, copy 10
Exp. 6, copy 11
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Exp. 6, copy 13
Exp. 6, copy 14
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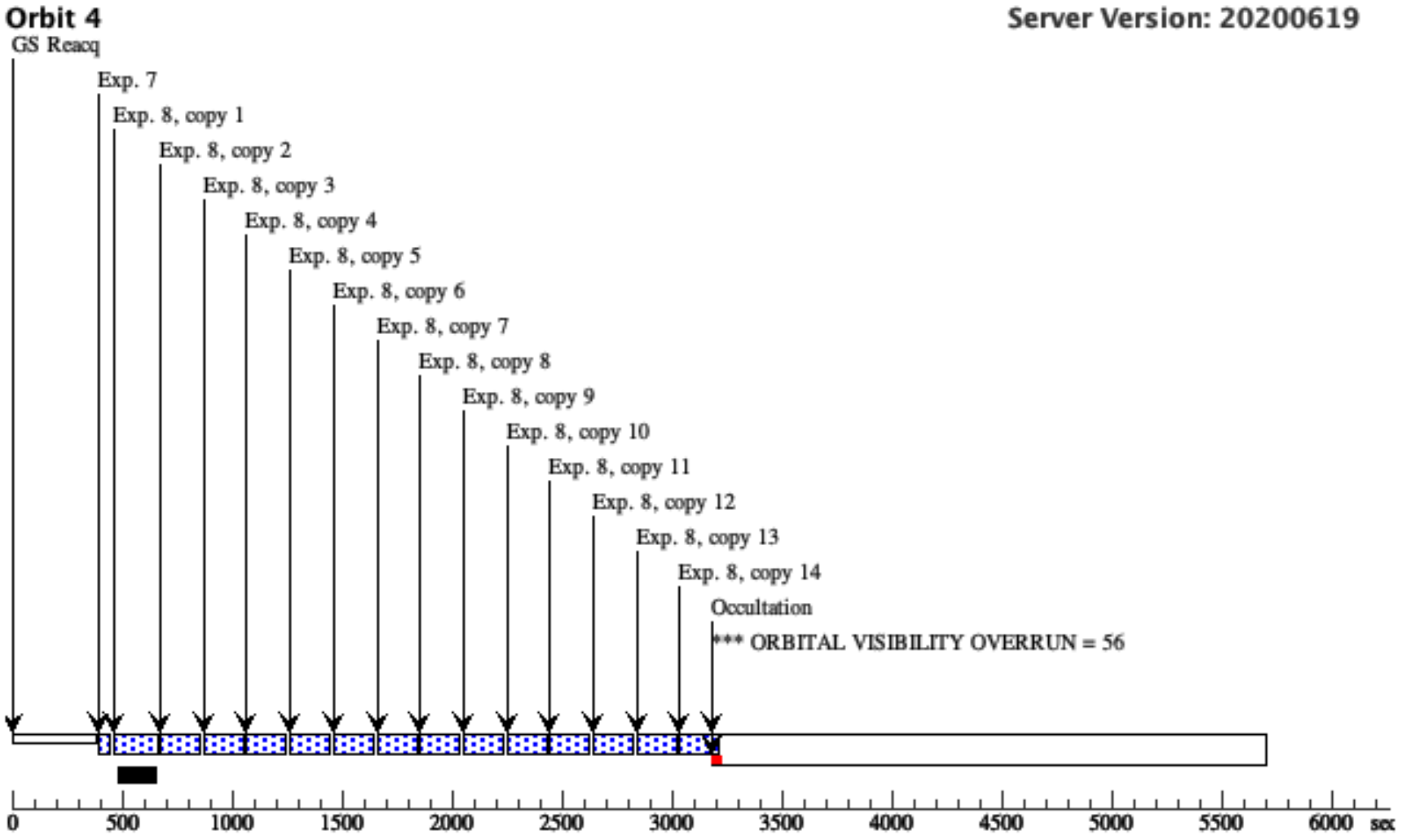
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Server Version: 20200619
GS Reacq
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Exp. 8, copy 8
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Exp. 8, copy 11
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Exp. 8, copy 14
Occultation
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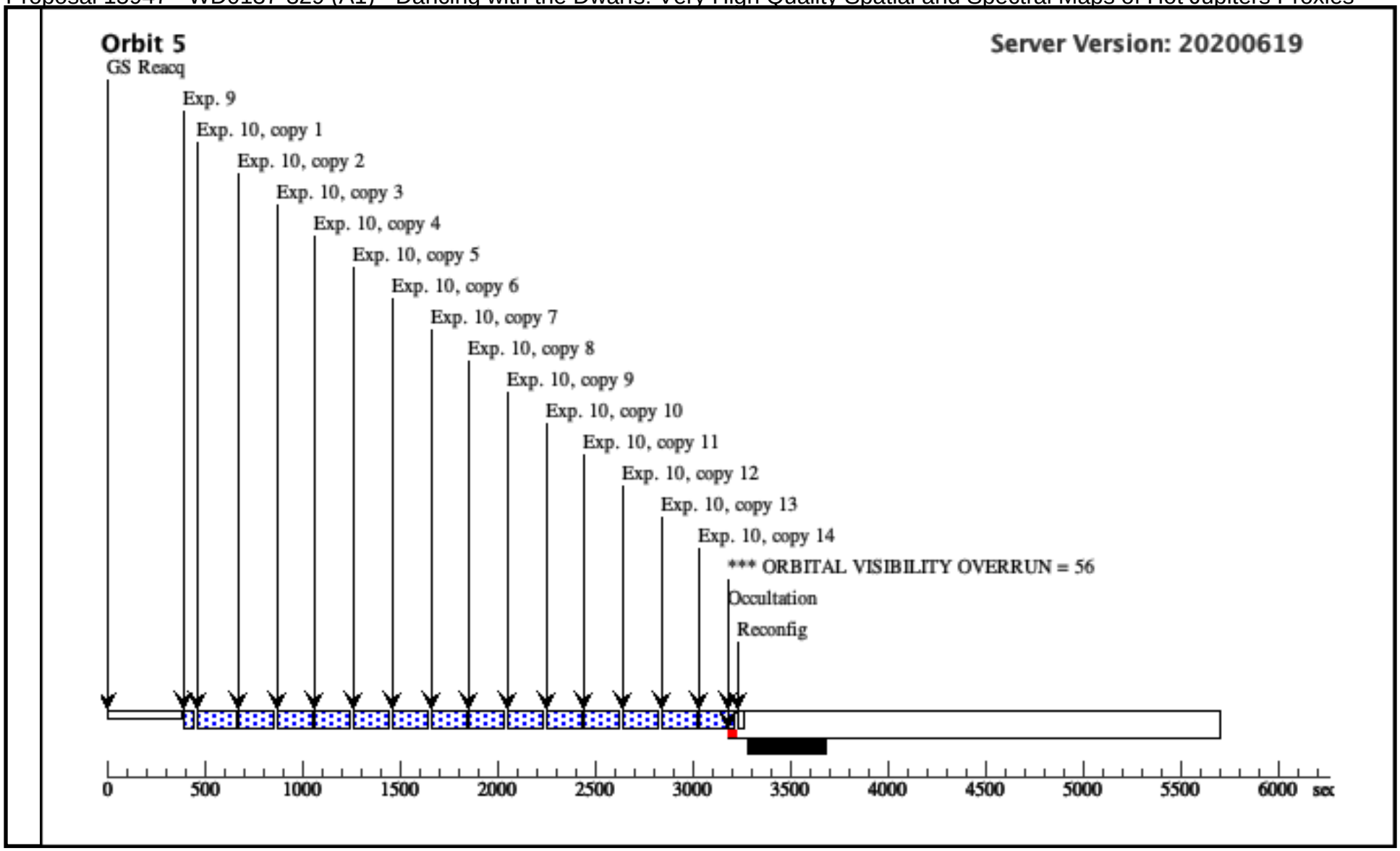
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Exp. 10, copy 8
Exp. 10, copy 9
Exp. 10, copy 10
Exp. 10, copy 11
Exp. 10, copy 12
Exp. 10, copy 13
Exp. 10, copy 14
*** ORBITAL VISIBILITY OVERRUN = 56
Occultation
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Visit

Proposal 15947, GD1400 (B1), scheduling Tue Jul 28 21:02:11 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(GD1400 (B1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
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(GD1400 (B1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GD-1400	RA: 01 47 21.8996 (26.8412483d) Dec: -21 56 51.76 (-21.94771d) Equinox: J2000	Proper Motion RA: 0.004838538117759716 sec of time/yr Proper Motion Dec: -0.024368000072172435 arcsec/yr Epoch of Position: 2015.5	V=(?) J=14.92	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4			22.317276 Secs X 2 (44.635 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25			89.661971 Secs X 25 (2241.549 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4			22.317276 Secs X 2 (44.635 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***

	4	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
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	5	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[3]***

	6	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
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	7	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[4]***

	8	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[4]***
	9	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[5]***

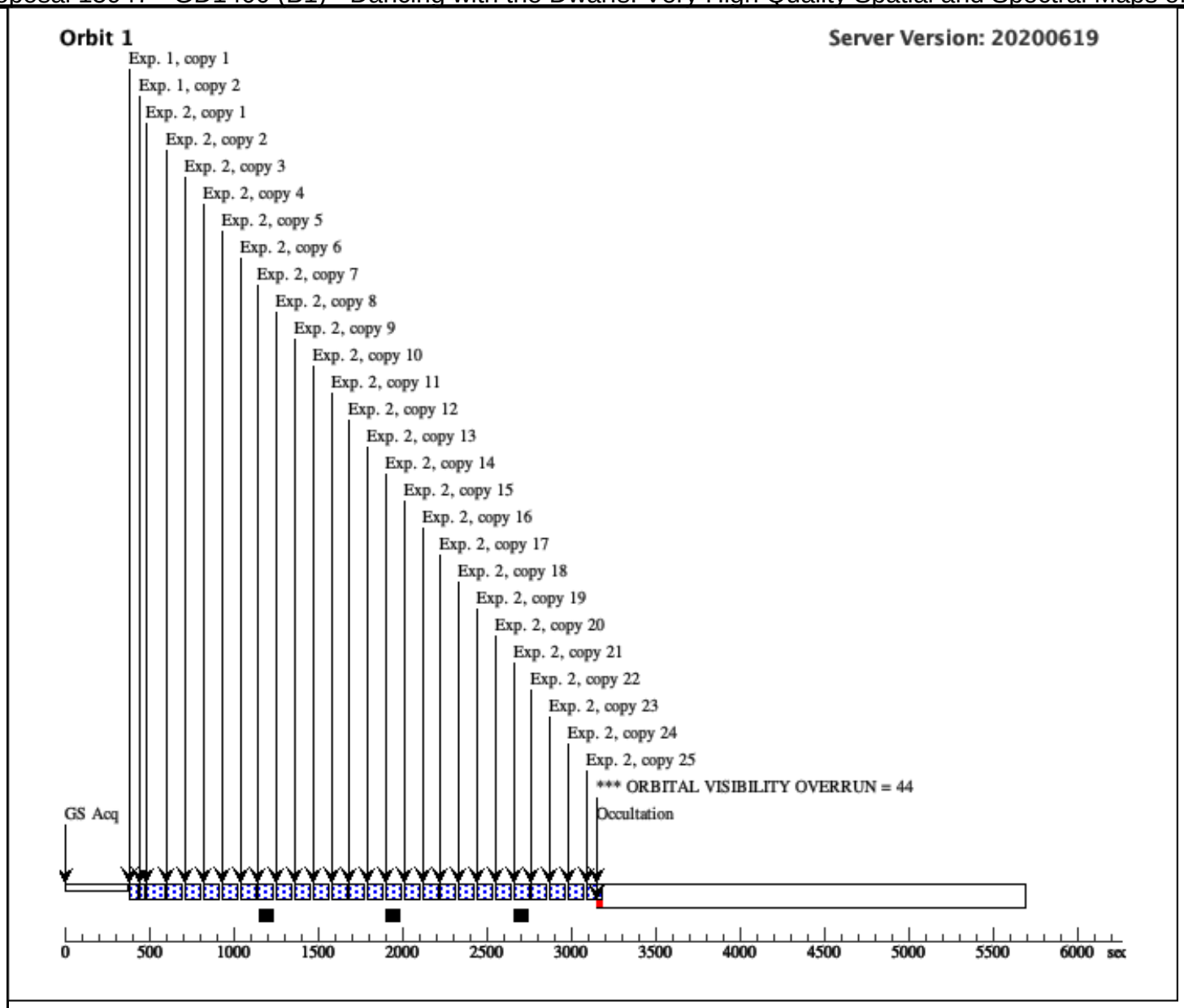
	10	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[5]***
	11	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[6]***

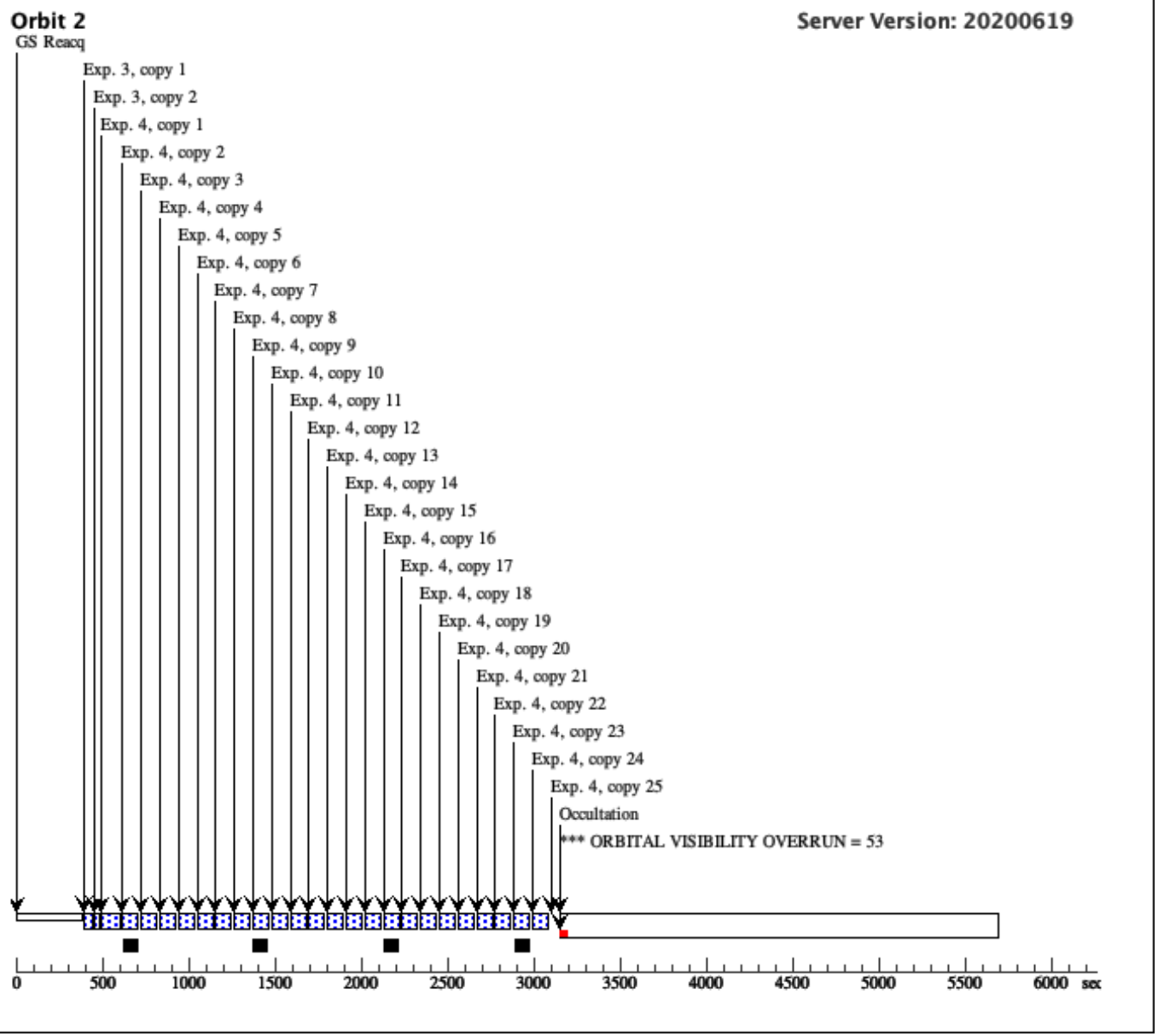
	12	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[6]***
	13	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[7]***

	14	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[7]***
	15	Direct Imaging (WFC3IR.im.1366481)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	F132N	SAMP-SEQ=SPARS10; NSAMP=4	22.317276 Secs X 2 (44.635 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]*	***[8]***

	16	Spectroscopy (WFC3IR.sp.1366482)	(2) GD-1400	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=5; SAMP-SEQ=SPARS25	89.661971 Secs X 25 (2241.549 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]* *[==>(Copy 22)]* *[==>(Copy 23)]* *[==>(Copy 24)]* *[==>(Copy 25)]*	***[8]***

