



13329 - Discovering the nature of the star-planet interaction at WASP-12b

Cycle: 21, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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>
W1	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:01:20.0	yes
W2	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:01:33.0	yes
W3	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:01:45.0	yes
W4	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:01:56.0	yes
W5	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:02:07.0	yes
W6	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:02:17.0	yes
W7	(1) WASP-12	COS/NUV	5	29-Oct-2013 21:02:28.0	yes

35 Total Orbits Used

ABSTRACT

In 2010, COS produced a tantalising hint of a significant discovery: the magnetic field of an exoplanet. The ingress of the transiting 'hot-Jupiter' exoplanet WASP-12b apparently occurred earlier in the NUV than in the optical, and two hypotheses have been put forward as explanations. One is that this manifests dense shocked material in a magnetosheath formed in the supersonic stellar wind upstream of the planet's thus-revealed magnetic field, while the other is that this is caused in the absence of a planetary magnetic field by material overflowing the planet's Roche lobe at the L1 point. However, the previous observation, which was not designed to observe this phenomenon, is beset by scattered, sparse data and we do not yet understand the nature of the star-planet interaction. It is thus crucial that we now observe WASP-12b in a program specifically designed to unambiguously detect the early ingress, significantly improve the NUV lightcurve, and answer the question:

* What is the nature of the star-planet interaction at WASP-12?

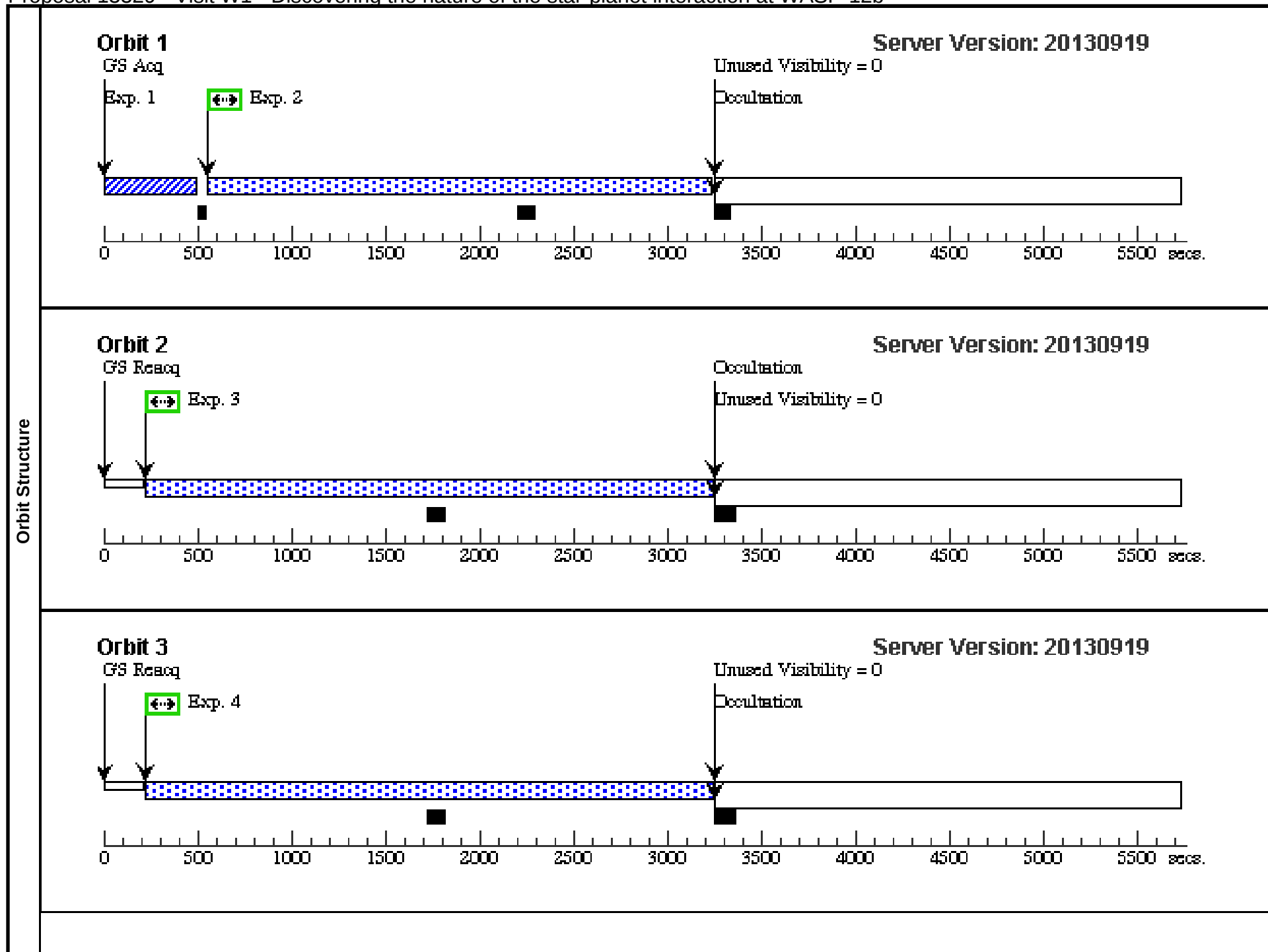
No other observatory is capable of making these observations, and this proposal is highly accordant with the purpose of the Cycle 21 UV initiative. Execution in Cycle 21 is also highly desirable since the results will provide input to the LOFAR exoplanet program, which will focus on planets thought to exhibit star-planet interactions. By following a fortuitously obtained pointer, this proposal presents low risk-high impact observations, since the characterisation of star-exoplanet interactions and possibly the first detection of an exoplanetary magnetic field would be of huge scientific significance.

OBSERVING DESCRIPTION

We will obtain time-series spectroscopy of transits of WASP-12b using COS/NUV in TIMETAG mode using the G285M grating at the 267.6 nm setting. Transit duration is ~ 2.7 h, such that each visit requires 5 orbits at tightly-specified phases in order to cover the ingress, egress, and centre of each transit, as well as before and after. We will observe four transits as close together as possible, at slightly adjusted phases to interleave the orbits.

