



## 11610 - A Search for Pulsation in Young Brown Dwarfs

Cycle: 17, Proposal Category: GO

(Availability Mode: SUPPORTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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>
01	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:06:13.0	yes
02	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:06:44.0	yes
03	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:07:12.0	yes
04	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:07:39.0	yes
05	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:08:12.0	yes
06	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:08:38.0	yes

<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>
07	(1) IC348 ANY	ACS/WFC WFC3/UVIS	5	05-May-2009 21:09:03.0	yes

35 Total Orbits Used

### **ABSTRACT**

Brown dwarfs are a ubiquitous yet poorly understood product of the processes that take place in star formation regions. To date, observational methods to determine important properties such as mass and age are lacking. But better understanding of the physical characteristics of young brown dwarfs and very low mass stars is now within reach through the signature of variable lightcurves. In particular, pulsation in these objects is a newly suggested phenomenon that offers unprecedented opportunities to probe their interiors and evolution. We propose to use HST WFC3 to improve upon ground-based studies which suggest low-amplitude, short-period variability indicative of pulsation just below the statistical detection threshold. We will acquire precise time-series photometry on a sample of confirmed brown dwarfs in the young IC 348 cluster. With estimated masses and ages appropriate to the deuterium-burning stage, these objects are some of the most promising candidates in a potential new class of pulsators. We aim to fully characterize light-curve periodicities down to millimagnitude amplitudes, and ultimately use the results to provide fundamental constraints on the interiors and properties of brown dwarfs.

### **OBSERVING DESCRIPTION**

Our aim is to obtain high-precision time-series photometry on young brown dwarf pulsation candidates in the IC 348 cluster. We have selected a subregion of this cluster for observation with HST such that the 162 by 81 arcsecond field of one WFC3 chip encompasses multiple brown dwarfs in

a single exposure. While use of both WFC3 chips might allow for inclusion of more BDs in the field of view (FOV), this would introduce an additional buffer readout time, greatly limiting the number of exposures obtainable per orbit. In addition, a smaller FOV reduces the number of brighter stars in our field that might saturate and prevent sufficiently precise photometry. Therefore, we will obtain time-series photometry with the 2051 by 4096 arcsecond WFC3 subarray, using exposure times of 128-192 seconds. This is suitable for acquiring photometry with an S/N of at least 200 on our brighter targets, and 50 on the faintest target, for which no reliable data has been obtained from the ground.

Since our priority is to confirm pulsation in BDs that already have promising ground-based data, we have specifically selected a field with five low-mass objects for which either previous light curves or position on the H-R diagram (in the case of faint objects not observed at high S/N from the ground) suggest pulsational variability. In order to fit all targets within the FOV, we have specified a rotation angle restriction. In addition, we have elected not to dither, since the process would introduce unwanted extra overhead time and intrapixel sensitivity variations that may hinder our critical photometric measurements. The position of our specified field is such that the ACS field of view is also likely to cover at least one or two brown dwarfs pulsator candidates. Although the data rate is restricted to 4 exposures per orbit and hence does not provide as good a cadence as WFC3, we would nevertheless like to take advantage of this potential additional data to search for variability in more objects.

We have chosen to observe in the F814W band, to maximize the signal-to-noise ratio for our relatively red BD objects. Individual exposure times of either 128 (first orbit of each visit), 171 (subsequent orbits) or 192 seconds have been selected to maximize the number of exposures per orbit while achieving  $S/N > 100$  for most of our targets ( $I=17-21$ ). Given a guidestar acquisition time of 333 or 195 seconds per orbit, an additional 232 minutes of readout overhead per exposure, and a total visibility time of 3283 seconds at the target location, we will obtain eight exposures per orbit. We have set up a sequence of exposures such that buffer memory can be transferred during four that last 192 seconds, and the remaining four exposures are packed into the orbit with 128 or 171-second exposure times (depending on the guidestar acquisition overhead). The buffers for these are transferred during occultation. We considered further reducing overhead by binning, but since pixel-to-pixel flatfield variations are presumably not yet known, this would be too risky for high-precision photometry.