Orbit Structure

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GS Reacq
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Exp. 4, copy 24
Exp. 4, copy 25
Occultation
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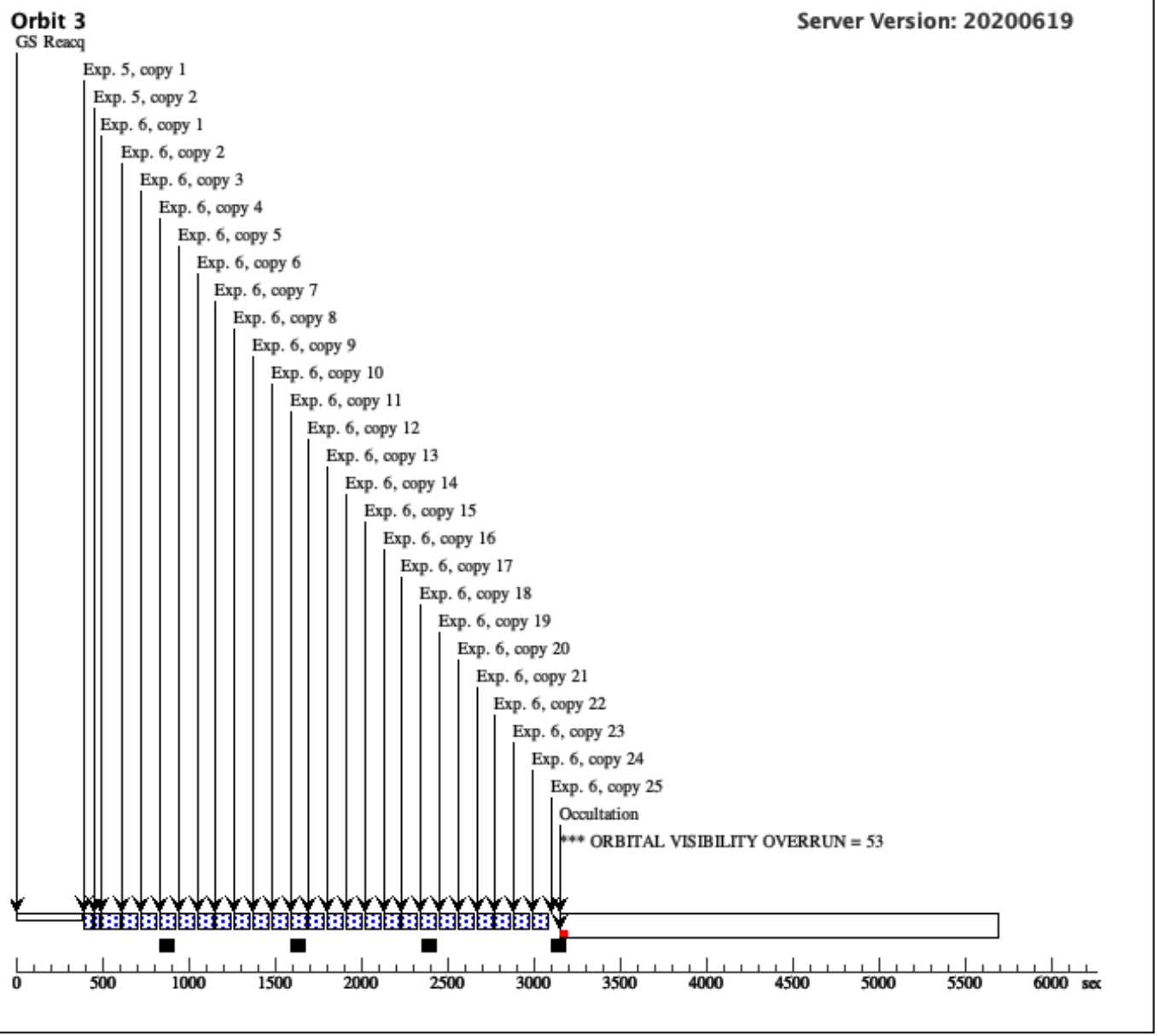
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Exp. 6, copy 24
Exp. 6, copy 25
Occultation
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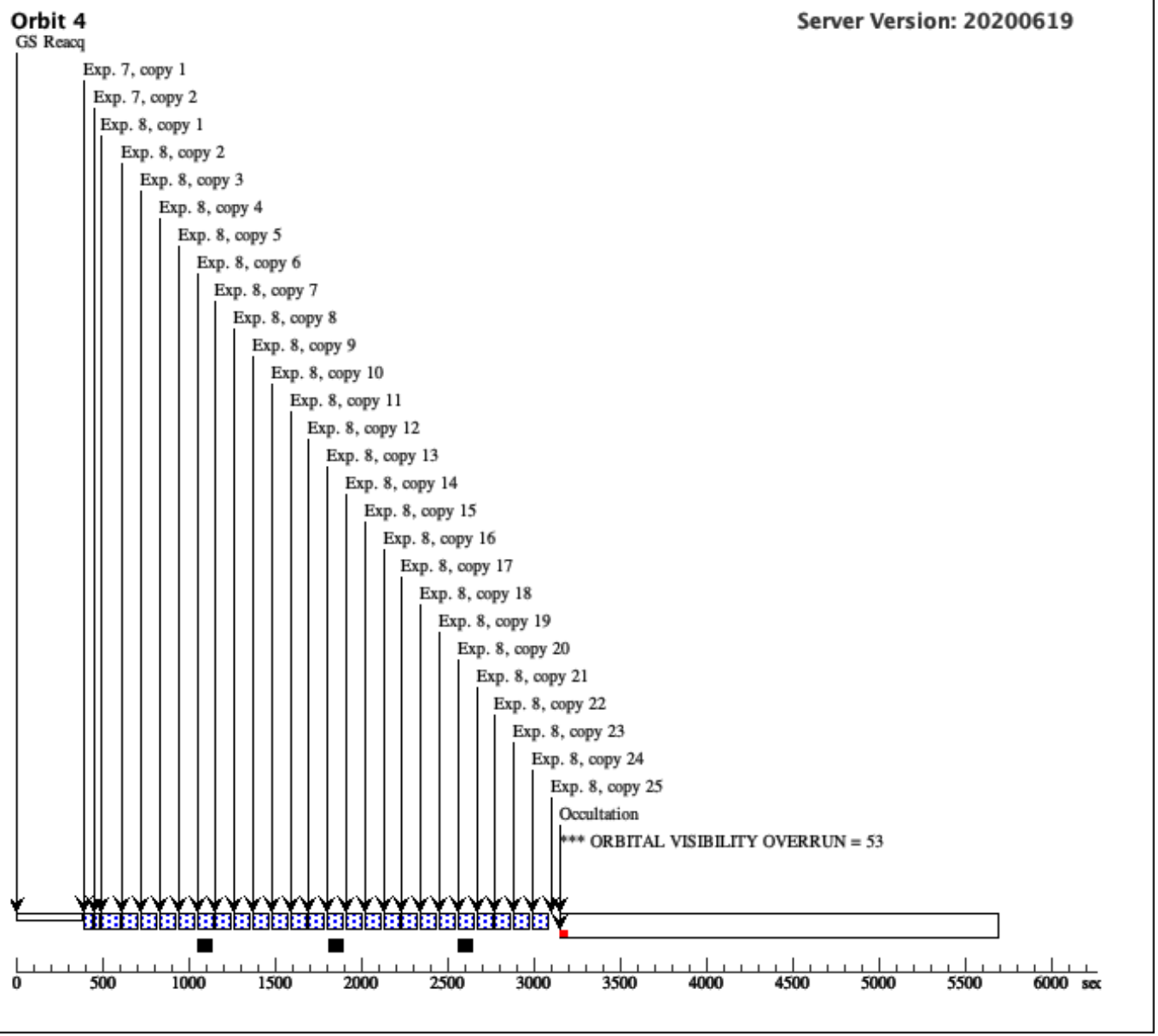
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Occultation
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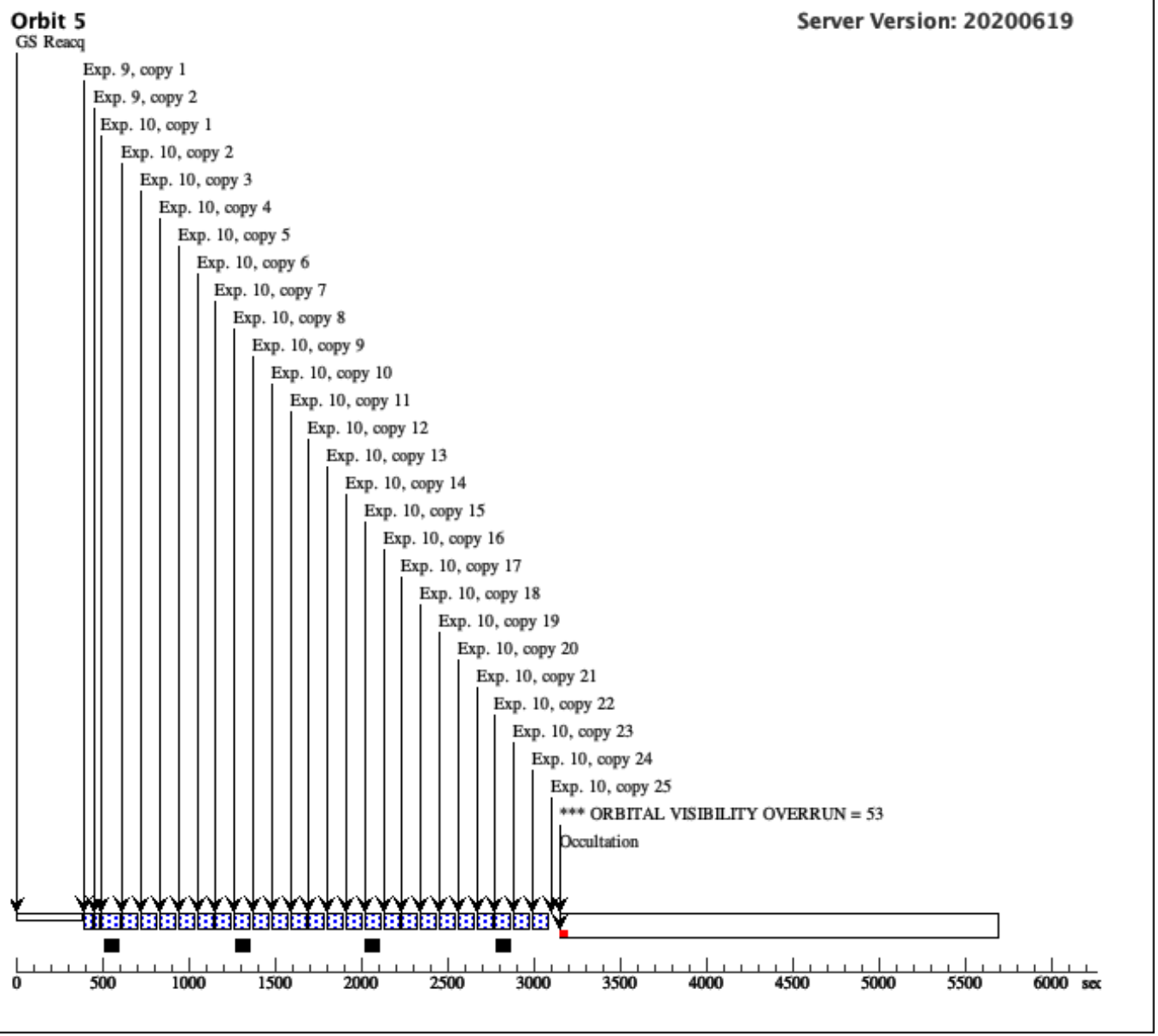
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*** ORBITAL VISIBILITY OVERRUN = 53
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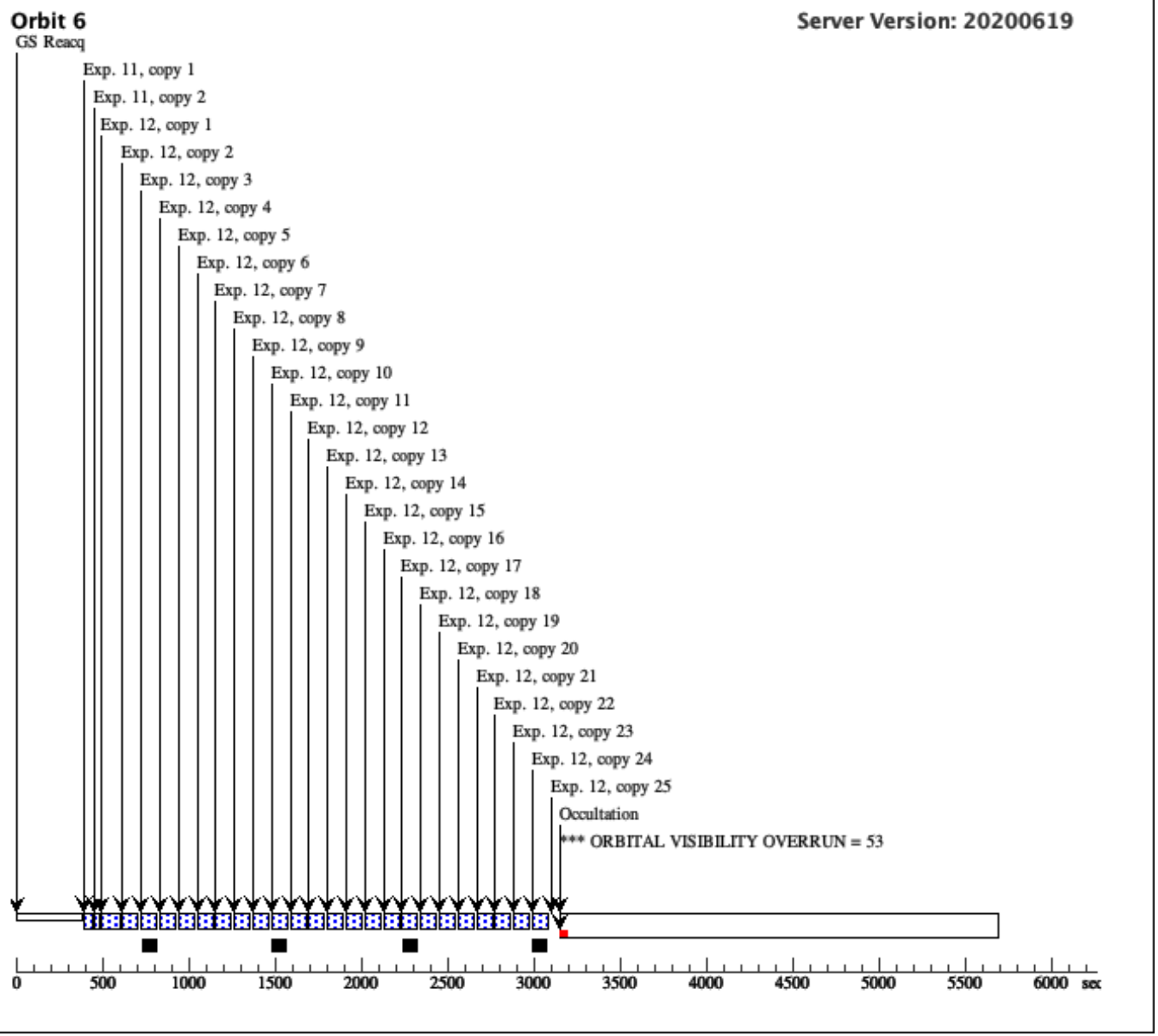
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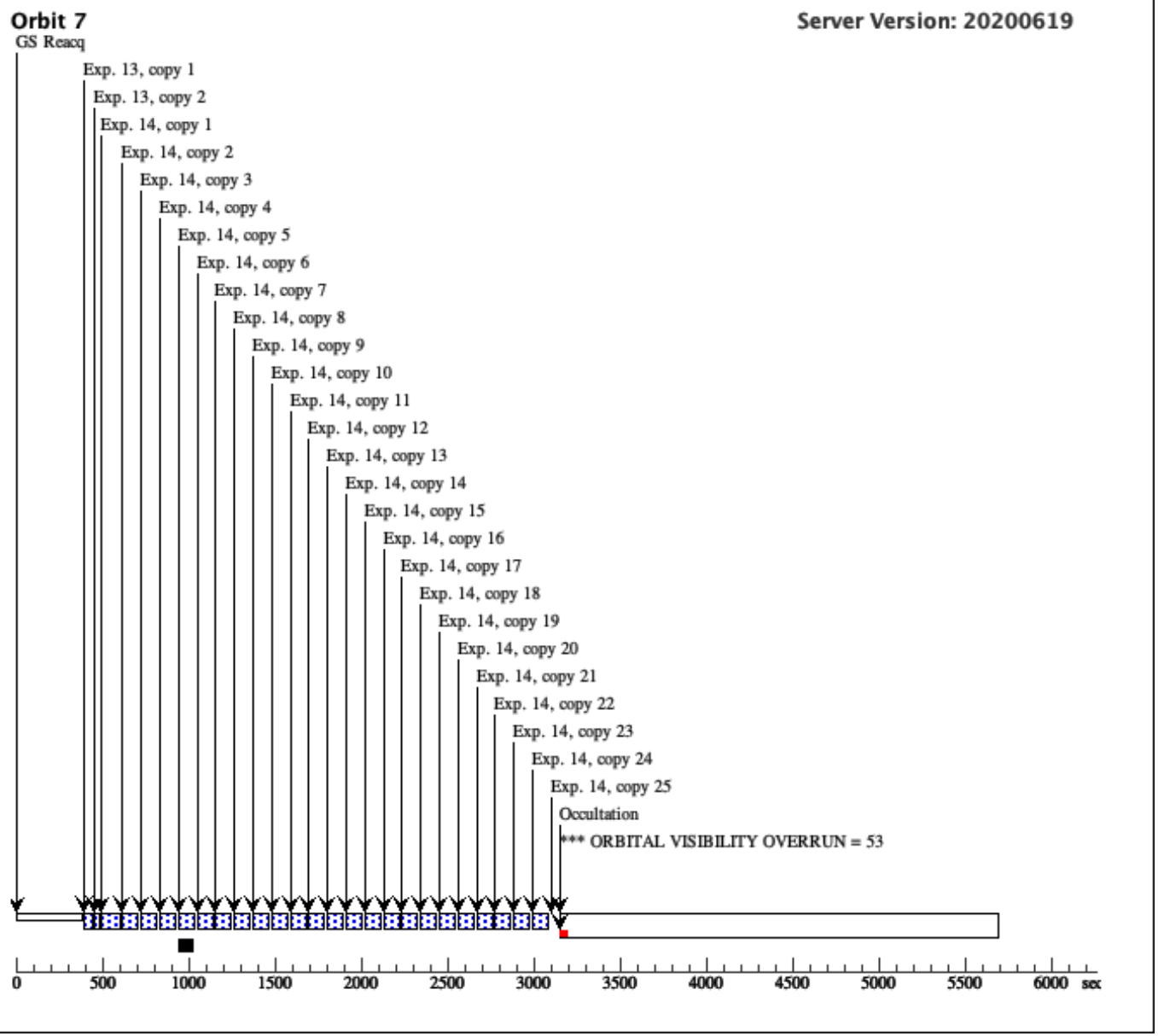
sec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Server Version: 20200619
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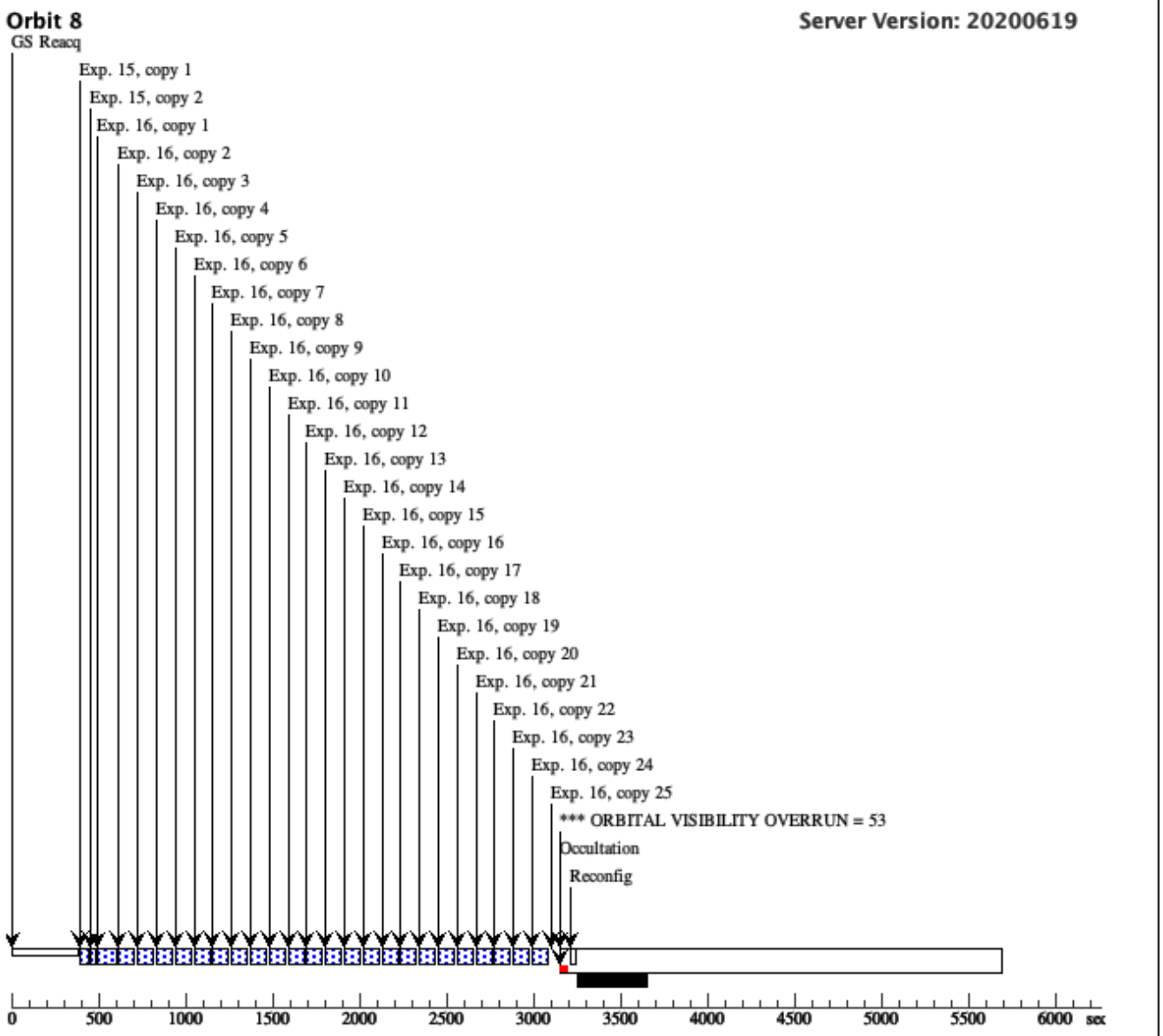
sec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Exp. 16, copy 24
Exp. 16, copy 25
*** ORBITAL VISIBILITY OVERRUN = 53
Occultation
Reconfig
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6000
sec