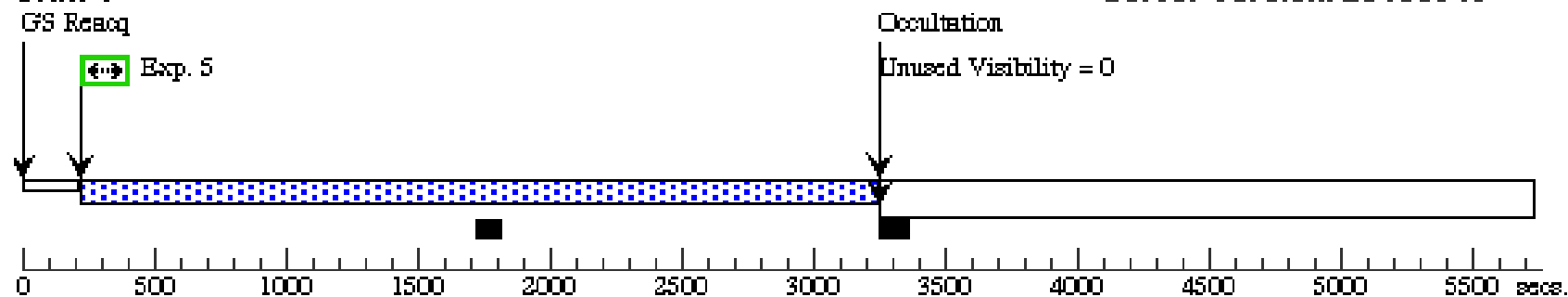
Proposal 13329 - Visit W1 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W1, failed										Wed Oct 30 01:02:37 GMT 2013
	Diagnostic Status: Warning										
	Scientific Instruments: COS/NUV										
	Special Requirements: BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739 <i>Comments: BETWEEN is such that the planet is observable from the ground in the same epoch. This does not place strict requirements on scheduling and can be relaxed somewhat if necessary. This visit has the earliest phase for which the last orbit occurs after egress (the phase requirement is set on the ACQ/IMAGE exposure). The other visits have specified phases such that they are evenly distributed between the first and second orbits of this visit. The transit ephemerides are from Haswell et al. (2012). The FP-POS settings are such that the values in corresponding orbits in each visit are different, rather than over one visit. Therefore, the entire first visit has FP-POS=1, the second FP-POS=2, etc. and despite the warning, all four FP-POS settings are used in the program. The order in which the visits execute is not important, however they should be scheduled as close together as possible.</i>										
Diagnostics	(Visit W1) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.										
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000		Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000		V=11.58+/-0.16 B=12.1, R=11.2		Reference Frame: ICRS		
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.8223647 T O 0.8376353		28 Secs (28 Secs) [==>]		[1]
	Comments: COS ETC (run ID COS.ta.509856) gives an exposure time of Texp = 27.2944 s to get S/N = 40 for a Castelli-Kurucz G0V star with B=12.14. Rounded up to 28 s.										
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2519 Secs (2519 Secs) [==>]		[1]
	Comments: COS ETC (run ID COS.sp.509858) gives a Buffer-Time of 2281 s for a Castelli-Kurucz G0V star with B=12.1. BT*2/3 = 1520, rounded down to 1500 s.										
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			3004 Secs (3004 Secs) [==>]		[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			3004 Secs (3004 Secs) [==>]		[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			3004 Secs (3004 Secs) [==>]		[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			3004 Secs (3004 Secs) [==>]		[5]