The expected S/N of 150 for objects brighter than magnitude 19 in the I band yields a 0.007-magnitude photometric precision. A total number of 280 data points over 35 orbits is expected to allow us to probe to variability amplitudes as low as 0.005 magnitudes. The precision of the detection is maximized by scheduling observations to be as close to consecutive as possible. Since no more than five or six consecutive orbits may be scheduled

per visit, so we propose to observe for seven sets of five orbits, with the expectation that the visits be carried out one after another, or at least very close together. We have therefore specified that the visits occur within 9 days of each other.

Proposal 11610 - Visit 01 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:11 GMT 2009

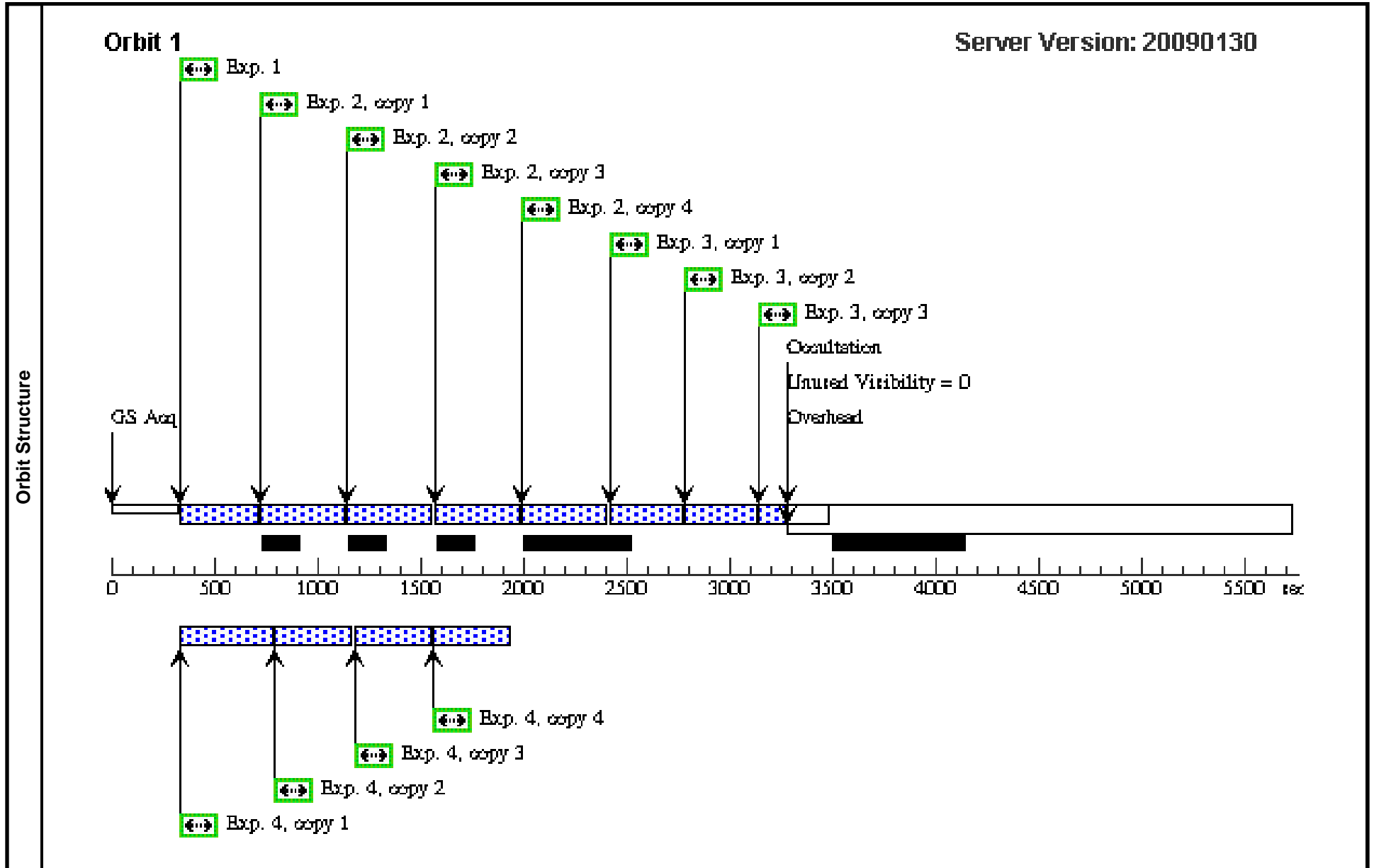
Visit		Proposal 11610, Visit 01, implementation								
		Diagnostic Status: No Diagnostics								
		Scientific Instruments: ACS/WFC, WFC3/UVIS								
		Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D; GROUP 01,02,03,04,05,06,07 WITHIN 9D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord.	Corrections	Fluxes	Miscellaneous			
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000			V=22+/-3	Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