Visit

Proposal 15947, NLTT5306 (C1), scheduling Tue Jul 28 21:02:11 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(NLTT5306 (C1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NLTT5306 (C1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NLTT5306 (C1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

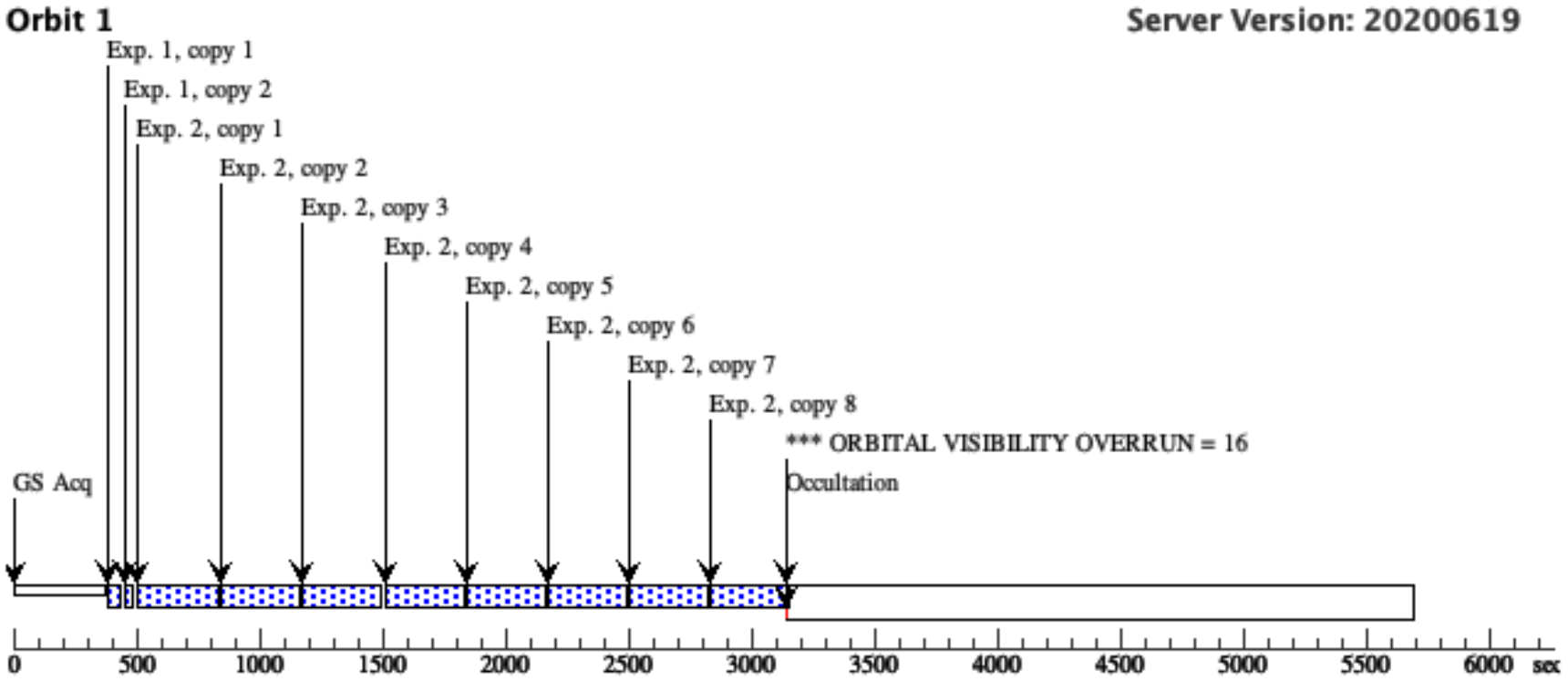
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	LSPM-J0135+1445	RA: 01 35 32.8346 (23.8868108d) Dec: +14 45 53.56 (14.76488d) Equinox: J2000	Proper Motion RA: -0.009070165420417766 sec of time/yr Proper Motion Dec: -0.15076400006819313 arcsec/yr Epoch of Position: 2015.5	V=(?) J=16.23	Reference Frame: SIMBAD

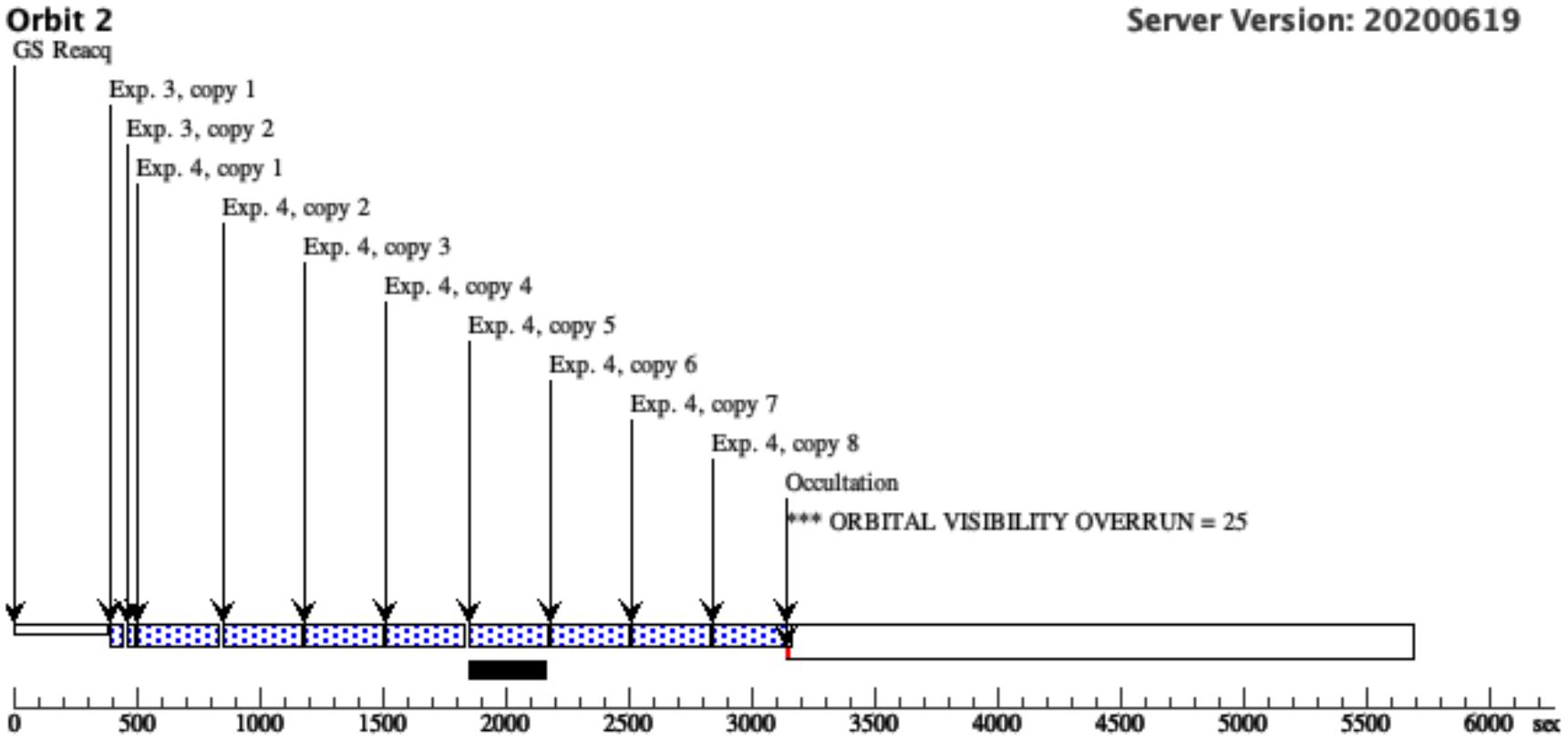
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***

Orbit Structure

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GS Reacq
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Exp. 4, copy 2
Exp. 4, copy 3
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Exp. 4, copy 5
Exp. 4, copy 6
Exp. 4, copy 7
Exp. 4, copy 8
Occultation
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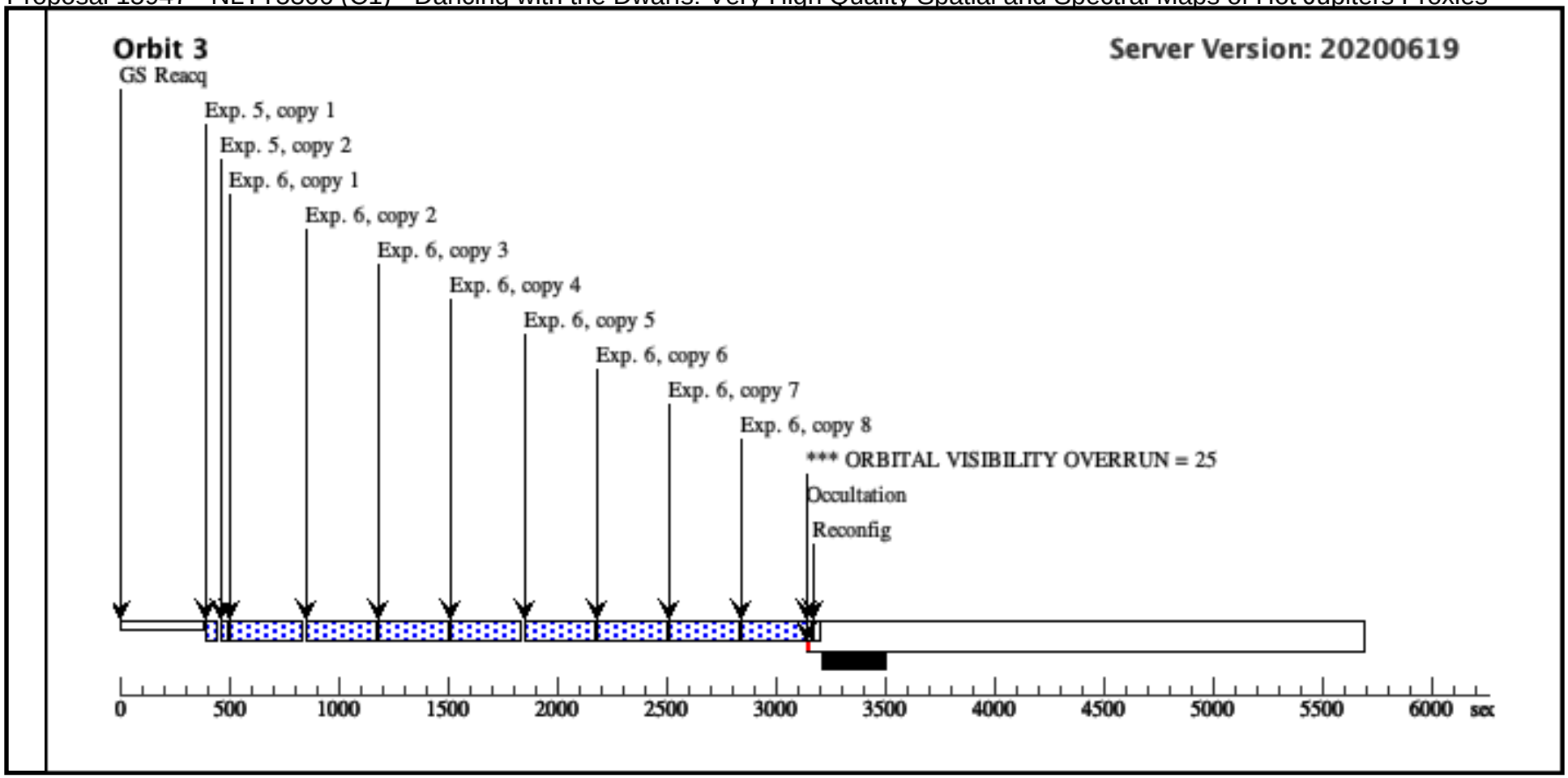
6000
sec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Server Version: 20200619
GS Reacq
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Exp. 6, copy 6
Exp. 6, copy 7
Exp. 6, copy 8
*** ORBITAL VISIBILITY OVERRUN = 25
Occultation
Reconfig
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4000
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5000
5500
6000
sec

Visit

Proposal 15947, NLTT5306 (C2), scheduling Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: AFTER_C1 BY 10.5_Orbits TO 11.5_Orbits

Diagnostics

(NLTT5306 (C2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NLTT5306 (C2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(NLTT5306 (C2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

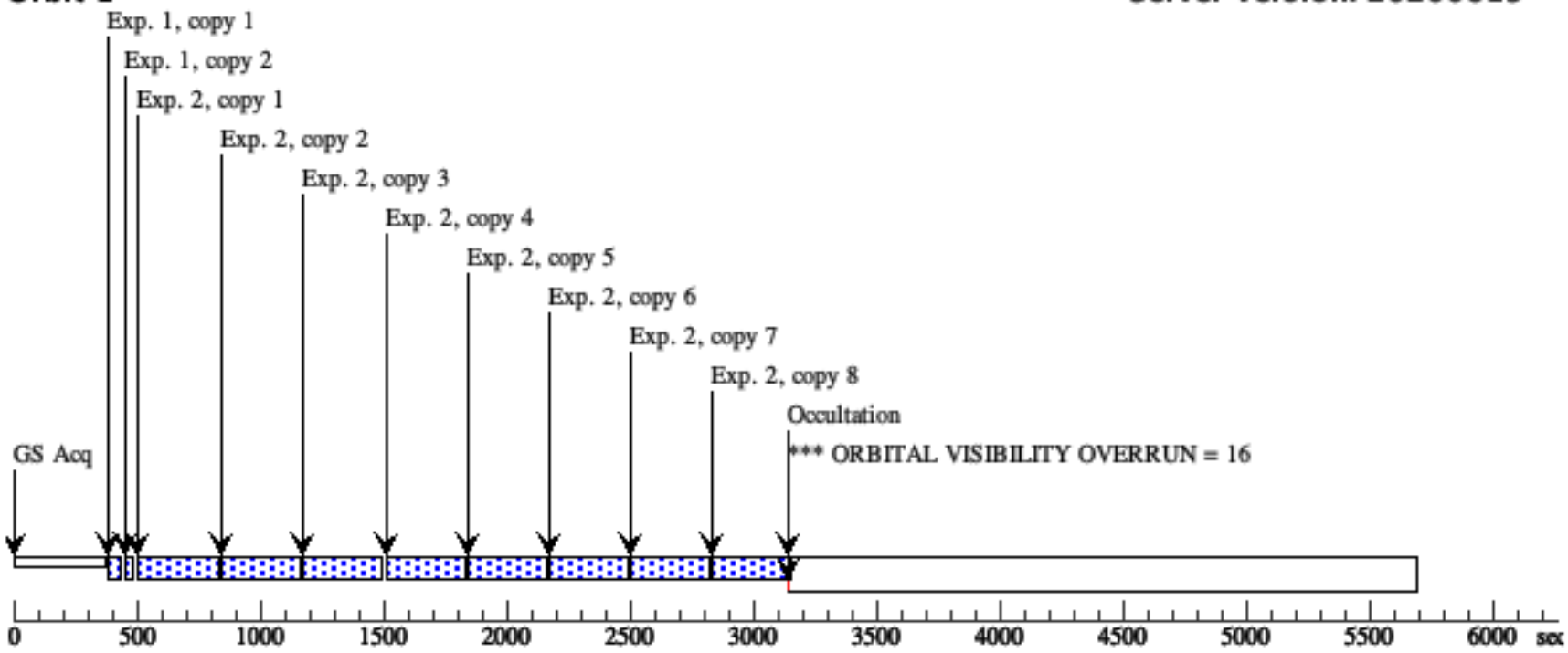
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	LSPM-J0135+1445	RA: 01 35 32.8346 (23.8868108d) Dec: +14 45 53.56 (14.76488d) Equinox: J2000	Proper Motion RA: -0.009070165420417766 sec of time/yr Proper Motion Dec: -0.15076400006819313 arcsec/yr Epoch of Position: 2015.5	V=(?) J=16.23	Reference Frame: SIMBAD

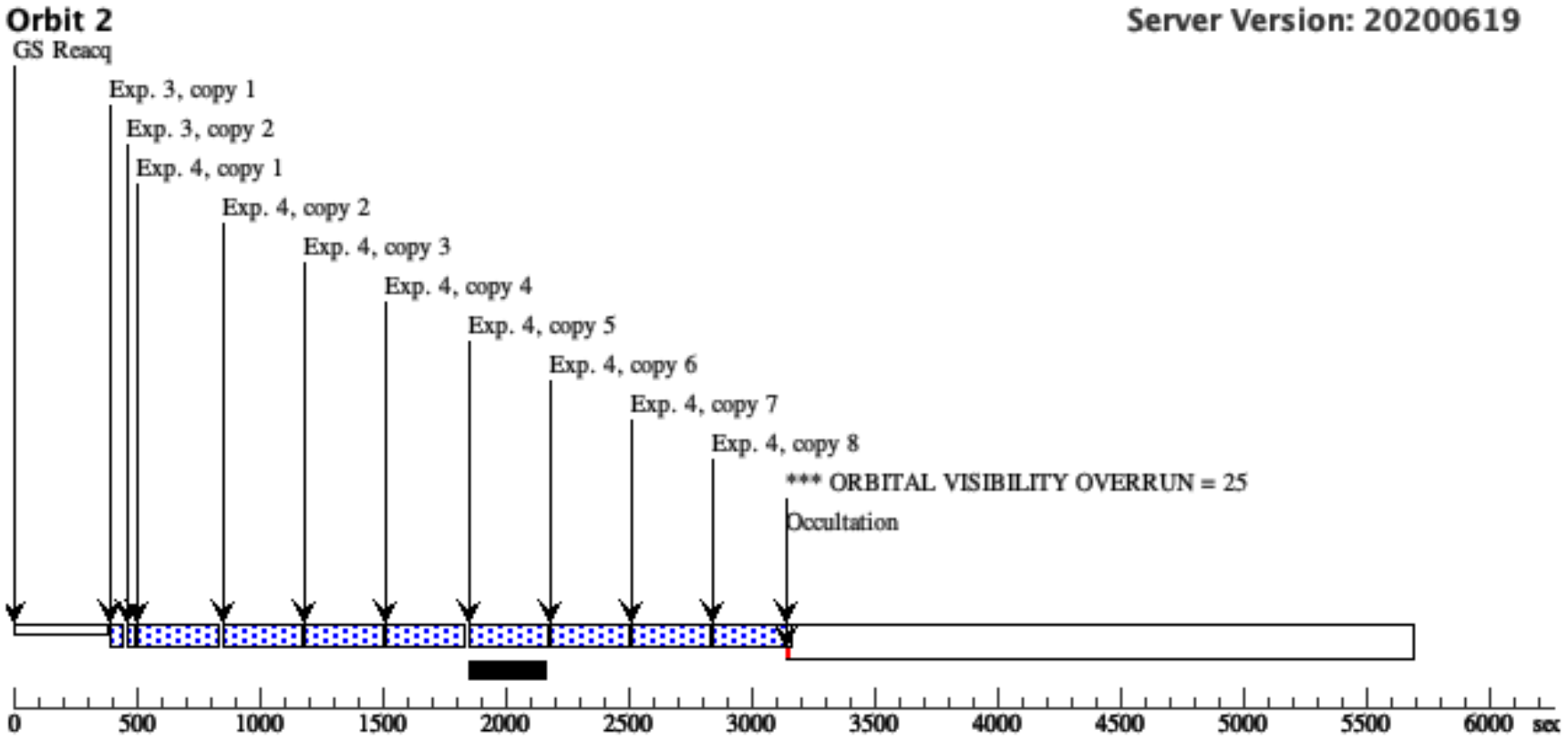
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366489)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	F132N	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366490)	(3) LSPM-J0135+1445	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***