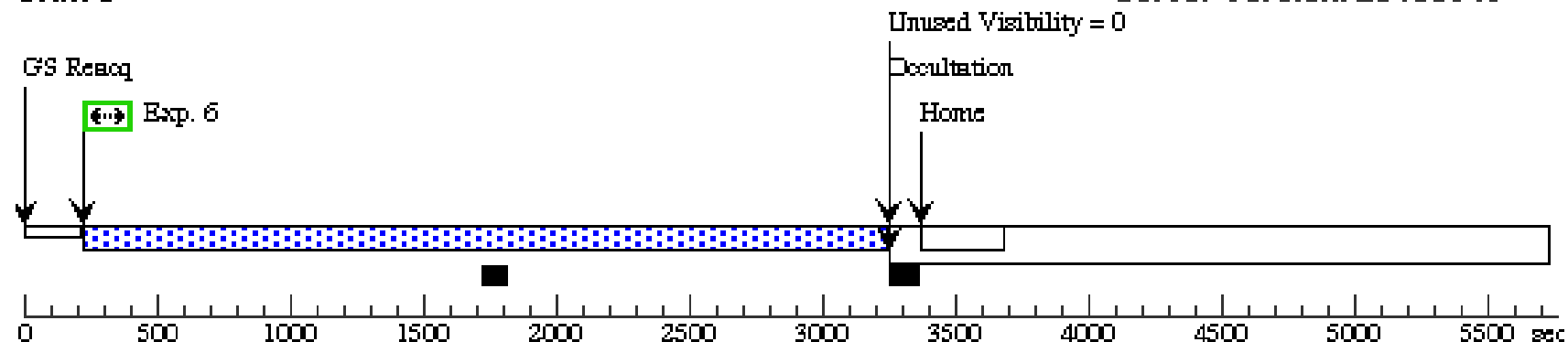
Orbit 4

Server Version: 20130919



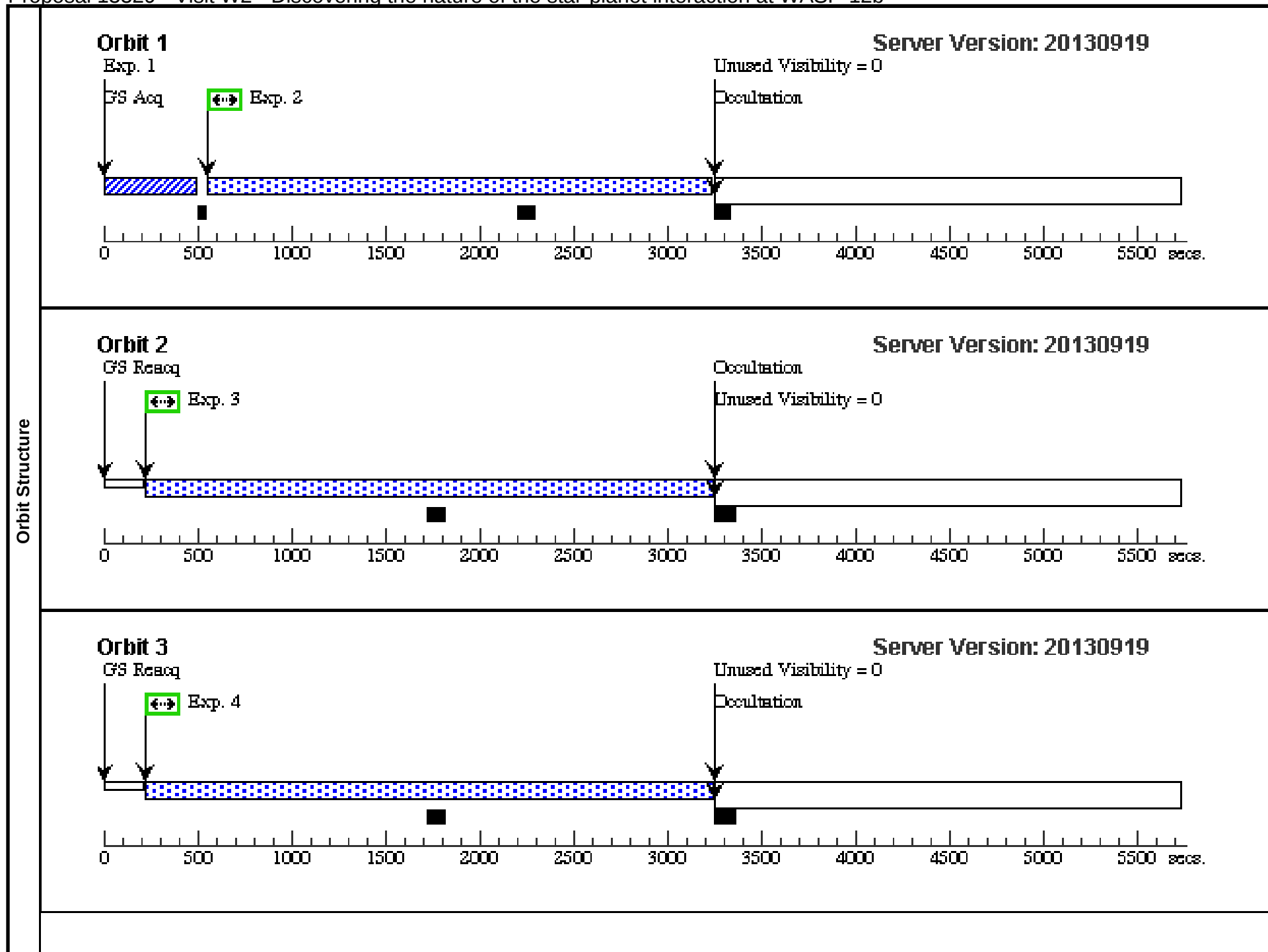
Orbit 5

Server Version: 20130919



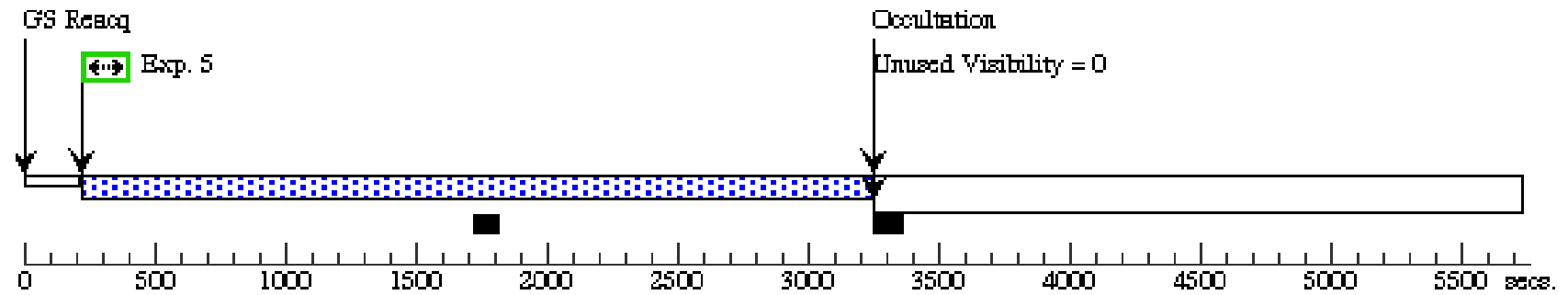
Proposal 13329 - Visit W2 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W2, failed Wed Oct 30 01:02:40 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739									
Diagnostics	(Visit W2) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.8376353 T O 0.8529059		28 Secs (28 Secs) [==>]	[1]
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2519 Secs (2519 Secs) [==>]	[1]
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			3004 Secs (3004 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			3004 Secs (3004 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			3004 Secs (3004 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			3004 Secs (3004 Secs) [==>]	[5]