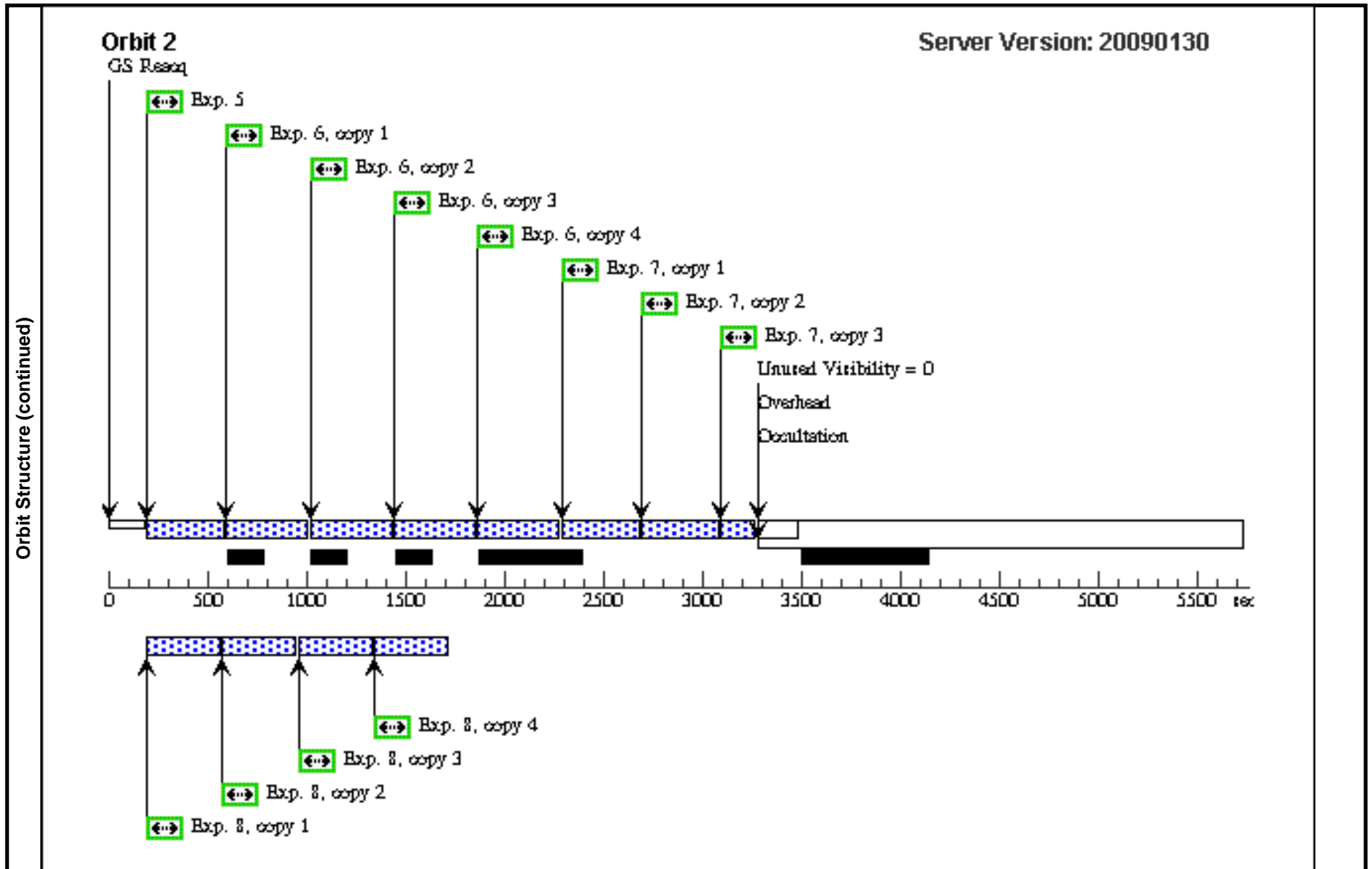
Proposal 11610 - Visit 01 - A Search for Pulsation in Young Brown Dwarfs