Orbit Structure

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GS Reacq
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Exp. 4, copy 5
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Exp. 4, copy 7
Exp. 4, copy 8
*** ORBITAL VISIBILITY OVERRUN = 25
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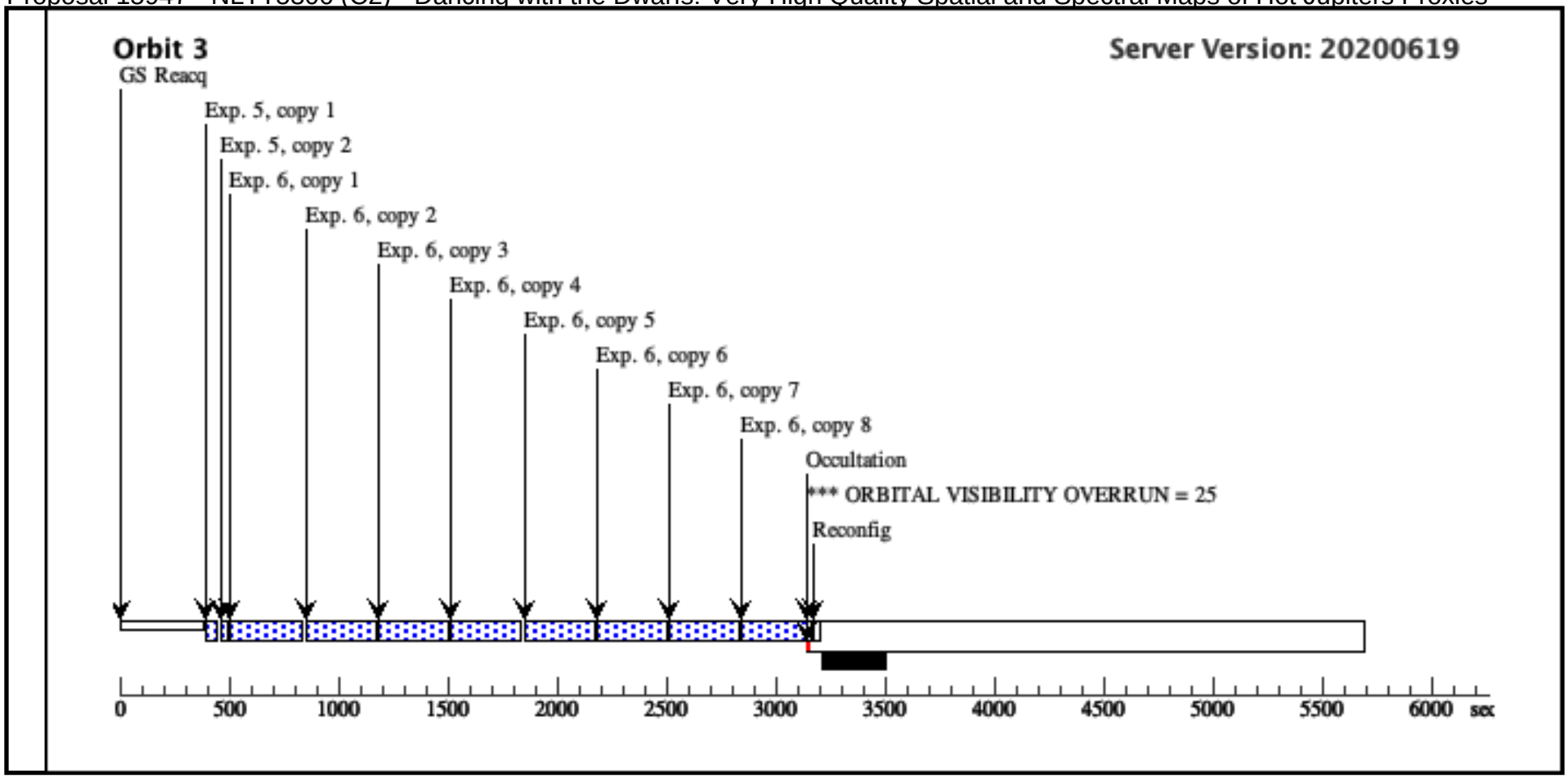
sec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Exp. 6, copy 8
Occultation
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sec

Visit

Proposal 15947, WD1411+2009 (D1), completed Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(WD1411+2009 (D1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SDSS-J141126.20+200911.1	RA: 14 11 26.1715 (212.8590479d) Dec: +20 09 11.29 (20.15314d) Equinox: J2000	Proper Motion RA: -0.0032436592646886172 sec of time/yr Proper Motion Dec: 0.015951 arcsec/yr Epoch of Position: 2015.5	V=(?) r=17.981	Reference Frame: SIMBAD

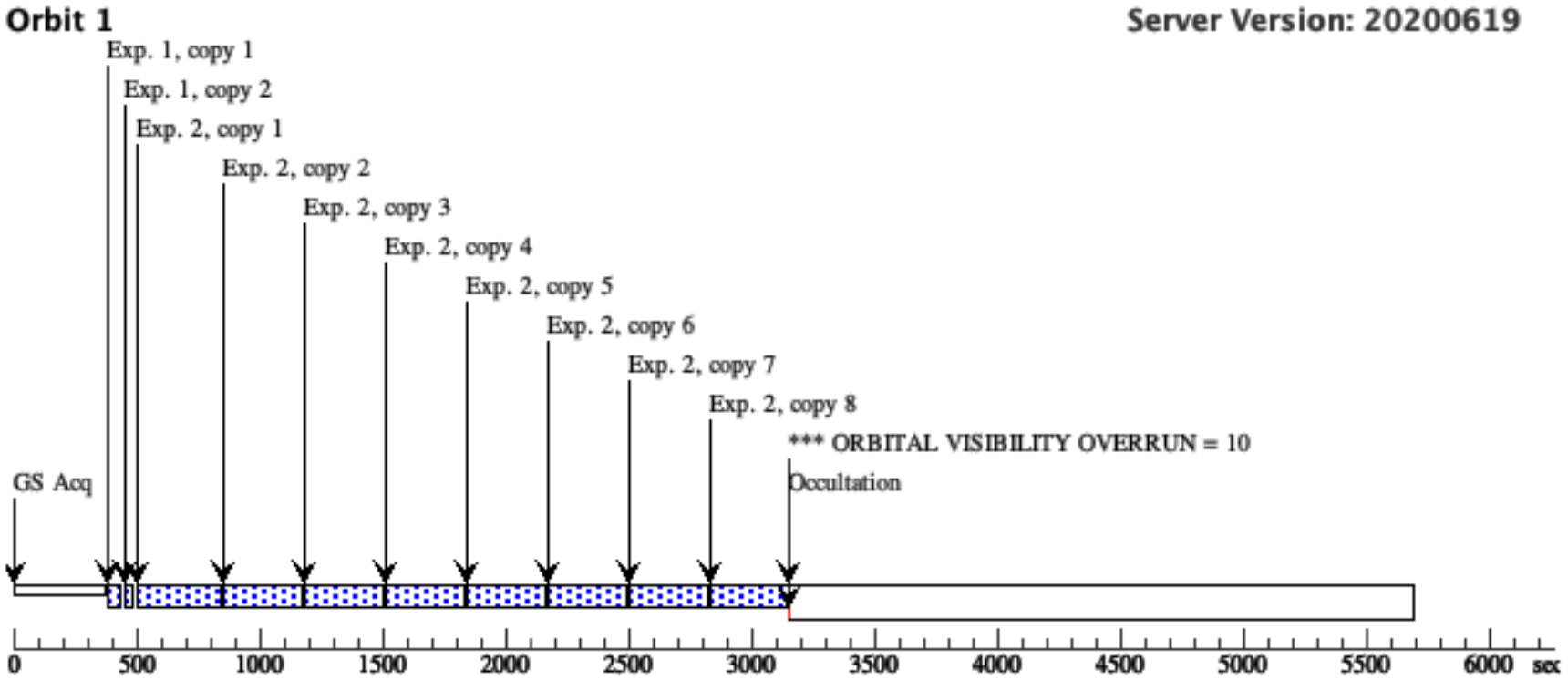
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

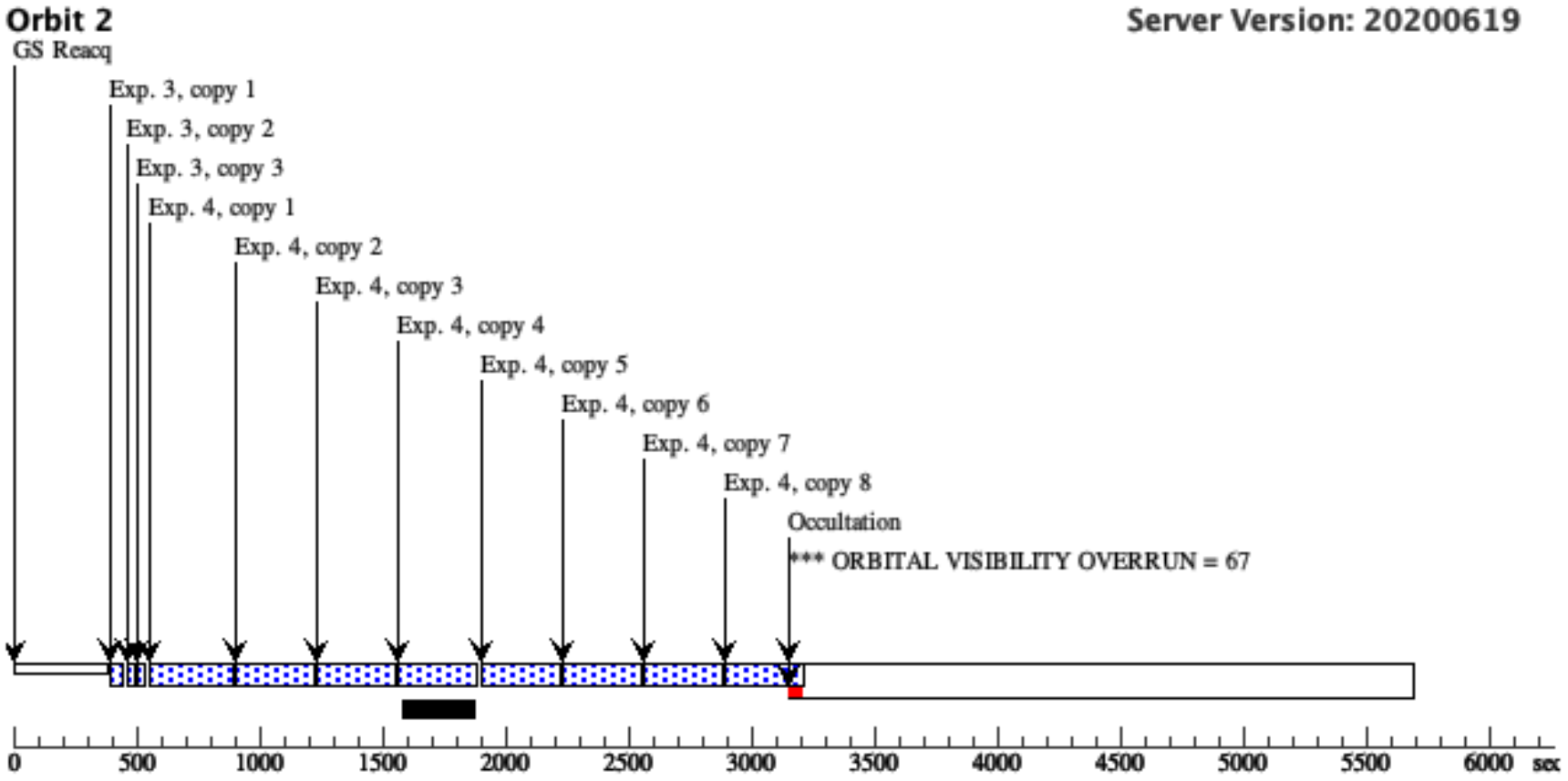
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 3 (88.991 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 3 (88.991 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***

	7	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 3 (88.991 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[4]***
	8	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[4]***
	9	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 3 (88.991 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[5]***
	10	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[5]***
	11	Direct Imaging (WFC3IR.im.1366495)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 3 (88.991 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[6]***
	12	Spectroscopy (WFC3IR.sp.1366497)	(4) SDSS-J141126.20+200911.1	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[6]***

Orbit Structure

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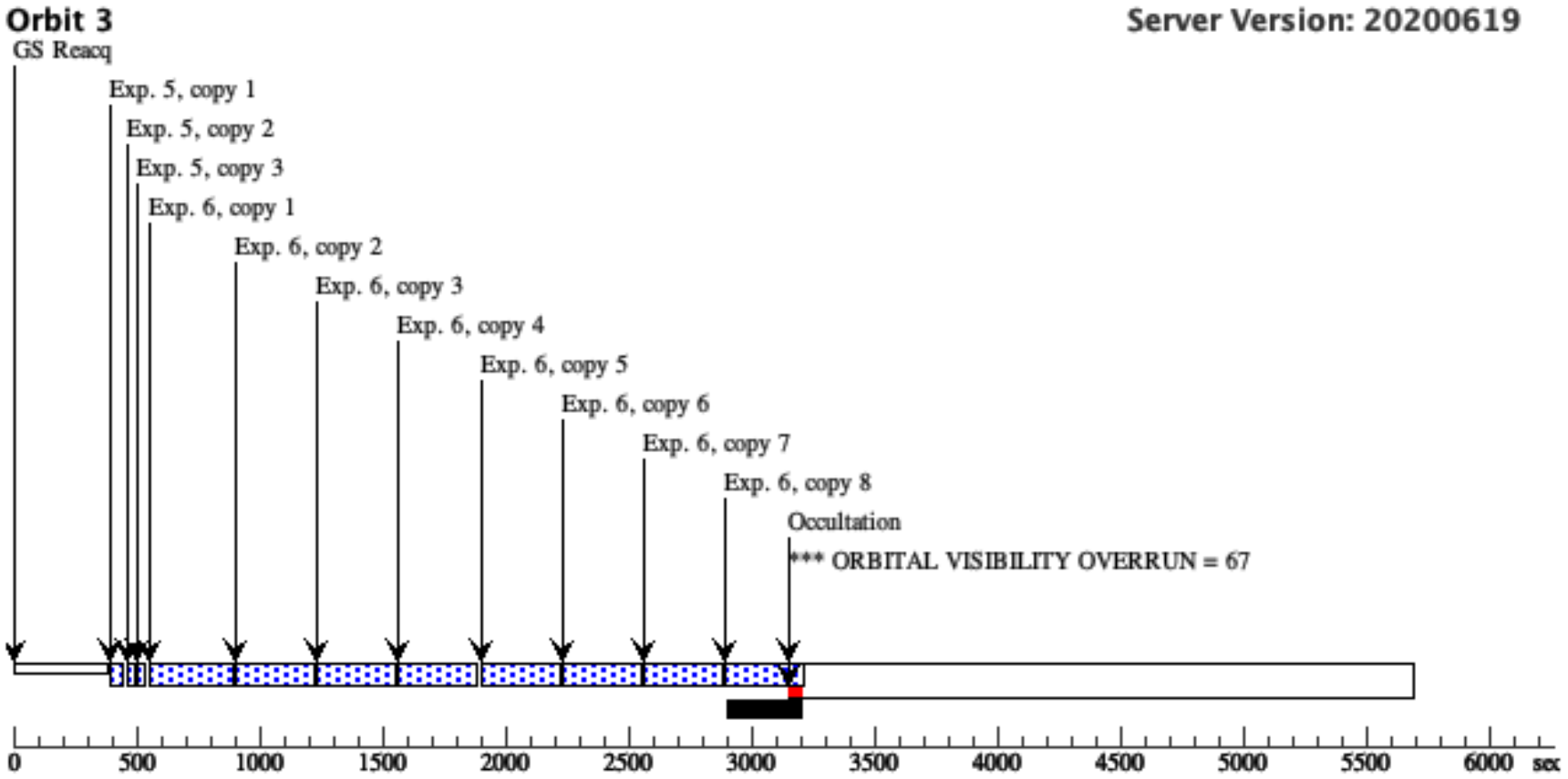
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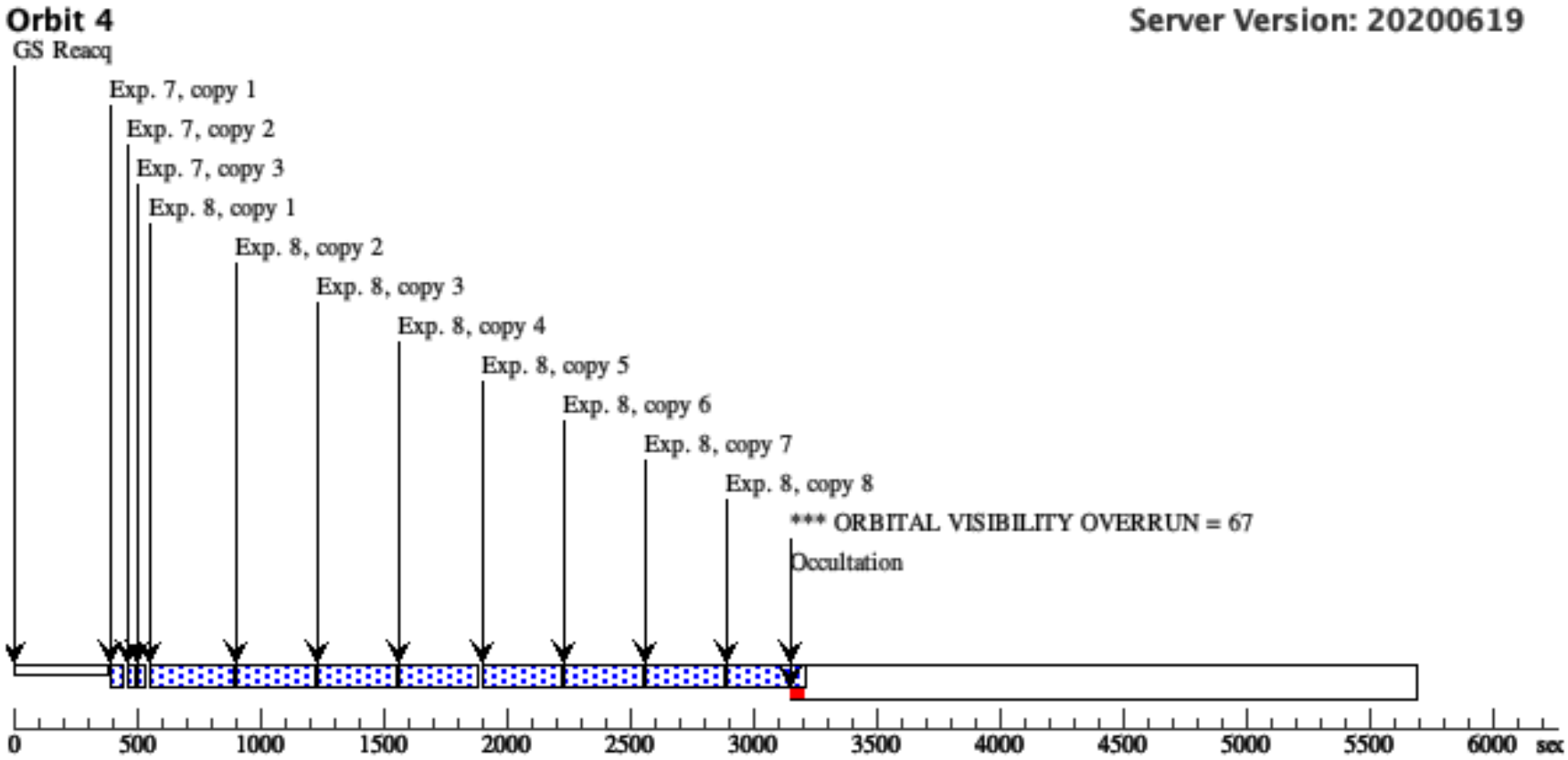
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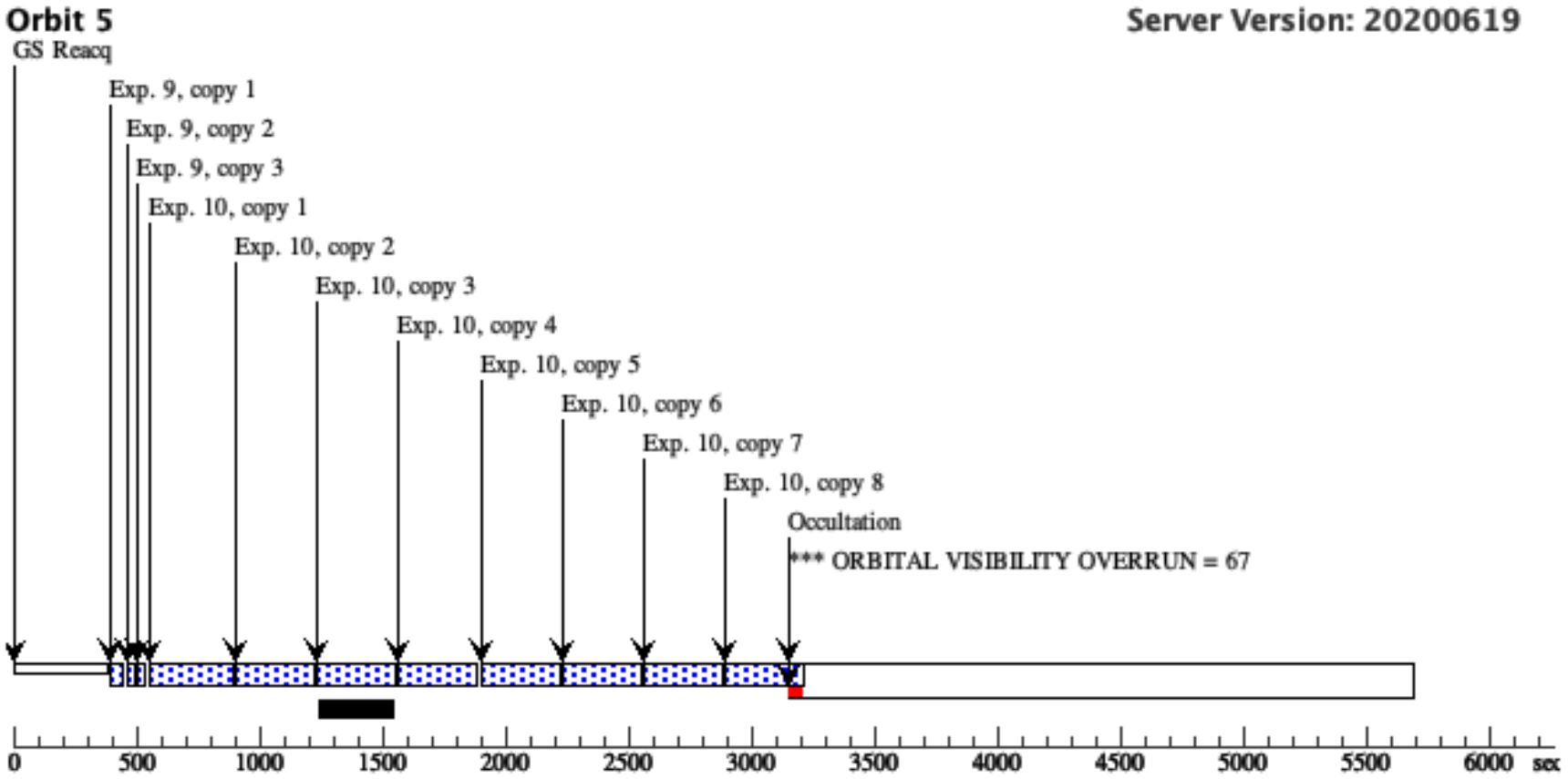
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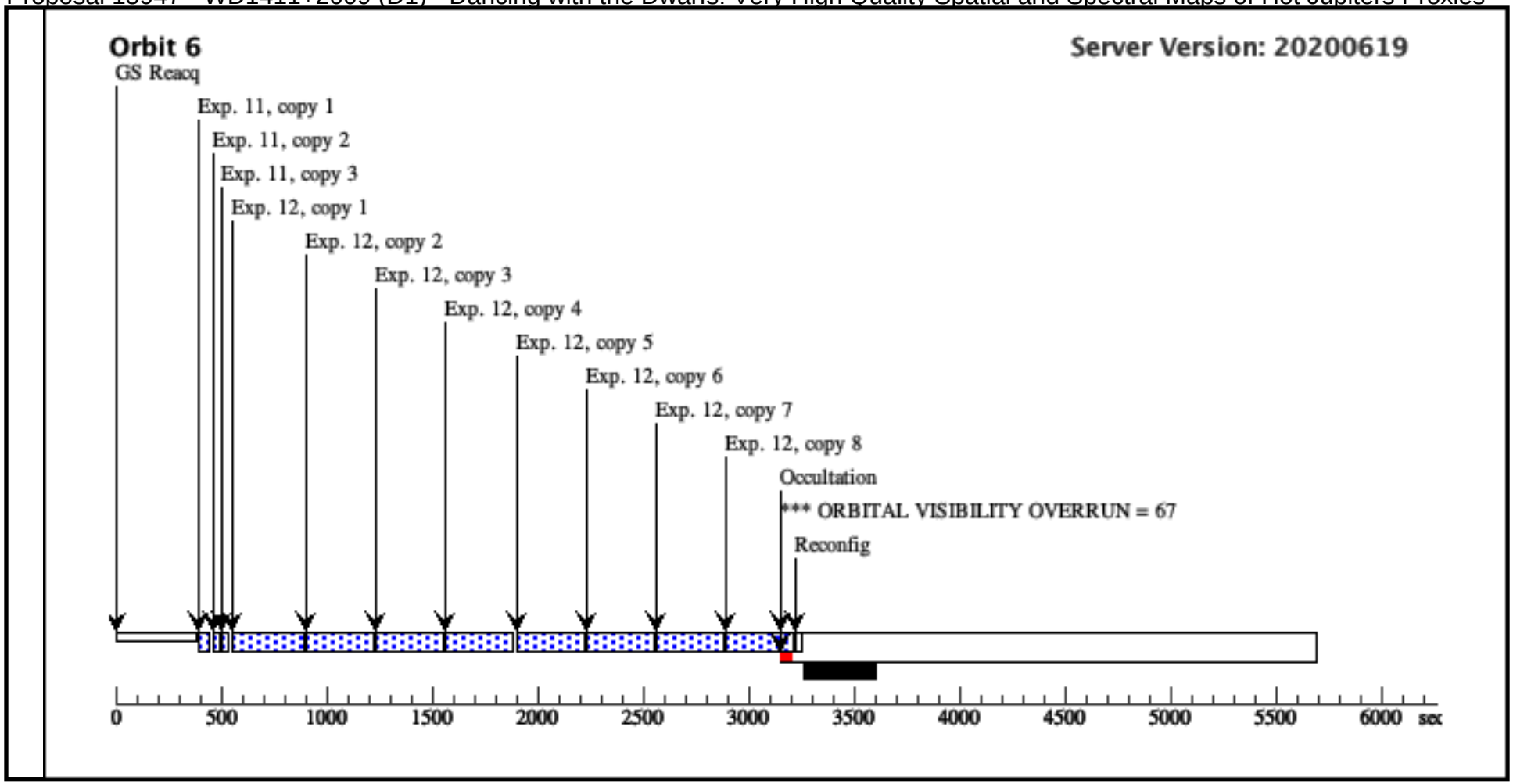
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Exp. 12, copy 8
Occultation
*** ORBITAL VISIBILITY OVERRUN = 67
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2000
2500
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5000
5500
6000
sec