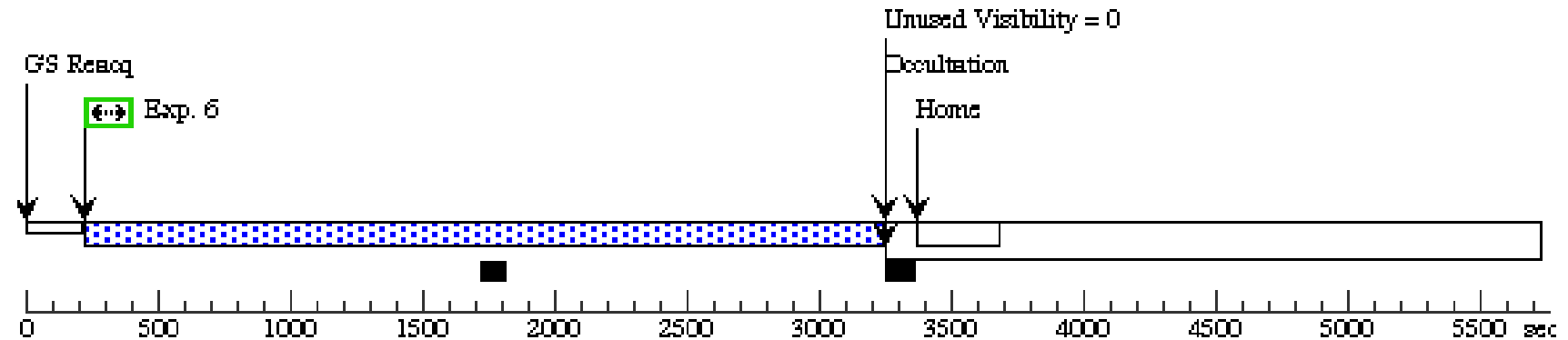
Orbit 4

Server Version: 20130919



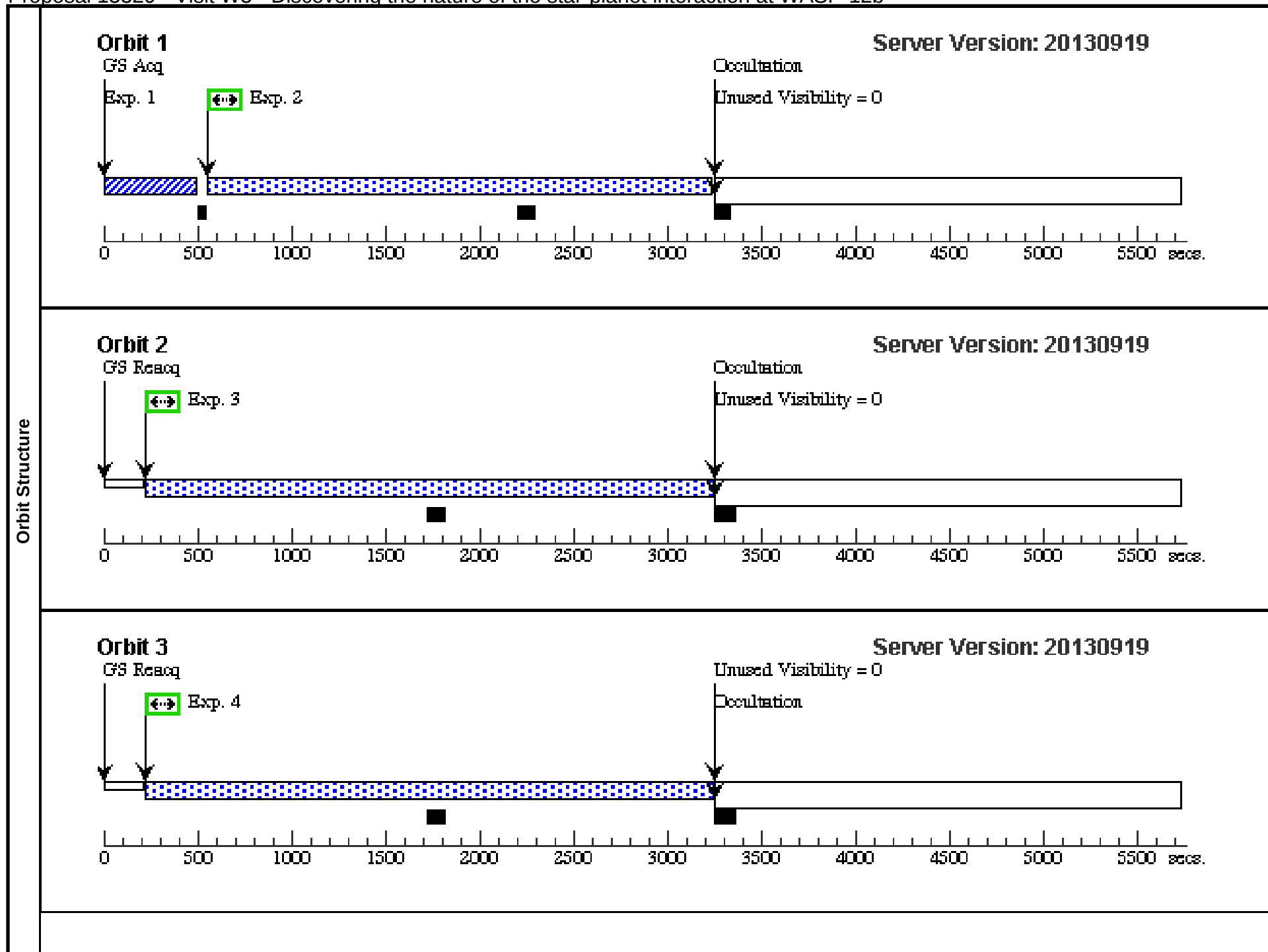
Orbit 5

Server Version: 20130919



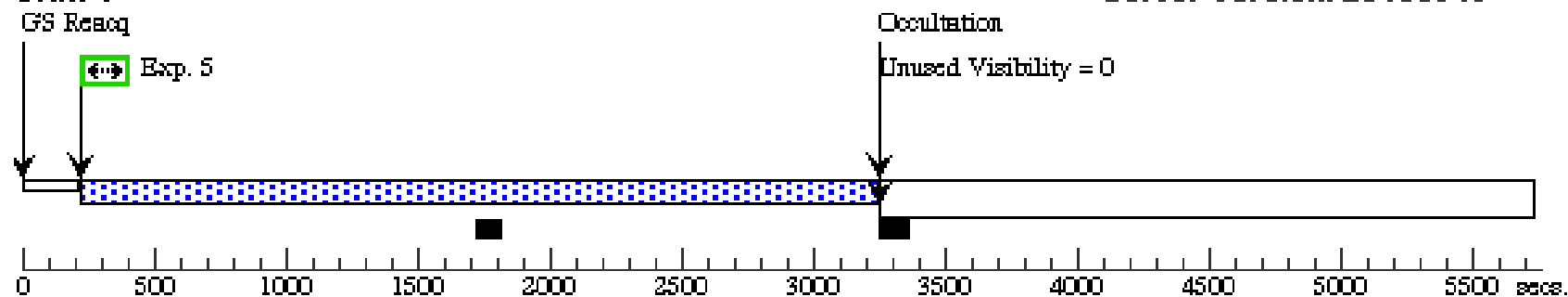
Proposal 13329 - Visit W3 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W3, completed Wed Oct 30 01:02:42 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739									
Diagnos	(Visit W3) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.8529059 T O 0.86817649		28 Secs (28 Secs) [==>]	[1]
	2	(COS.sp.509 85)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=3			2519 Secs (2519 Secs) [==>]	[1]
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=3			3004 Secs (3004 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=3			3004 Secs (3004 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=3			3004 Secs (3004 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=3			3004 Secs (3004 Secs) [==>]	[5]



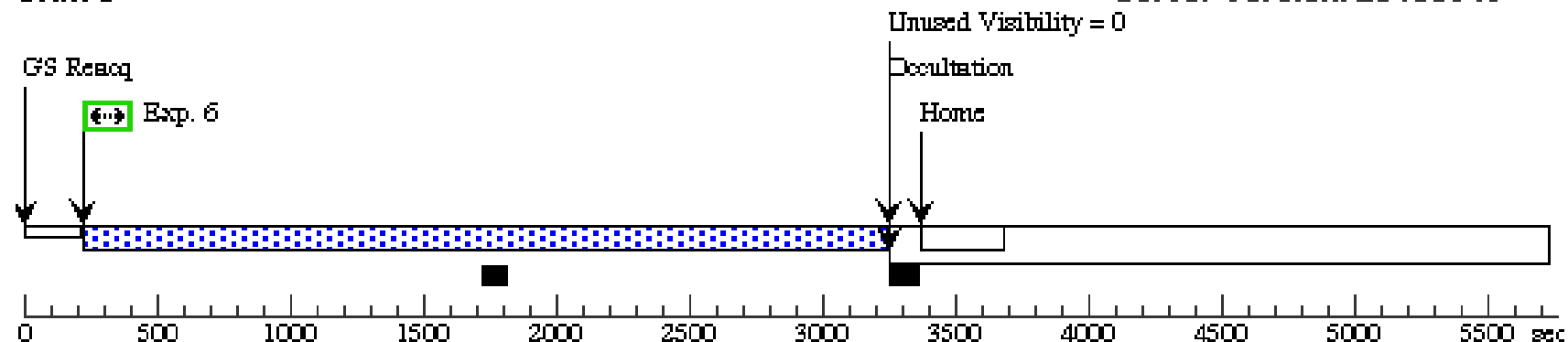
Orbit 4

Server Version: 20130919



Orbit 5

Server Version: 20130919

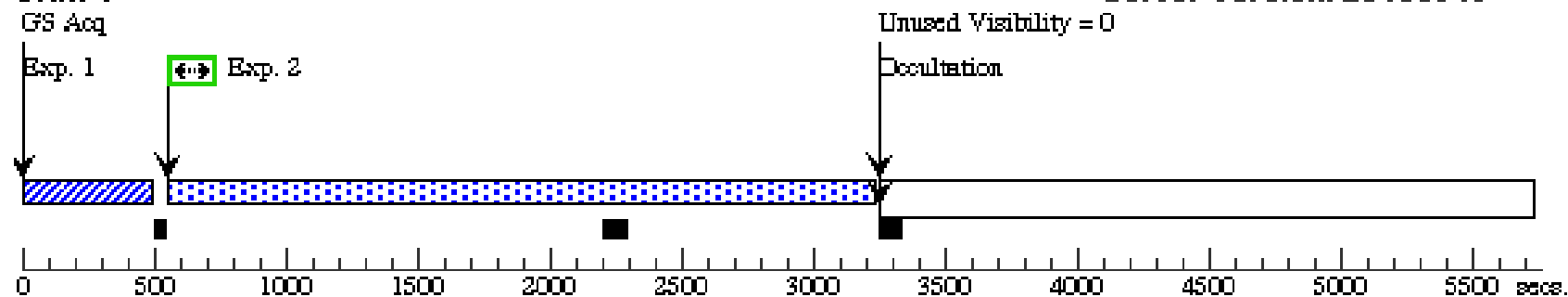


Proposal 13329 - Visit W4 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W4, failed Wed Oct 30 01:02:44 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739									
Diagnostics	(Visit W4) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.86817649 TO 0.88344709		28 Secs (28 Secs) [==>]	[1]
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2519 Secs (2519 Secs) [==>]	[1]
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			3004 Secs (3004 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			3004 Secs (3004 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			3004 Secs (3004 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			3004 Secs (3004 Secs) [==>]	[5]