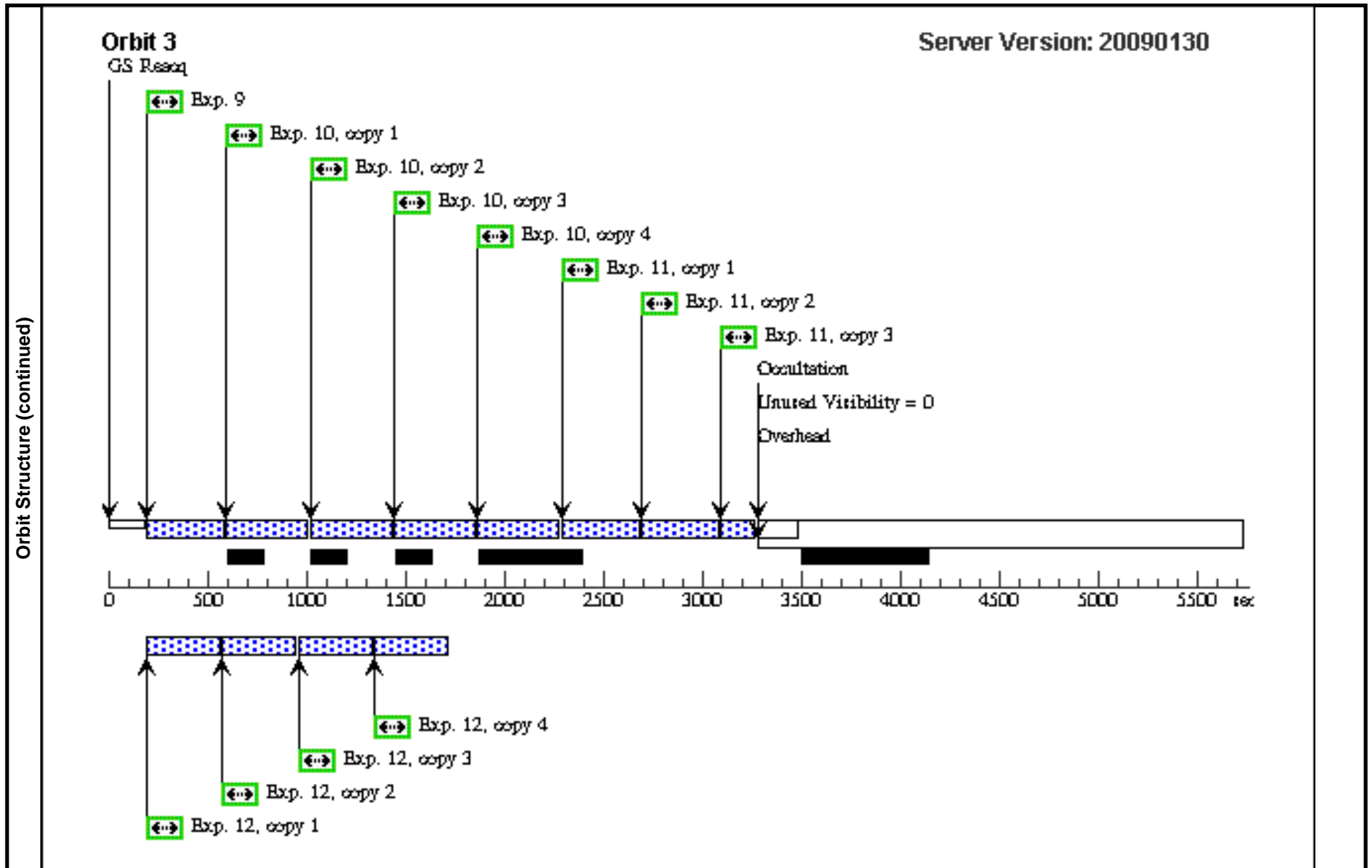
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