Visit

Proposal 15947, WDJ1556+0916 (E1), failed Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(WDJ1556+0916 (E1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSS-J155720.78+091624.7	RA: 15 57 20.7680 (239.3365333d) Dec: +09 16 24.38 (9.27344d) Equinox: J2000	Proper Motion RA: -6.905585697921734E-4 sec of time/yr Proper Motion Dec: -0.026108999941243383 arcsec/yr Epoch of Position: 2015.5	V=(?) J=18.82	Reference Frame: SIMBAD

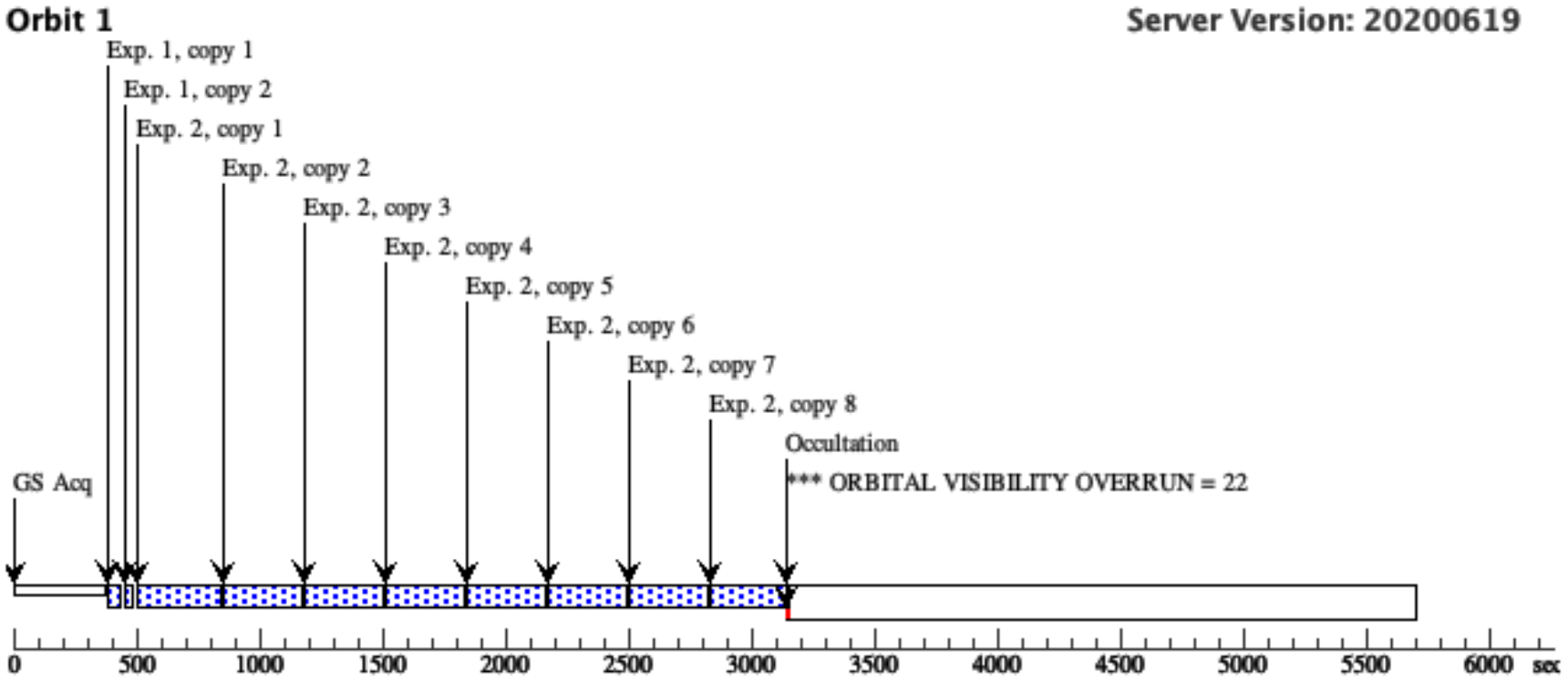
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

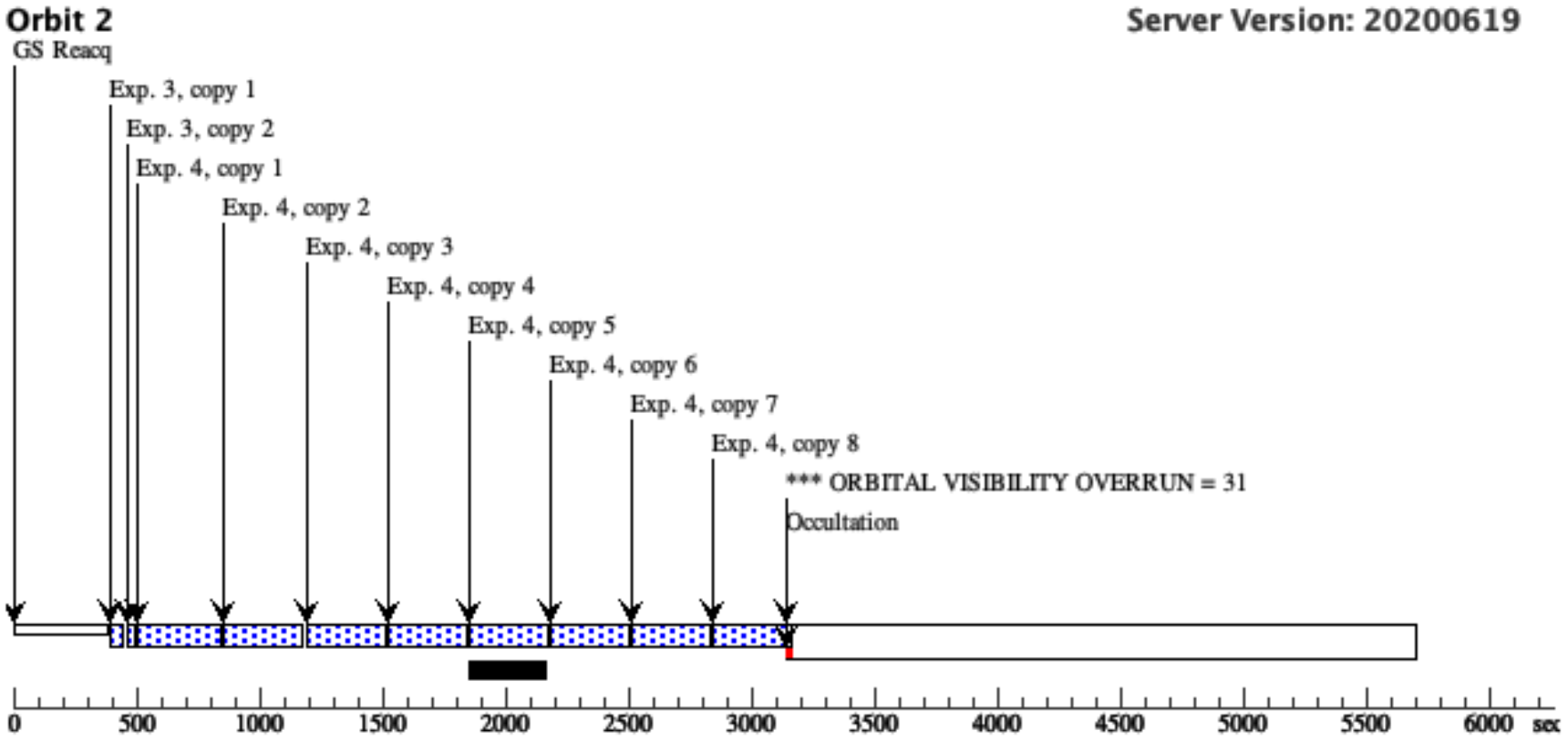
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***
7	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[4]***

	8	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[4]***
	9	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[5]***
	10	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[5]***