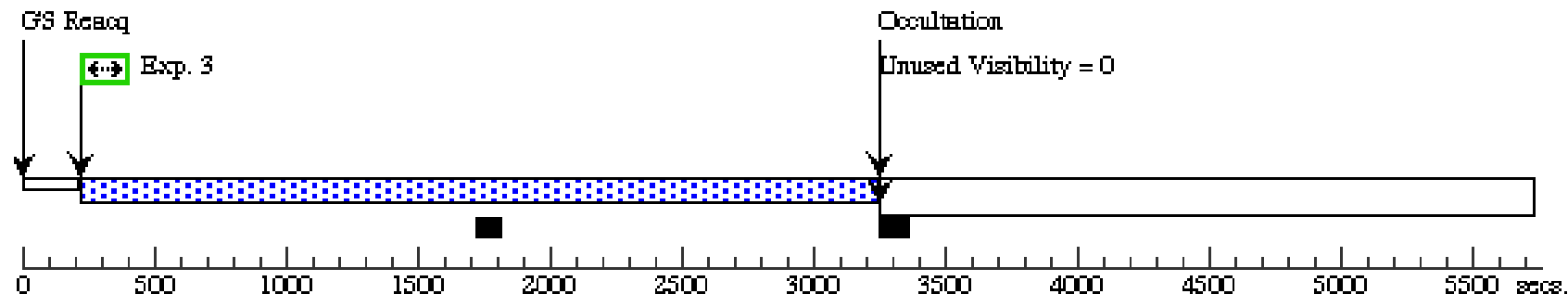
Orbit 1

Server Version: 20130919



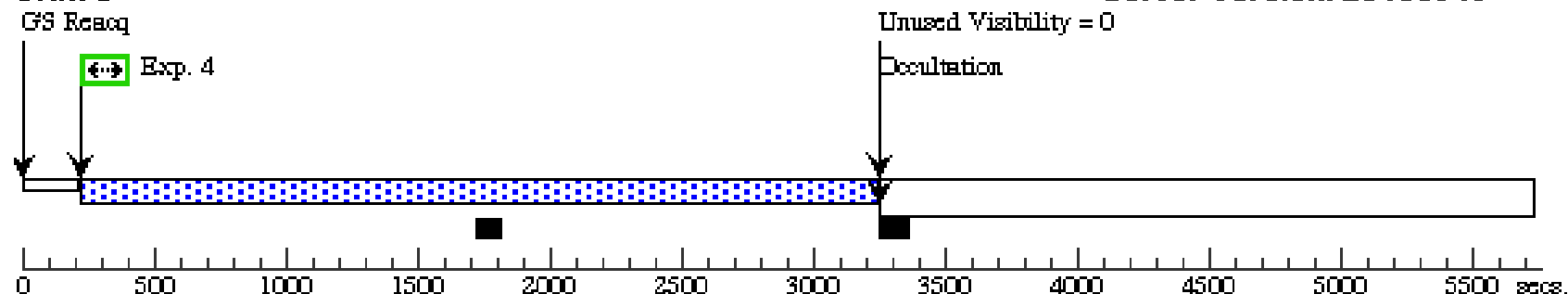
Orbit 2

Server Version: 20130919



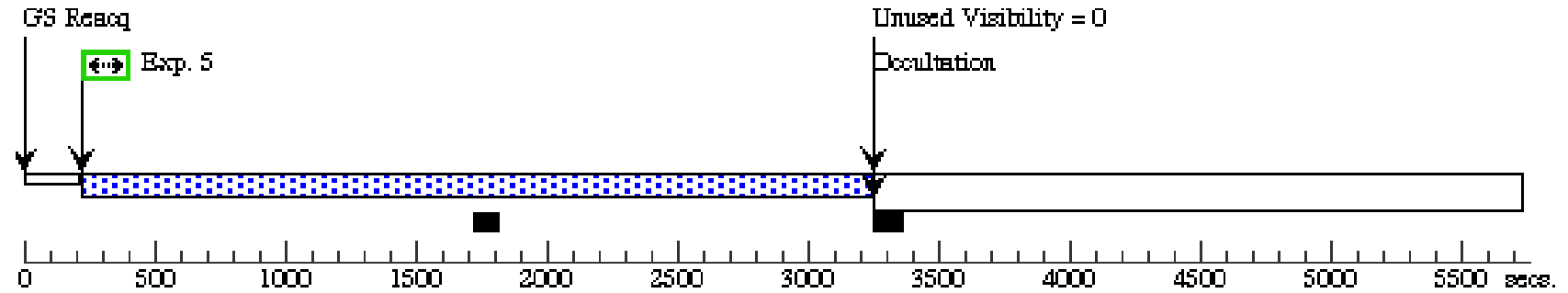
Orbit 3

Server Version: 20130919



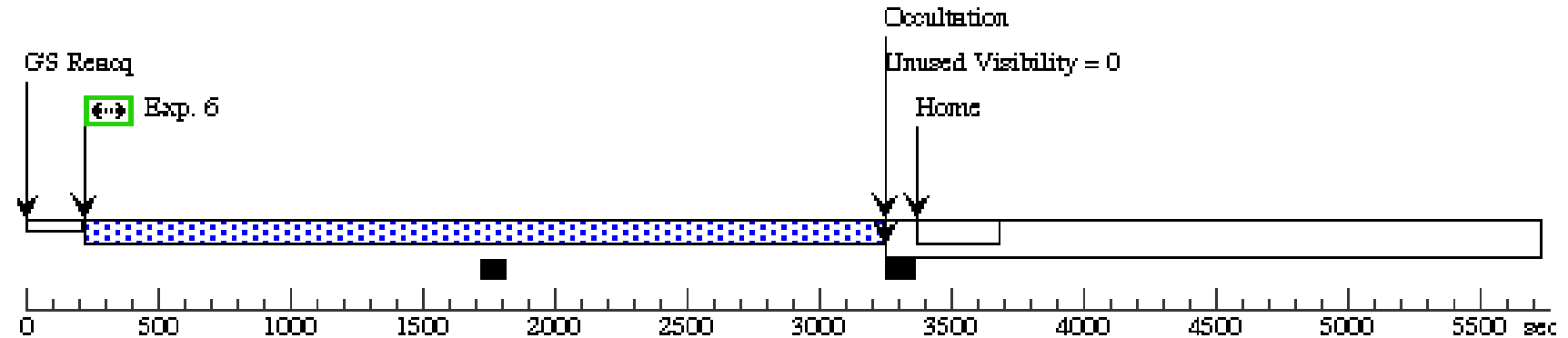
Orbit 4

Server Version: 20130919



Orbit 5

Server Version: 20130919

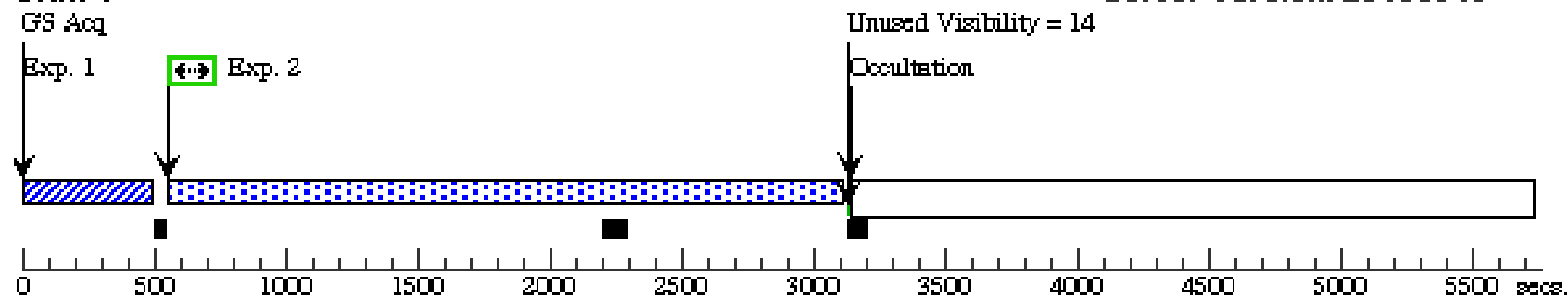


Proposal 13329 - Visit W5 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W5, implementation Wed Oct 30 01:02:46 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 60%; BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739; GROUP W5,W6,W7 WITHIN 14D									
Diagnos	(Visit W5) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.8376353 T O 0.8529059		28 Secs (28 Secs) [==>]	[1]
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2400 Secs (2400 Secs) [==>]	[1]
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2890 Secs (2890 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2890 Secs (2890 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2890 Secs (2890 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=2			2890 Secs (2890 Secs) [==>]	[5]