Orbit Structure

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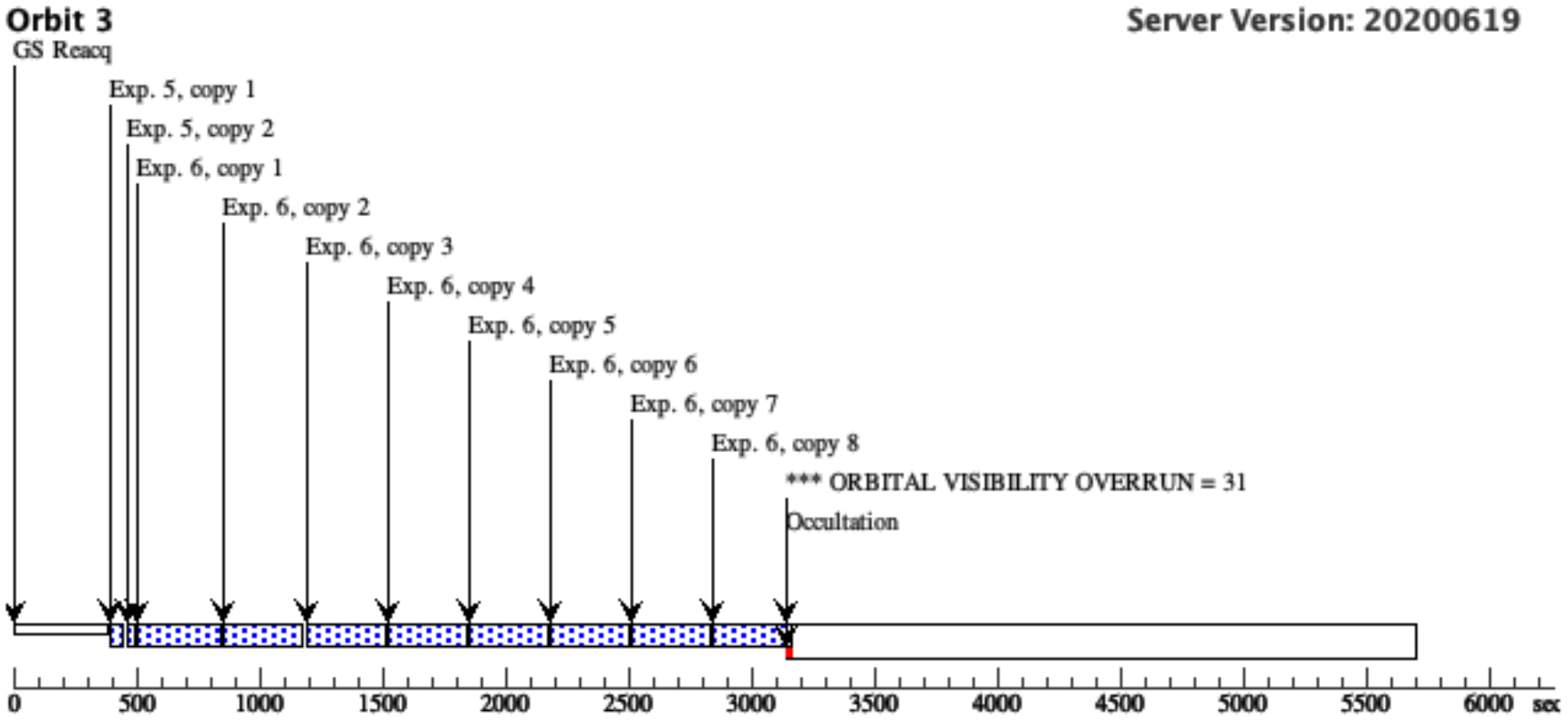
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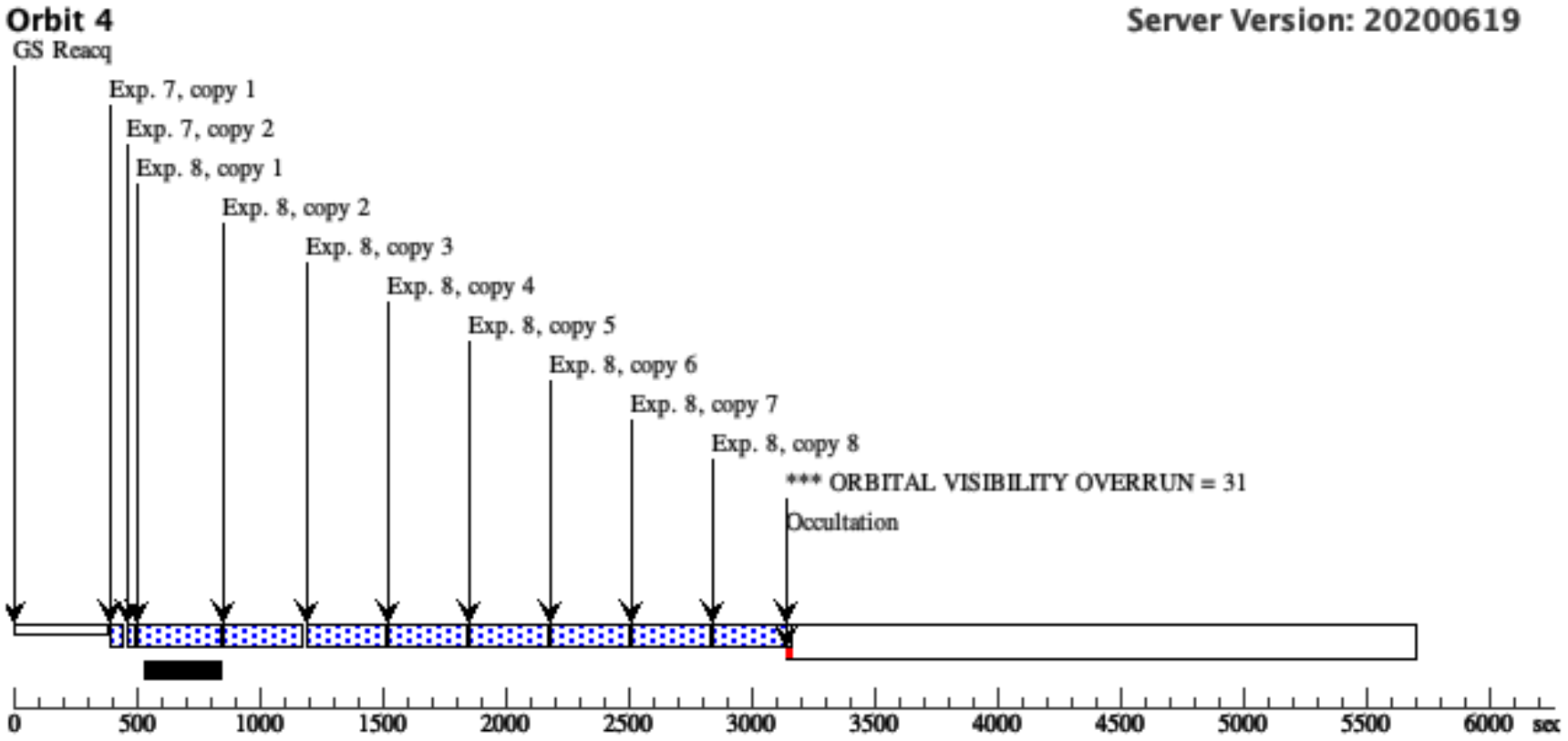
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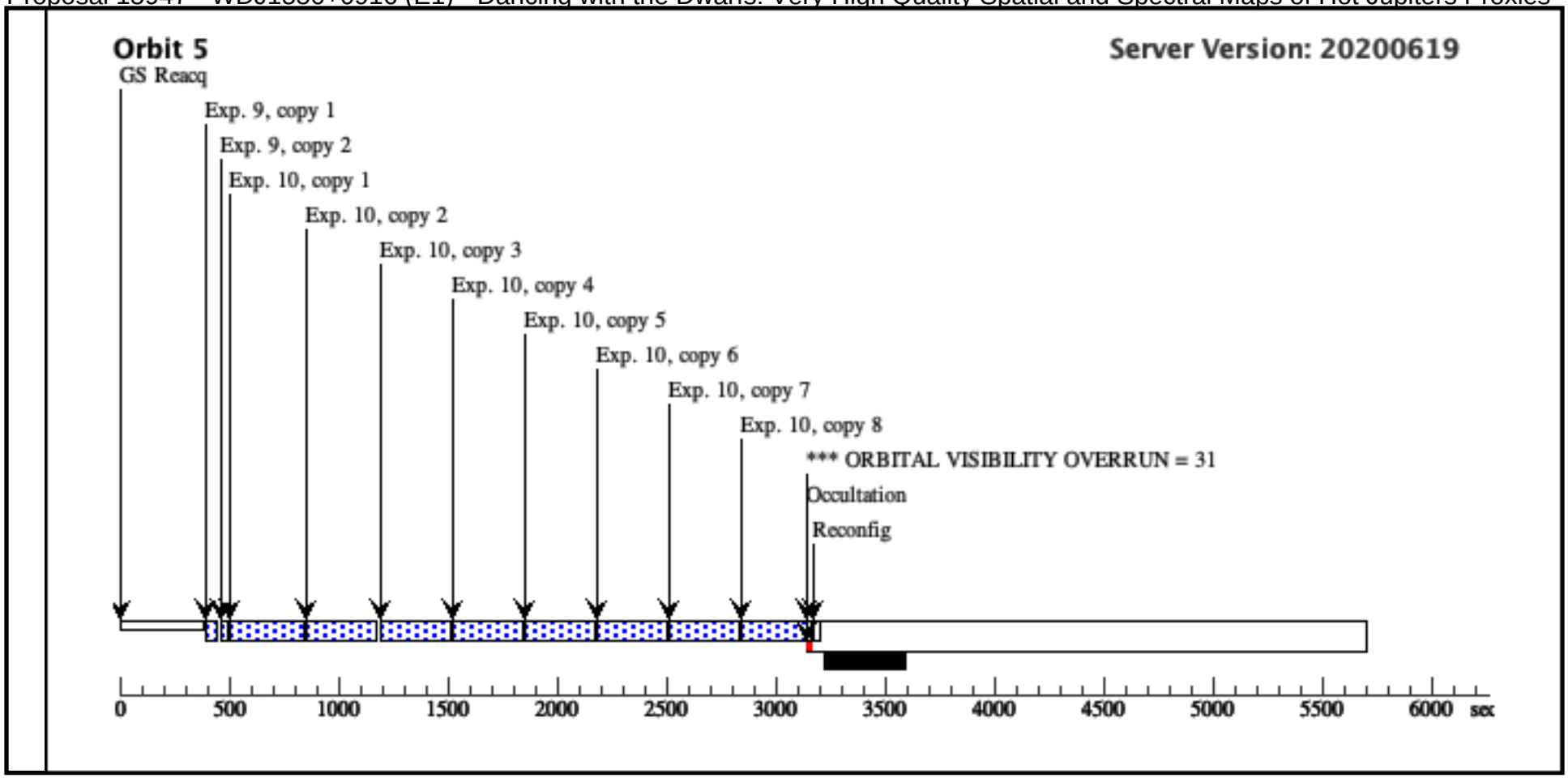
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Occultation
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sec

Visit

Proposal 15947, WDJ1556+0916 (E2), completed Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: AFTER E1 BY 1 H TO 27 H

Comments: Visit E2 should be scheduled as close to Visit E1 as possible. Preferrably, E1 and E2 can be scheduled continuously.
We place a timing constraint so that the separation between the end of visit E1 and begining of visit E2 is no more than 4 orbits.

Diagnostics

(WDJ1556+0916 (E2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (E2)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSS-J155720.78+091624.7	RA: 15 57 20.7680 (239.3365333d) Dec: +09 16 24.38 (9.27344d) Equinox: J2000	Proper Motion RA: -6.905585697921734E-4 sec of time/yr Proper Motion Dec: -0.026108999941243383 arcsec/yr Epoch of Position: 2015.5	V=(?) J=18.82	Reference Frame: SIMBAD

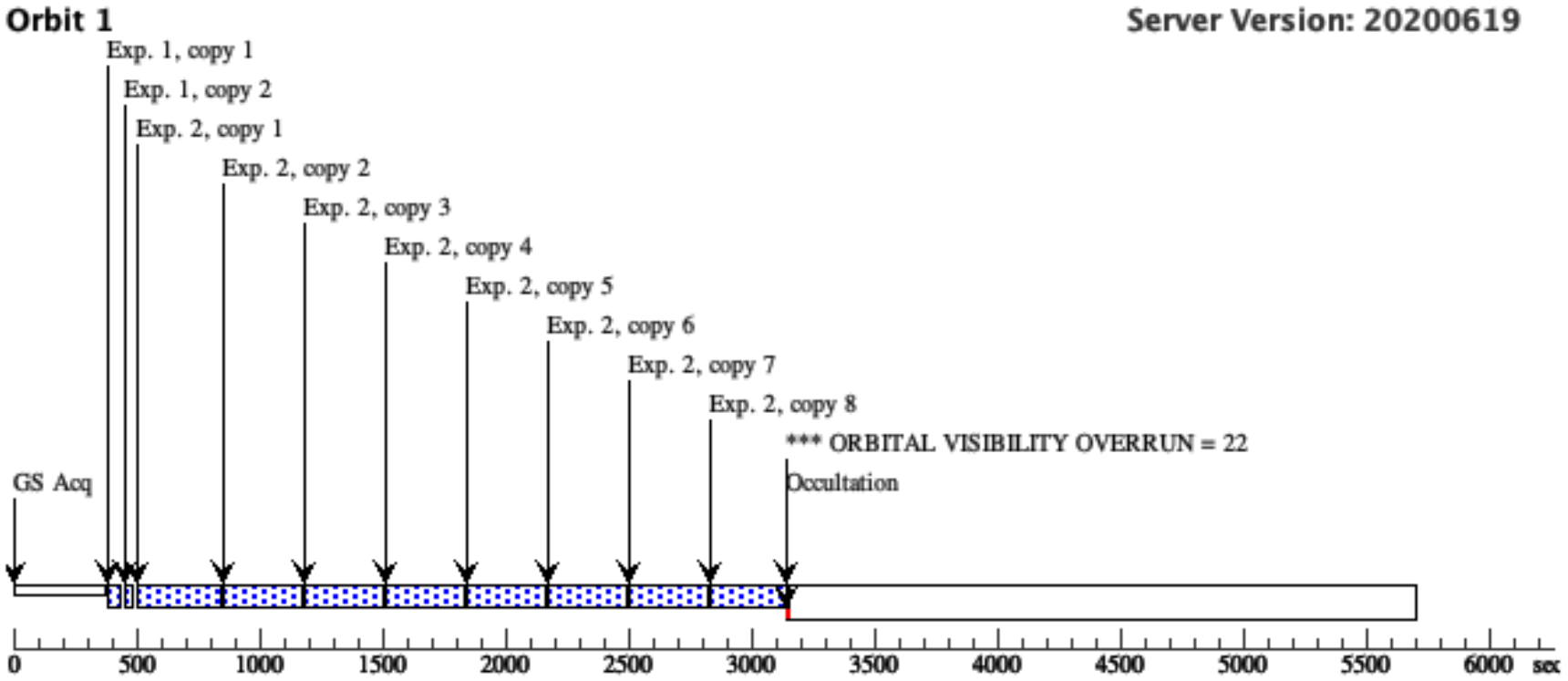
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

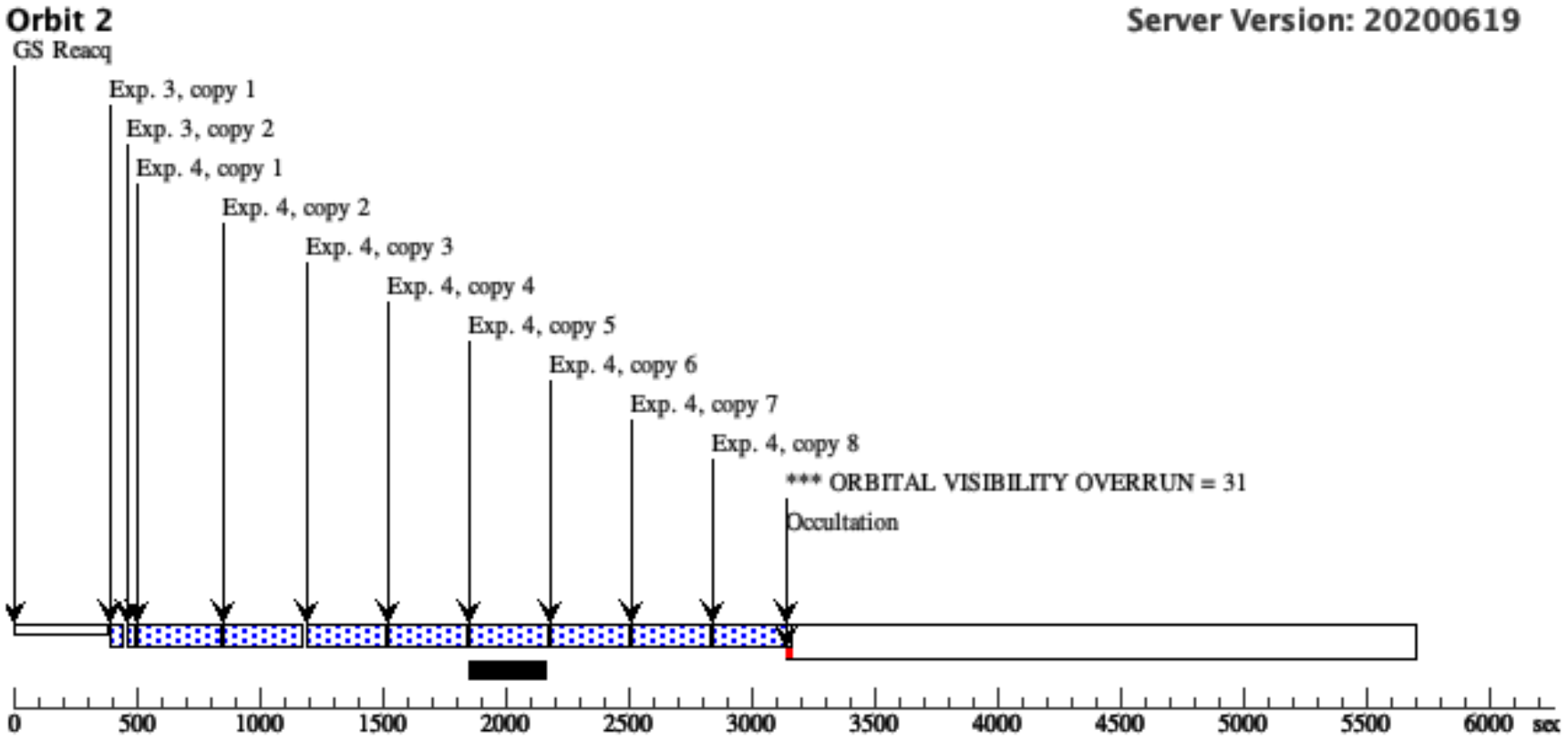
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***
7	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[4]***

	8	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[4]***
	9	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[5]***
	10	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[5]***

Orbit Structure

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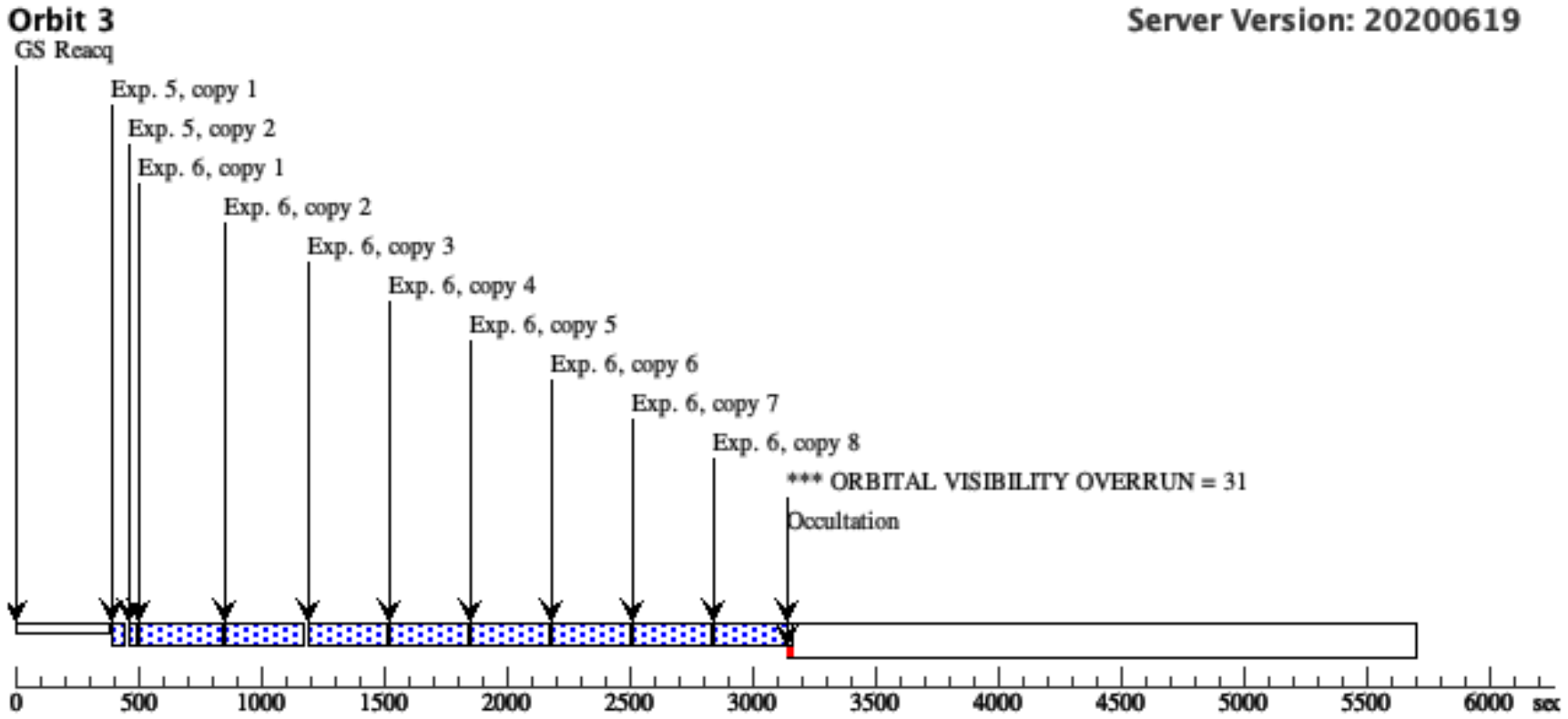
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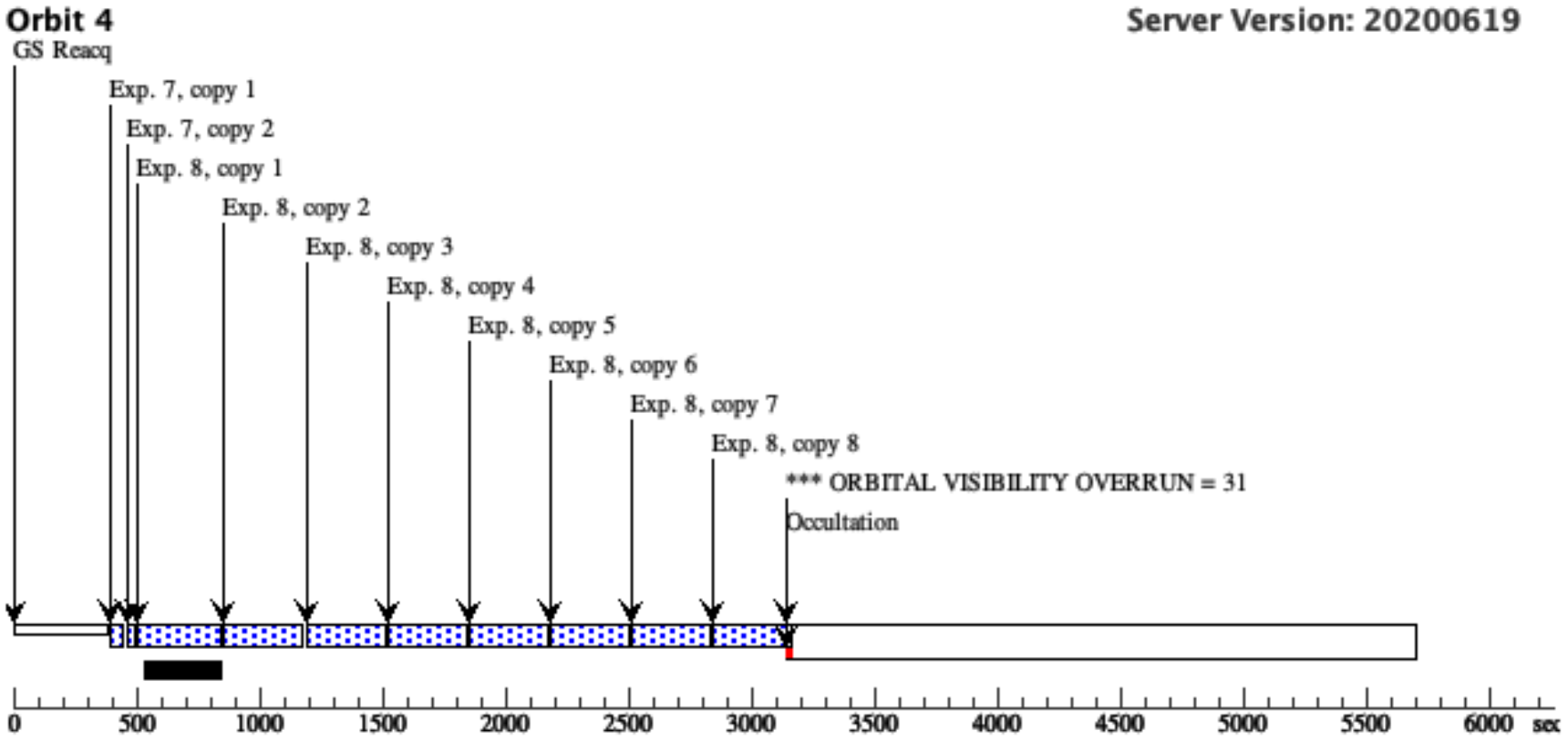
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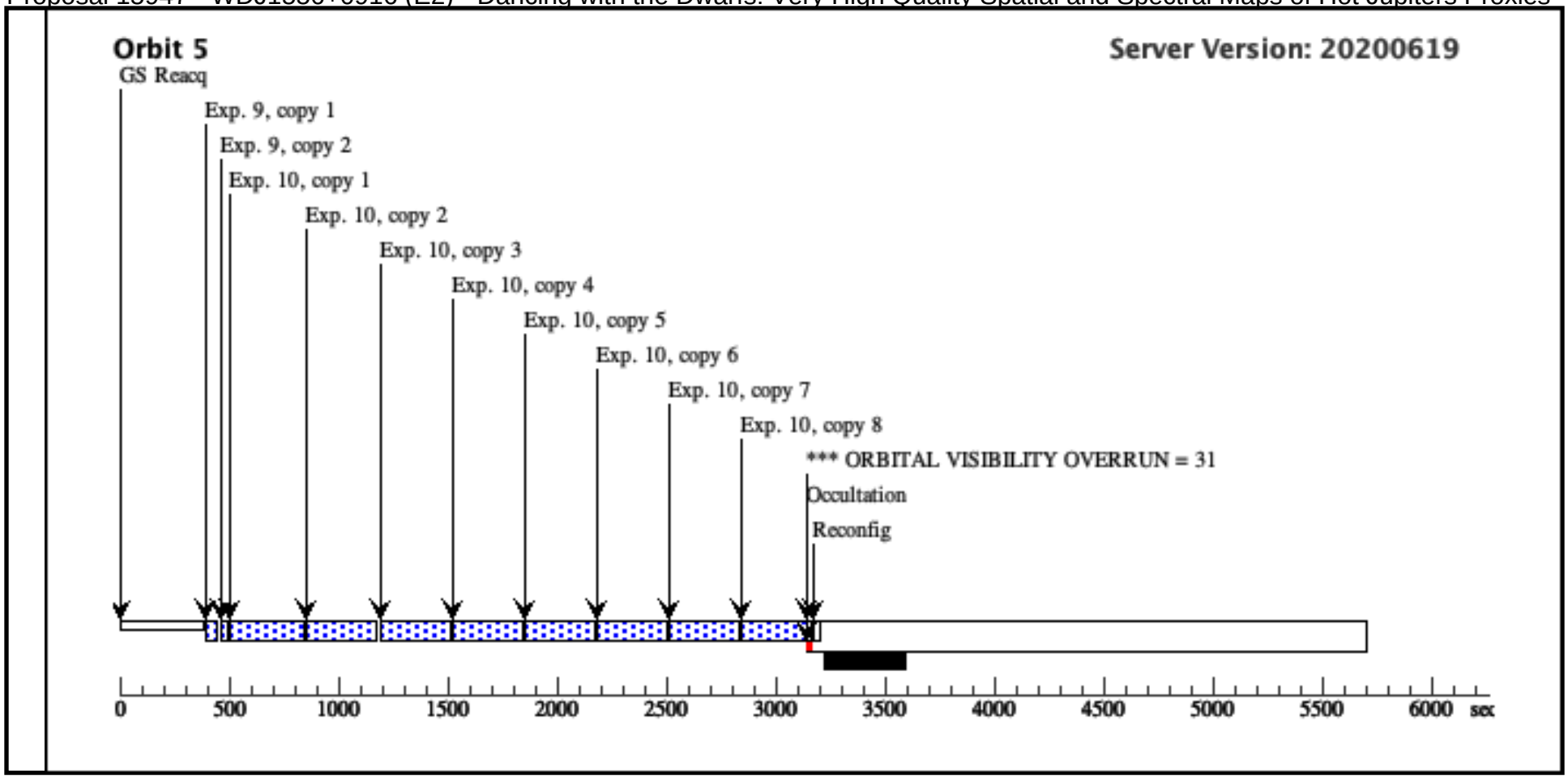
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Visit

Proposal 15947, WD2203-1214 (F1), completed Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(WD2203-1214 (F1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WD2203-1214 (F1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WD2203-1214 (F1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WD2203-1214 (F1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	GSC2.3-SBBO006229	RA: 22 03 40.5965 (330.9191521d) Dec: -12 15 12.95 (-12.25360d) Equinox: J2000	Proper Motion RA: -5.174554478853436E-4 sec of time/yr Proper Motion Dec: -0.06471100002727326 arcsec/yr Epoch of Position: 2015.5	V=(?) J=17.512	Reference Frame: SIMBAD

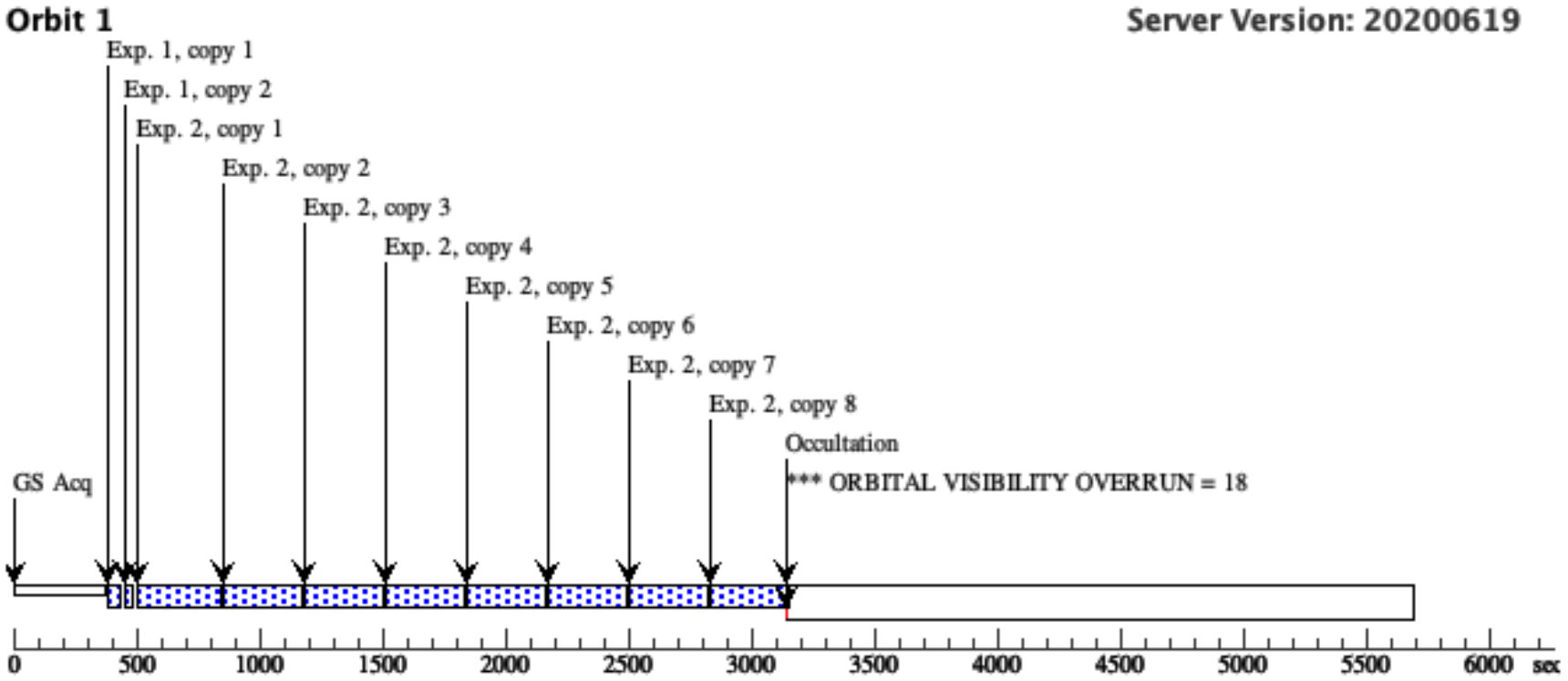
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

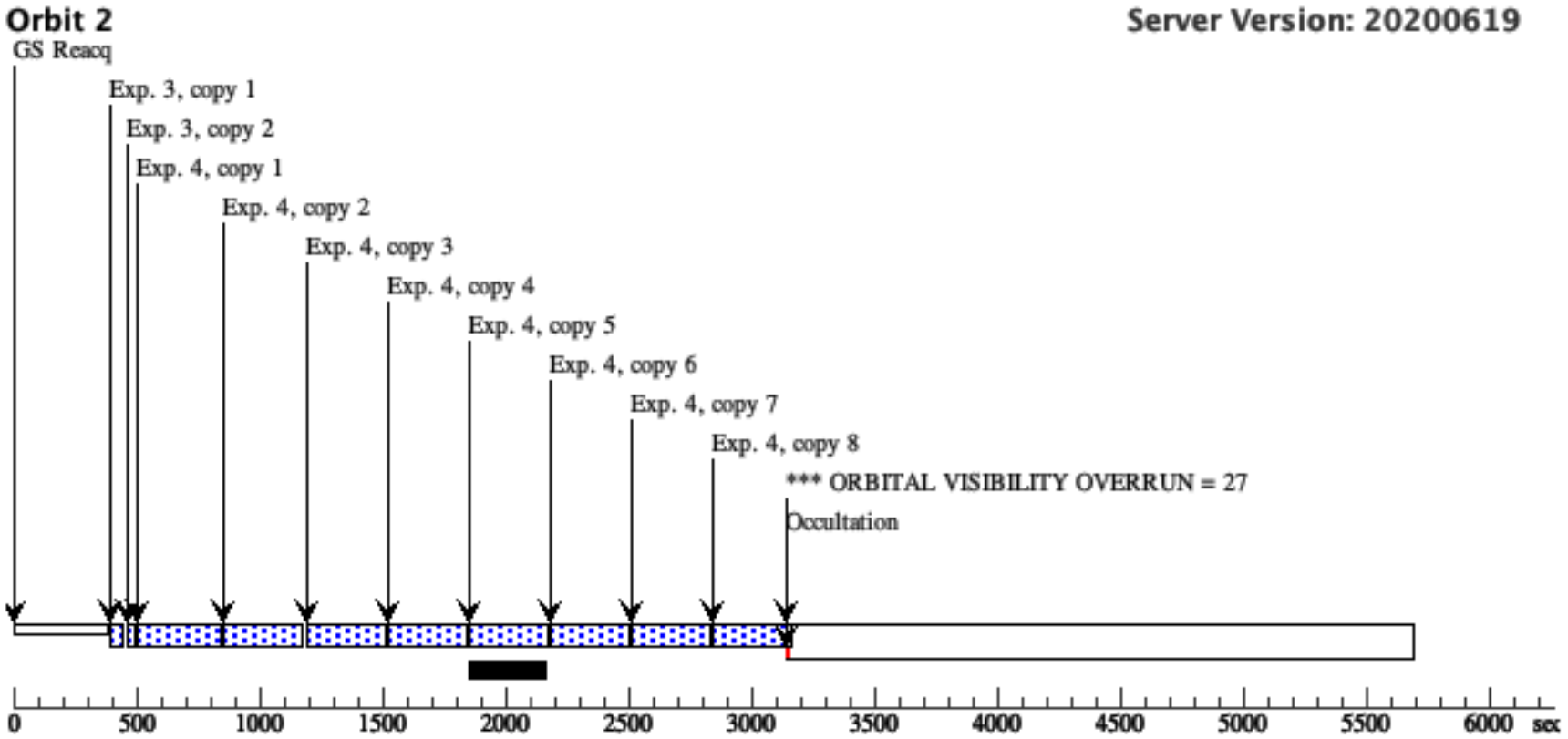
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366502)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	F127M	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366503)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366502)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	F127M	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366503)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366502)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	F127M	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366503)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***
7	Direct Imaging (WFC3IR.im.1366502)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	F127M	SAMP-SEQ=SPARS10; NSAMP=5			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[4]***

	8	Spectroscopy (WFC3IR.sp.1366503)	(6) GSC2.3-SBBO006229	WFC3/IR, MULTIACCUM, GRISM256	G141	NSAMP=15; SAMP-SEQ=SPARS25	313.122361 Secs X 8 (2504.979 Secs)	
							[==>(Copy 1)] *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[4]***

Orbit Structure

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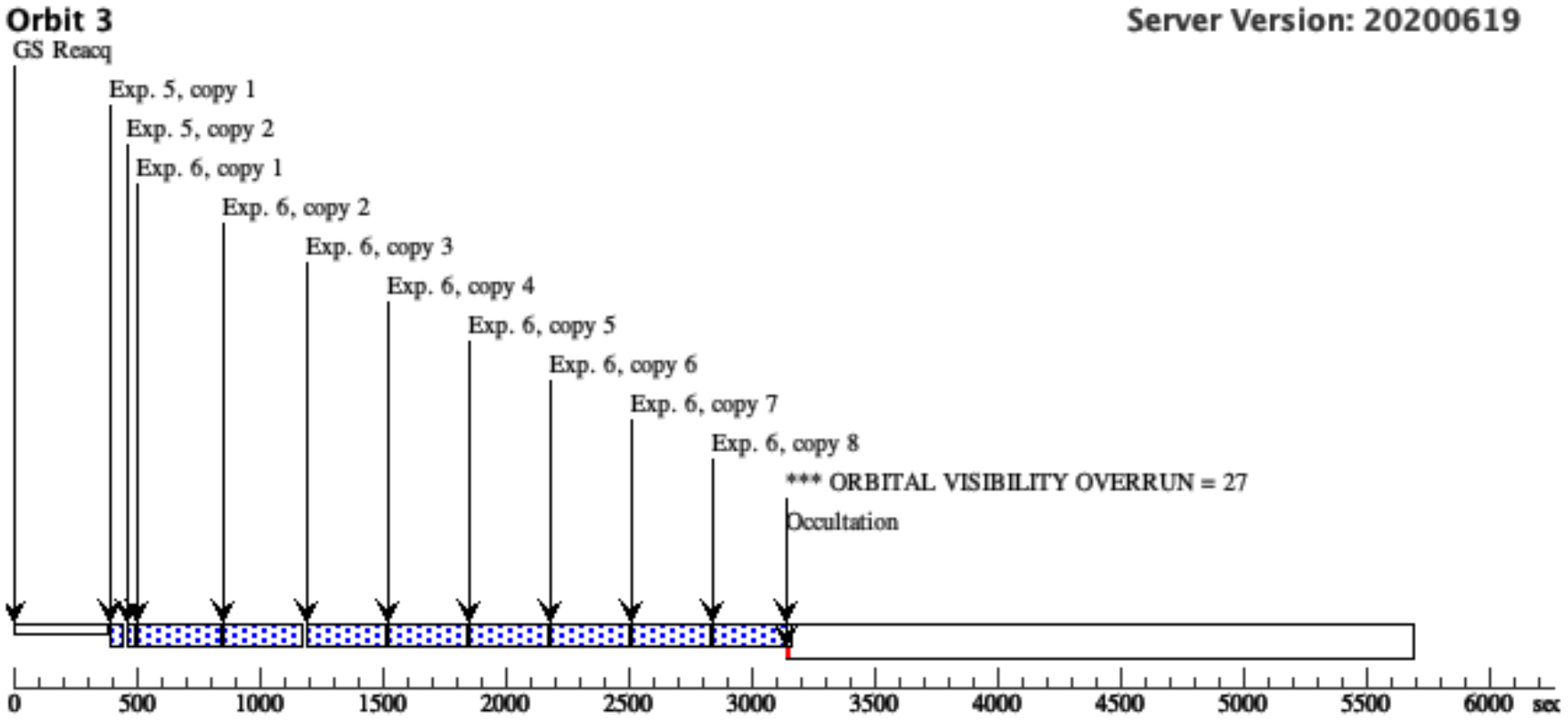
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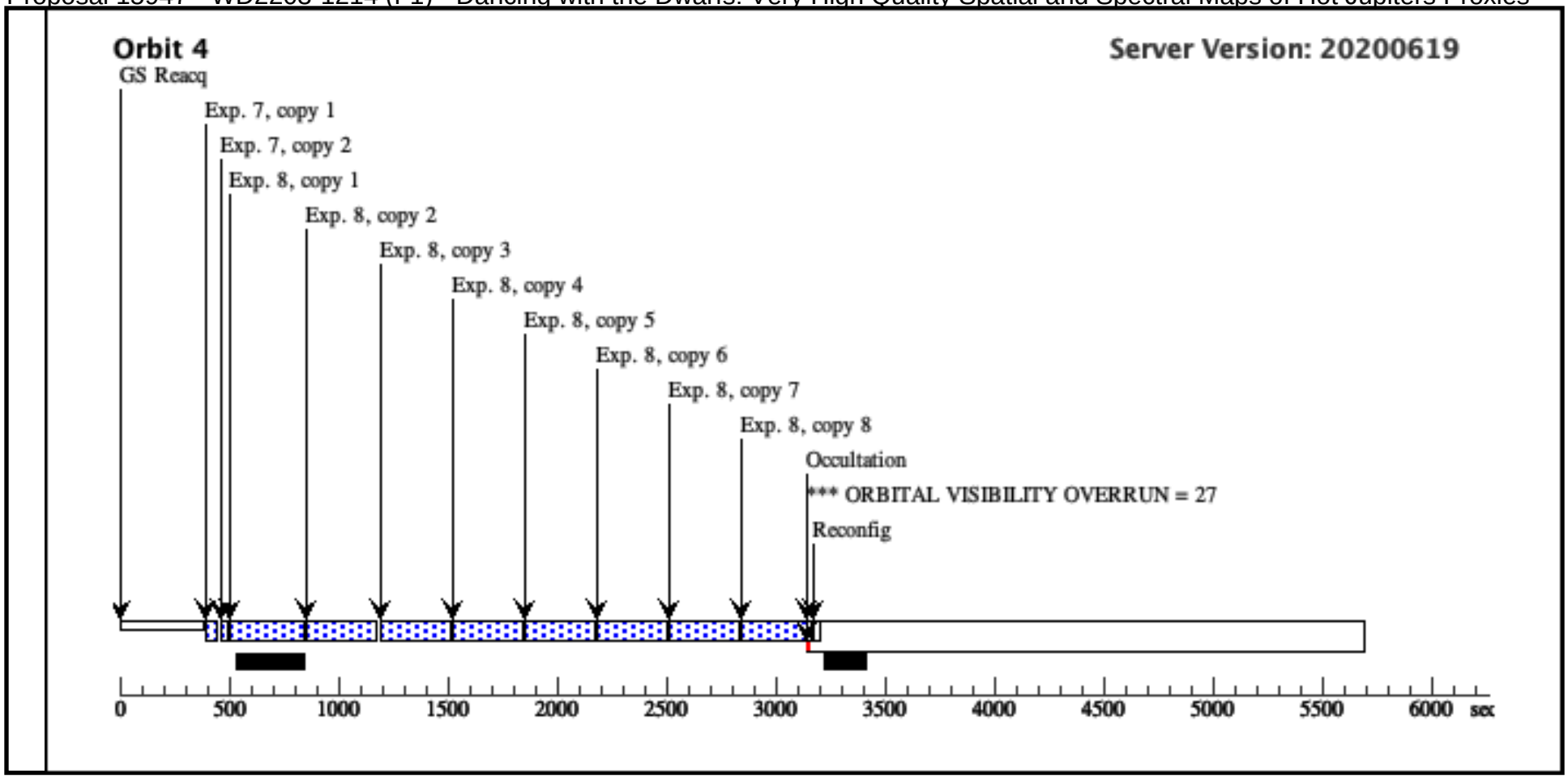
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Visit