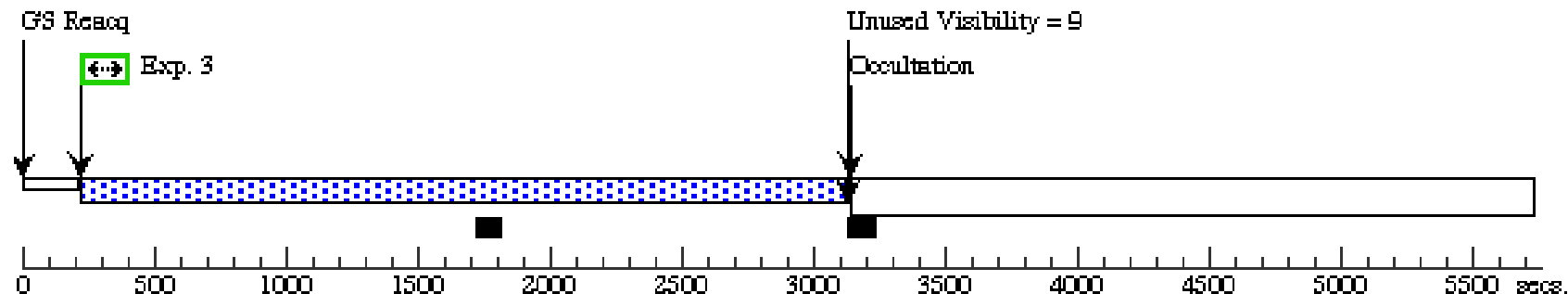
Orbit 1

Server Version: 20130919



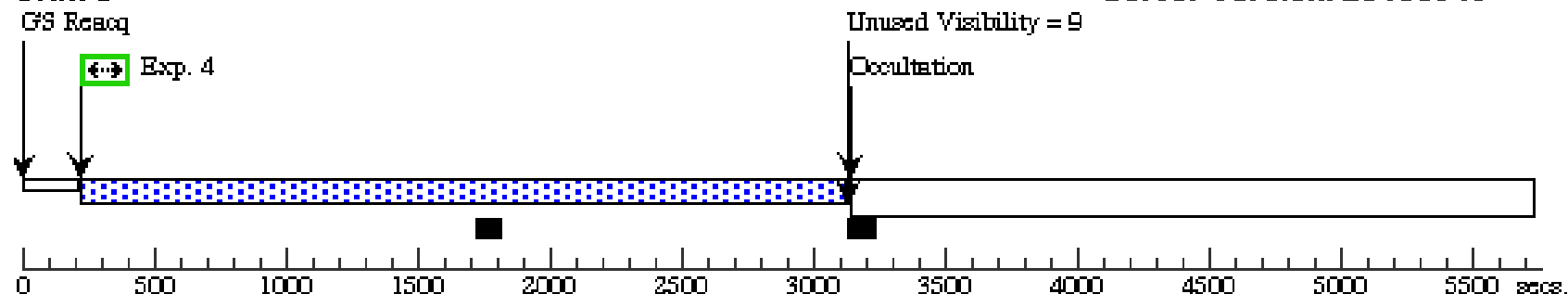
Orbit 2

Server Version: 20130919



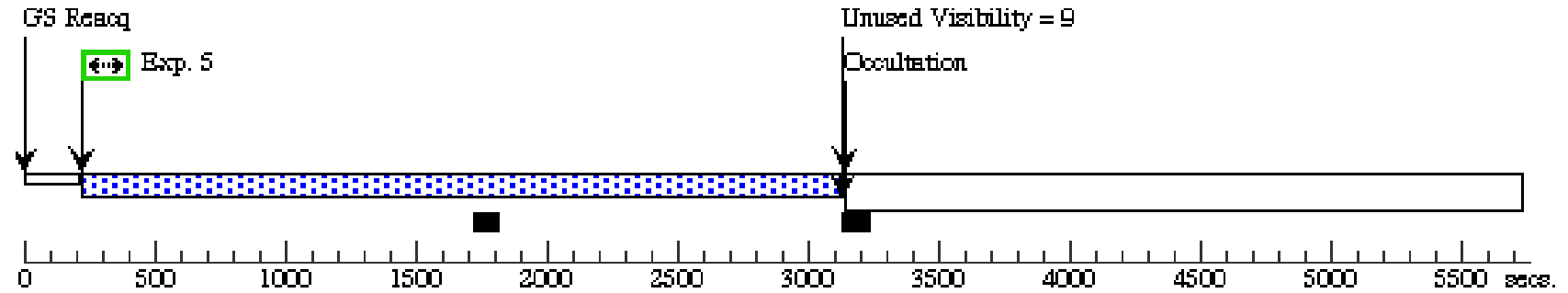
Orbit 3

Server Version: 20130919



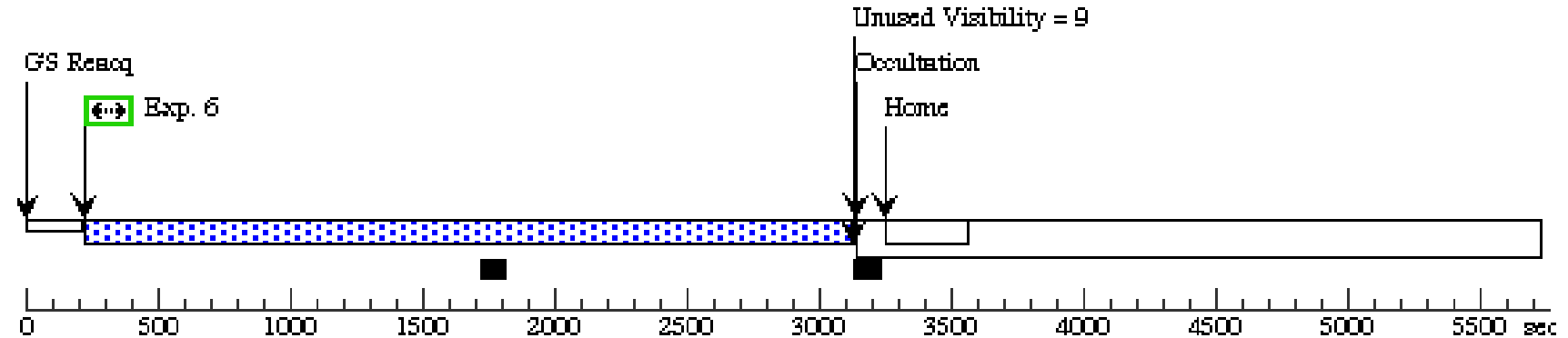
Orbit 4

Server Version: 20130919



Orbit 5

Server Version: 20130919

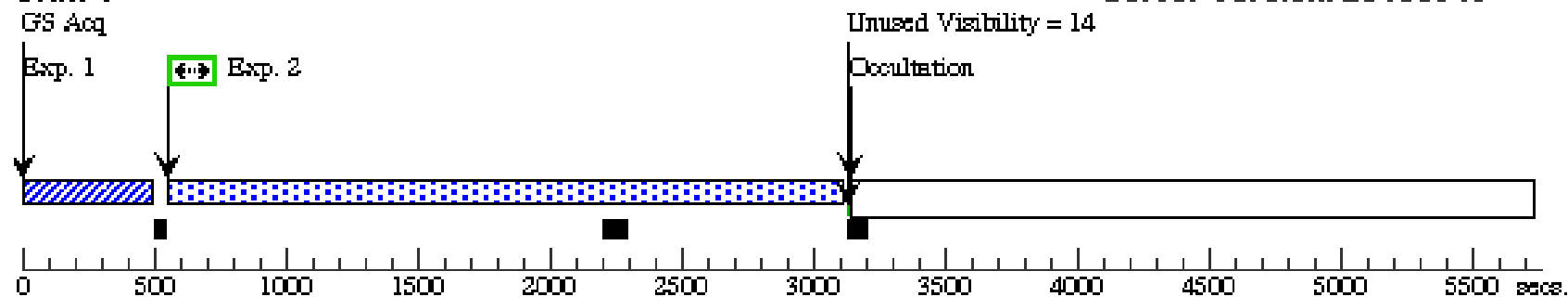


Proposal 13329 - Visit W6 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W6, implementation Wed Oct 30 01:02:47 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 60%; BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739									
Diagnos	(Visit W6) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.86817649 TO 0.88344709		28 Secs (28 Secs) [==>]	[1]
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2400 Secs (2400 Secs) [==>]	[1]
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2890 Secs (2890 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2890 Secs (2890 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2890 Secs (2890 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=4			2890 Secs (2890 Secs) [==>]	[5]

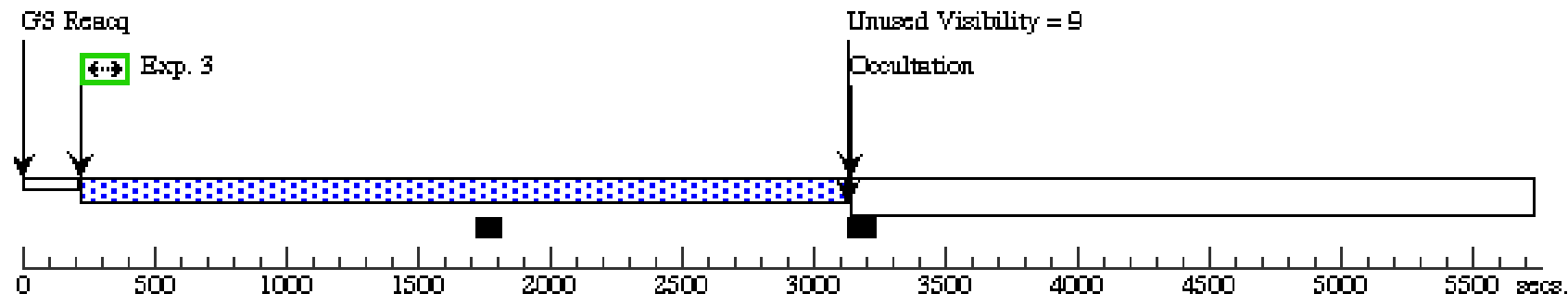
Orbit 1

Server Version: 20130919



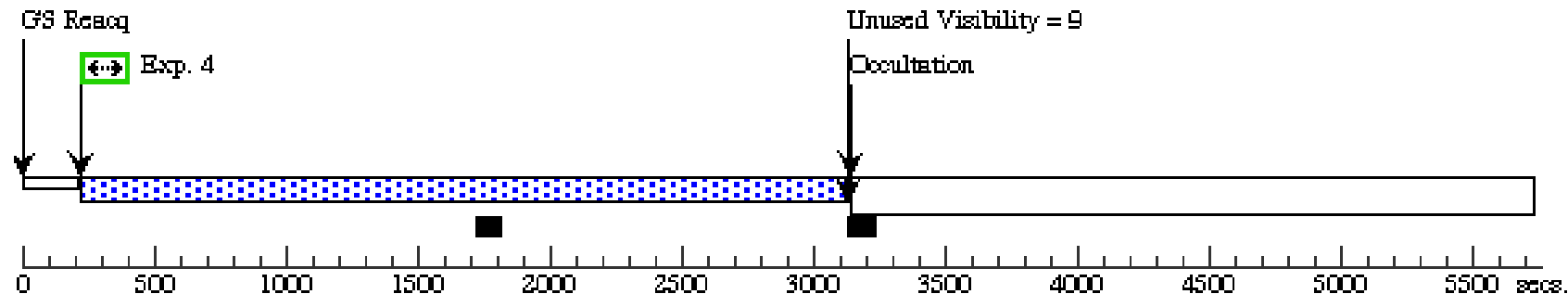
Orbit 2

Server Version: 20130919



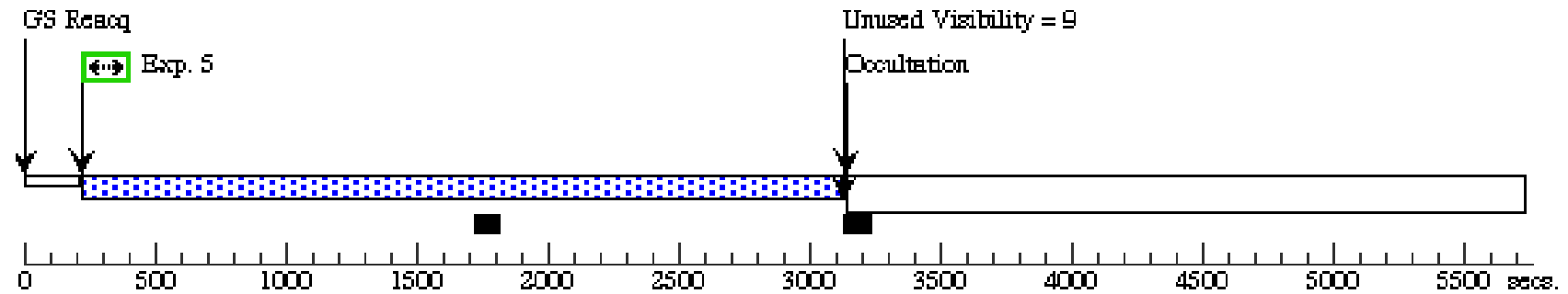
Orbit 3

Server Version: 20130919



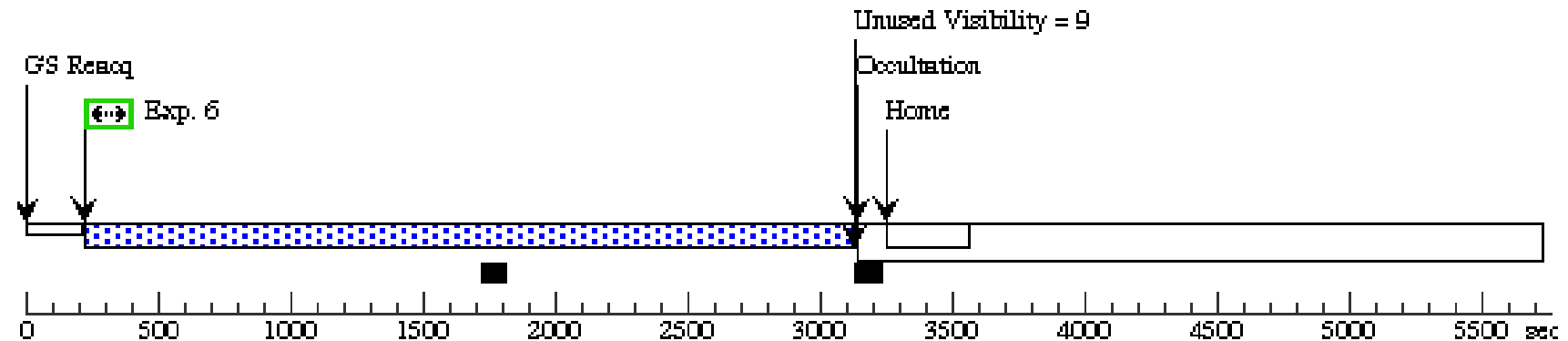
Orbit 4

Server Version: 20130919



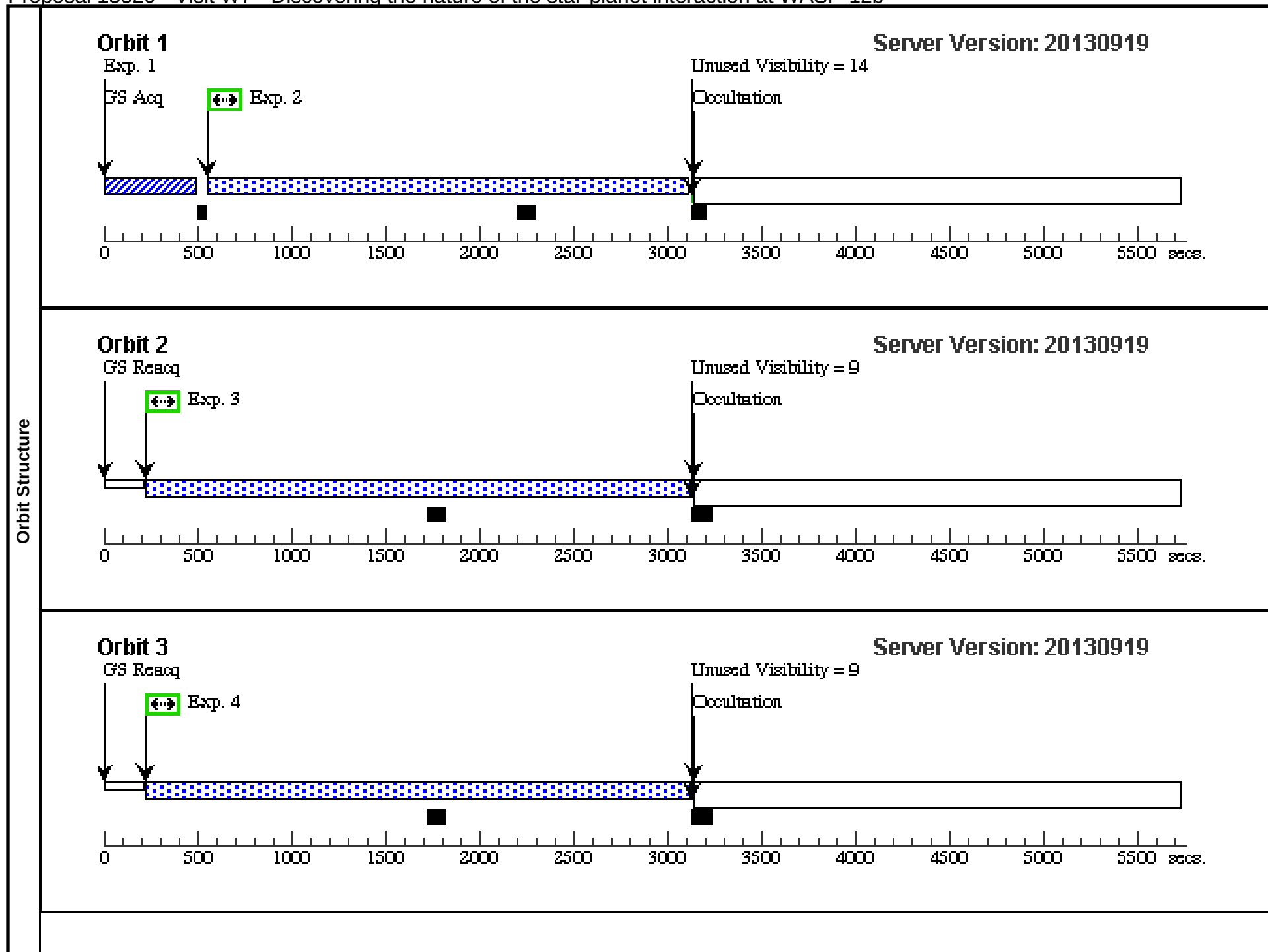
Orbit 5

Server Version: 20130919



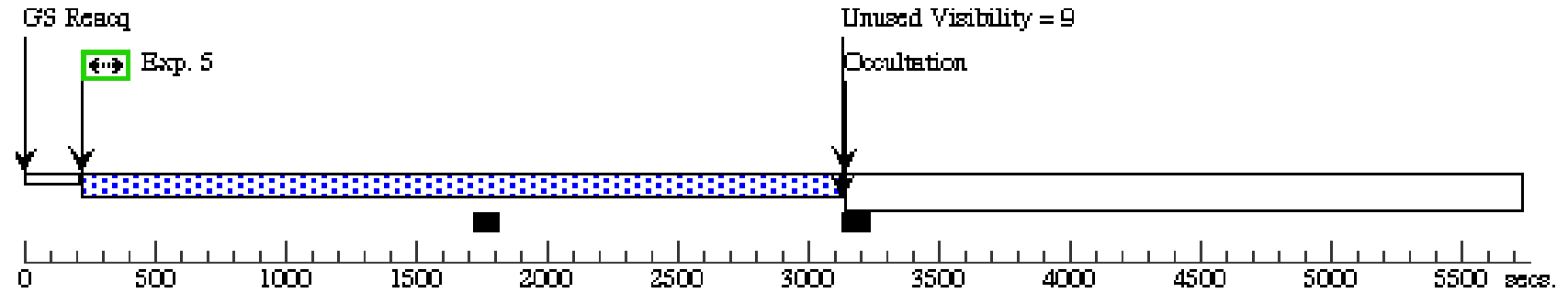
Proposal 13329 - Visit W7 - Discovering the nature of the star-planet interaction at WASP-12b

Visit	Proposal 13329, Visit W7, implementation Wed Oct 30 01:02:51 GMT 2013									
	Diagnostic Status: Warning Scientific Instruments: COS/NUV Special Requirements: SCHED 60%; BETWEEN 01-OCT-2013:00:00:00 AND 01-APR-2014:00:00:00; Period 1.09142206 D AND ZERO-PHASE HJD2454852.7739 Comments: BETWEEN is such that the planet is observable from the ground in the same epoch. This does not place strict requirements on scheduling and can be relaxed somewhat if necessary. This visit has the earliest phase for which the last orbit occurs after egress (the phase requirement is set on the ACQ/IMAGE exposure). The other visits have specified phases such that they are evenly distributed between the first and second orbits of this visit. The transit ephemerides are from Haswell et al. (2012). The FP-POS settings are such that the values in corresponding orbits in each visit are different, rather than over one visit. Therefore, the entire first visit has FP-POS=1, the second FP-POS=2, etc. and despite the warning, all four FP-POS settings are used in the program. The order in which the visits execute is not important, however they should be scheduled as close together as possible.									