Proposal 15947, WDJ1556+0916 (Z1) Tue Jul 28 21:02:12 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Comments: E1 HOPR Observation

Diagnostics

(WDJ1556+0916 (Z1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (Z1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (Z1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (Z1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(WDJ1556+0916 (Z1)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSS-J155720.78+091624.7	RA: 15 57 20.7680 (239.3365333d) Dec: +09 16 24.38 (9.27344d) Equinox: J2000	Proper Motion RA: -6.905585697921734E-4 sec of time/yr Proper Motion Dec: -0.026108999941243383 arcsec/yr Epoch of Position: 2015.5	V=(?) J=18.82	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[BROWN DWARF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***
2	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[1]***
3	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***
4	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[2]***
5	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***
6	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15			313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	***[3]***
7	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10			29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	***[4]***

	8	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[4]***
	9	Direct Imaging (WFC3IR.im.1366499)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	F127M	NSAMP=5; SAMP-SEQ=SPARS10	29.663763 Secs X 2 (59.328 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[5]***
	10	Spectroscopy (WFC3IR.sp.1366500)	(5) SDSS-J155720.78+091624.7	WFC3/IR, MULTIACCUM, GRISM256	G141	SAMP-SEQ=SPARS25; NSAMP=15	313.122361 Secs X 8 (2504.979 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]*	 ***[5]***

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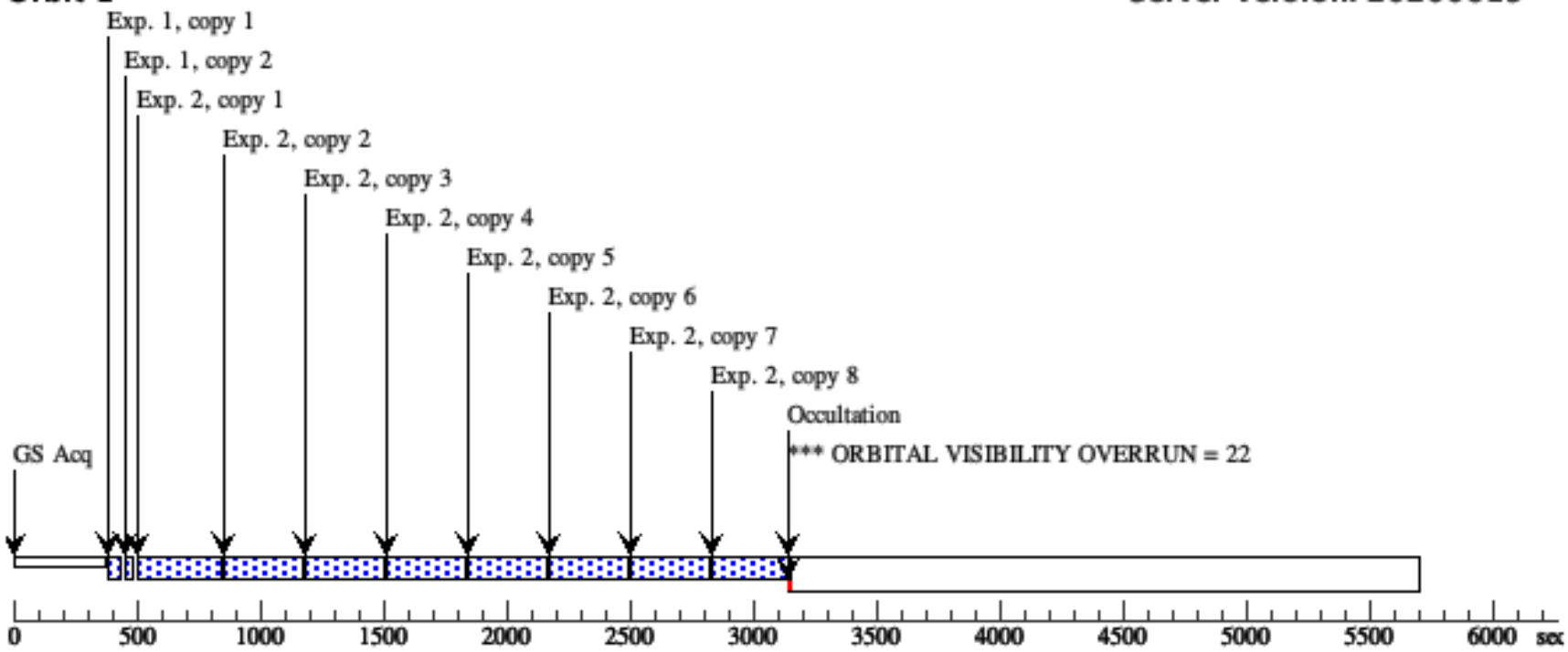

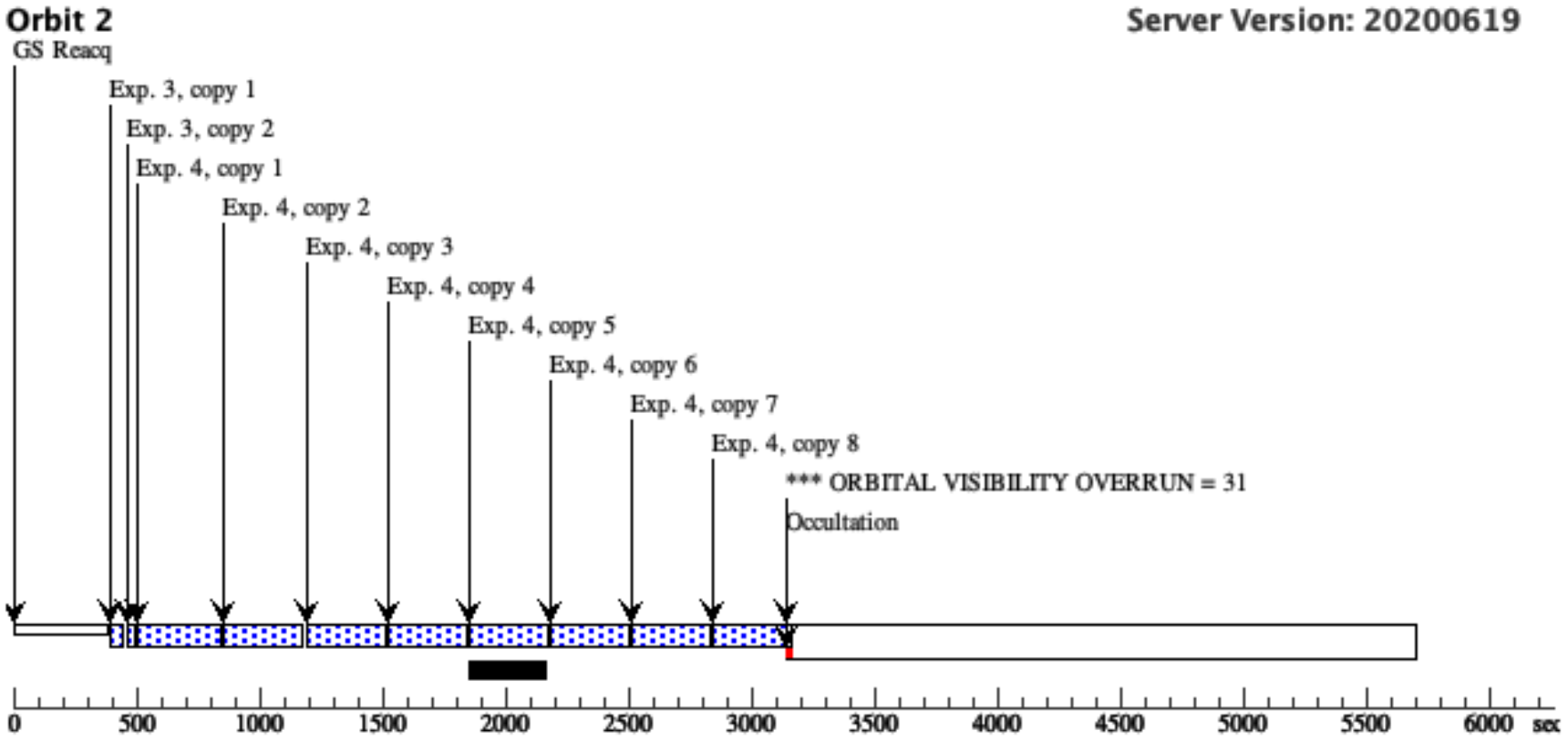
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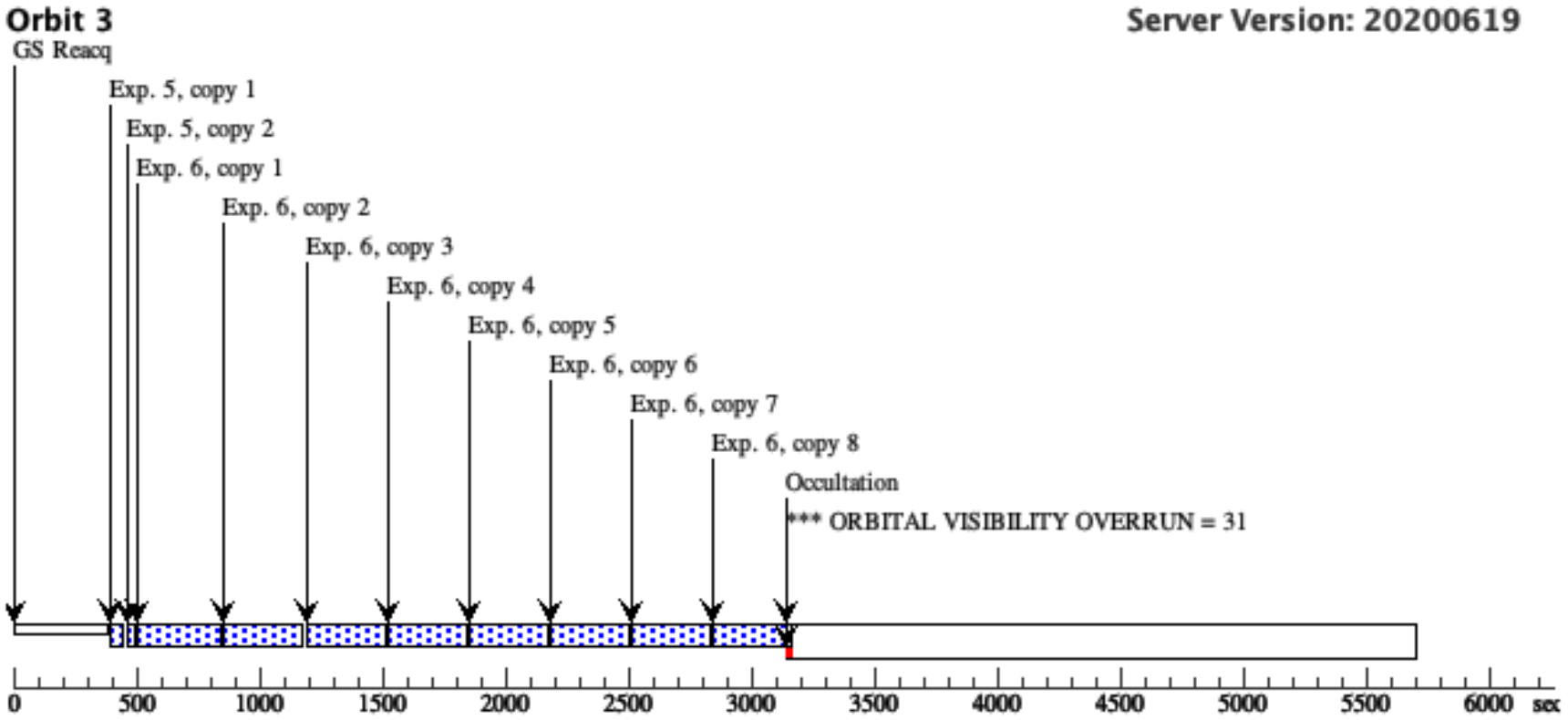
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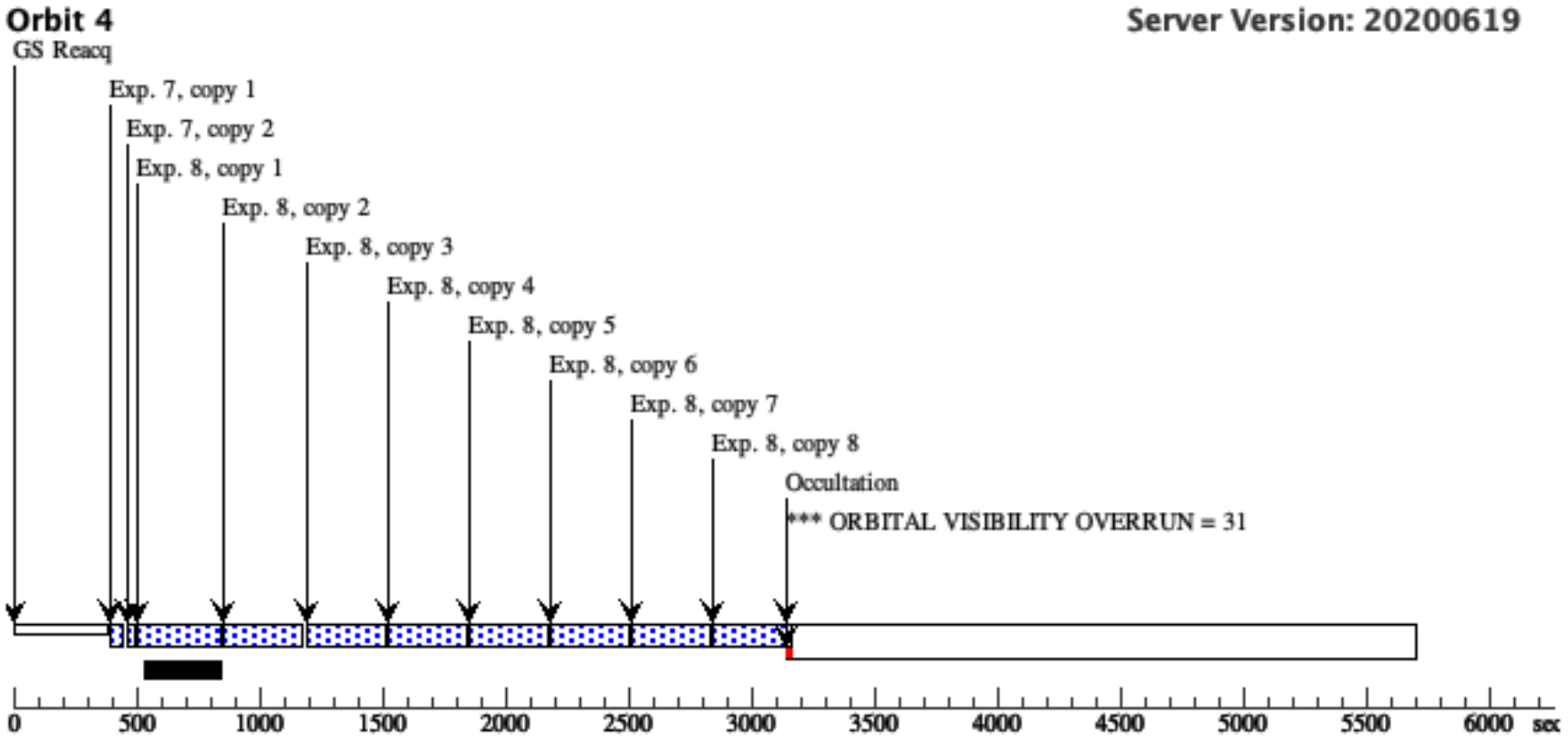
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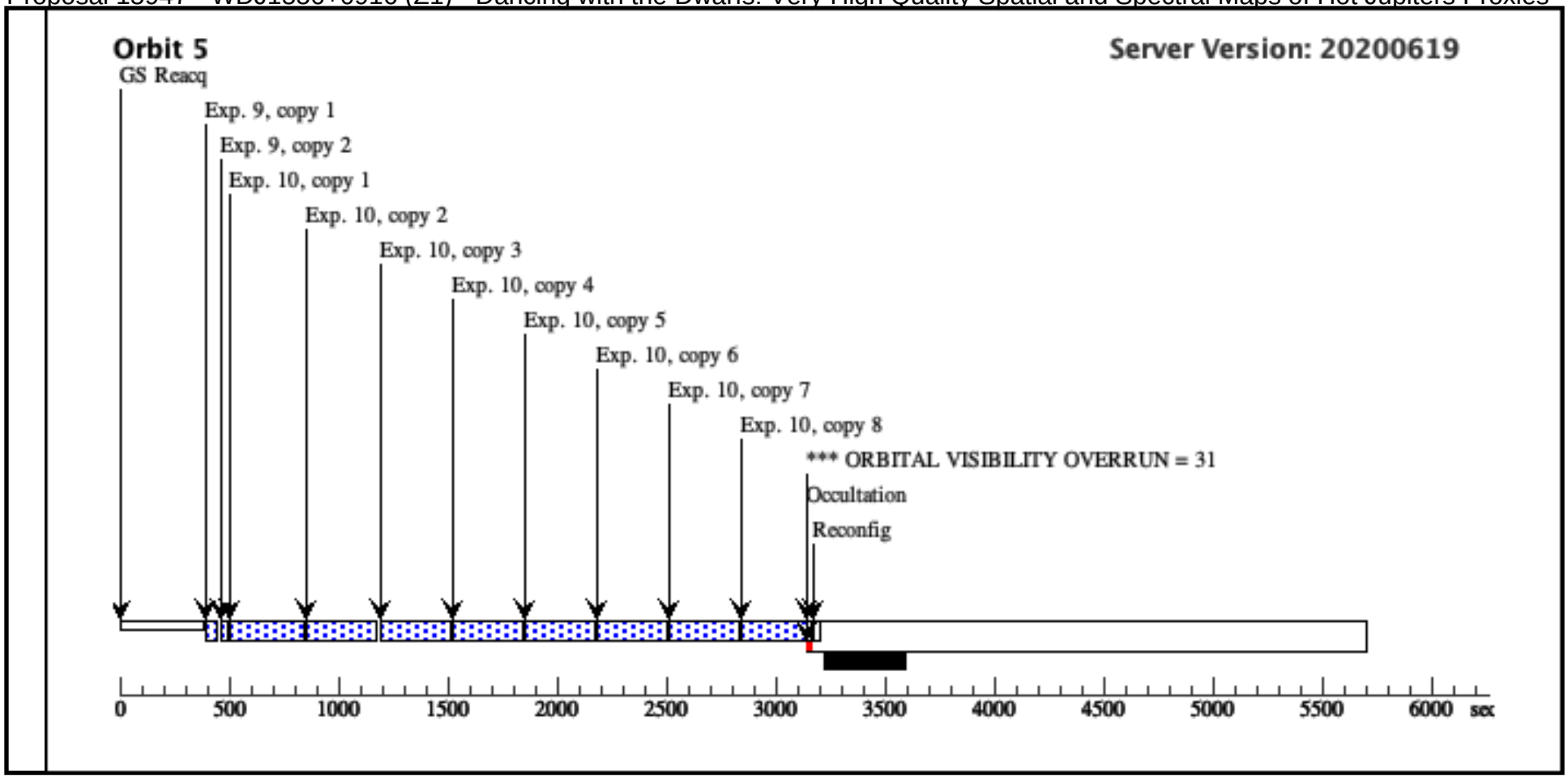
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