Diagnostics	(Visit W7) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WASP-12	RA: 06 30 32.7900 (97.6366250d) Dec: +29 40 20.40 (29.67233d) Equinox: J2000	Proper Motion RA: -0.6 mas/yr Proper Motion Dec: -7.8 mas/yr Epoch of Position: 2000	V=11.58+/-0.16 B=12.1, R=11.2	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.509 856)	(1) WASP-12	COS/NUV, ACQ/IMAGE, PSA	MIRRORB		PHASE 0.8223647 T O 0.8376353		28 Secs (28 Secs) [==>]	[1]
	Comments: COS ETC (run ID COS.ta.509856) gives an exposure time of Texp = 27.2944 s to get S/N = 40 for a Castelli-Kurucz G0V star with B=12.14. Rounded up to 28 s.									
	2	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2400 Secs (2400 Secs) [==>]	[1]
	Comments: COS ETC (run ID COS.sp.509858) gives a Buffer-Time of 2281 s for a Castelli-Kurucz G0V star with B=12.1. BT*2/3 = 1520, rounded down to 1500 s.									
	3	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2890 Secs (2890 Secs) [==>]	[2]
	4	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2890 Secs (2890 Secs) [==>]	[3]
	5	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2890 Secs (2890 Secs) [==>]	[4]
	6	(COS.sp.509 858)	(1) WASP-12	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=15 00; FLASH=YES; FP-POS=1			2890 Secs (2890 Secs) [==>]	[5]



Orbit 4

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Orbit 5

Server Version: 20130919