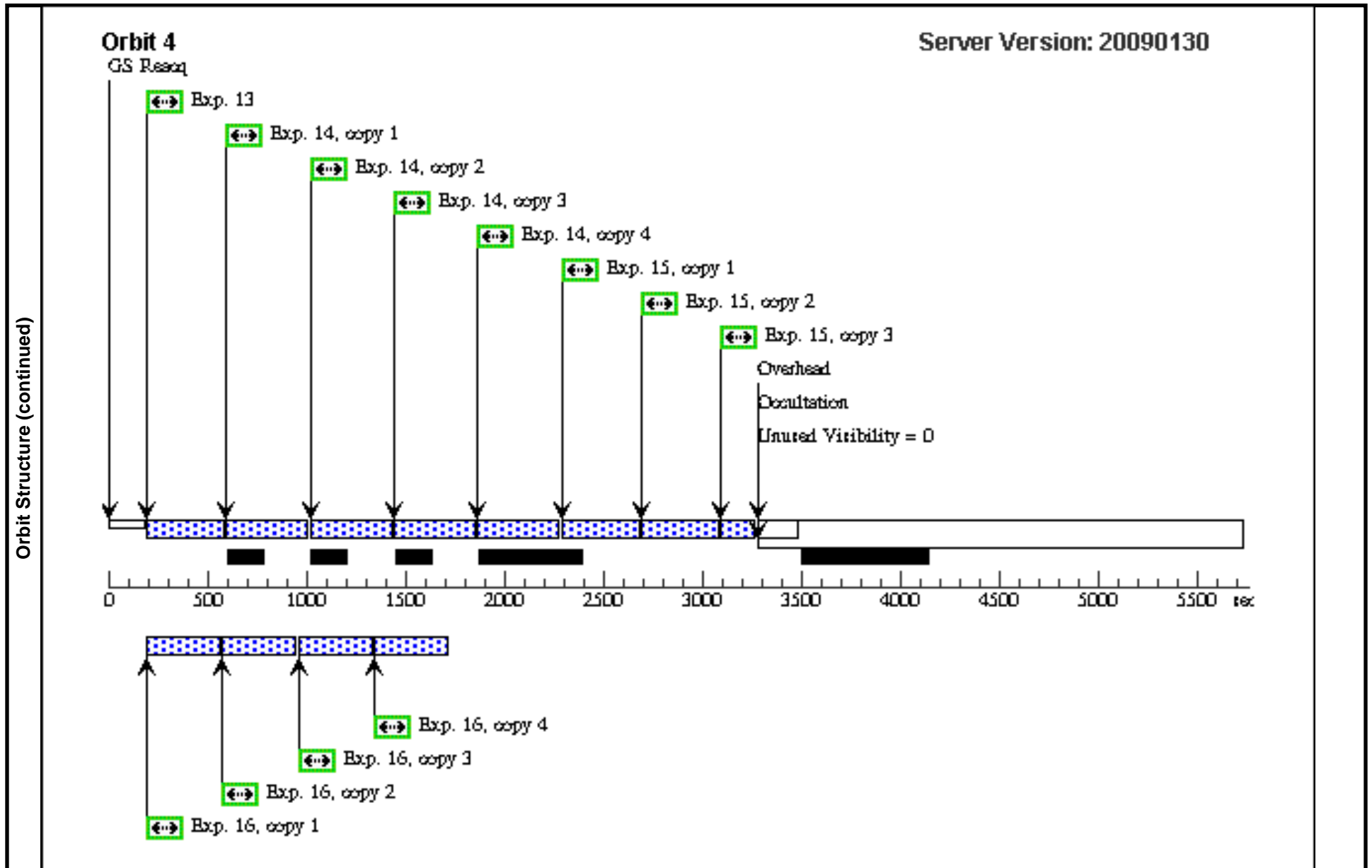
Proposal 11610 - Visit 01 - A Search for Pulsation in Young Brown Dwarfs

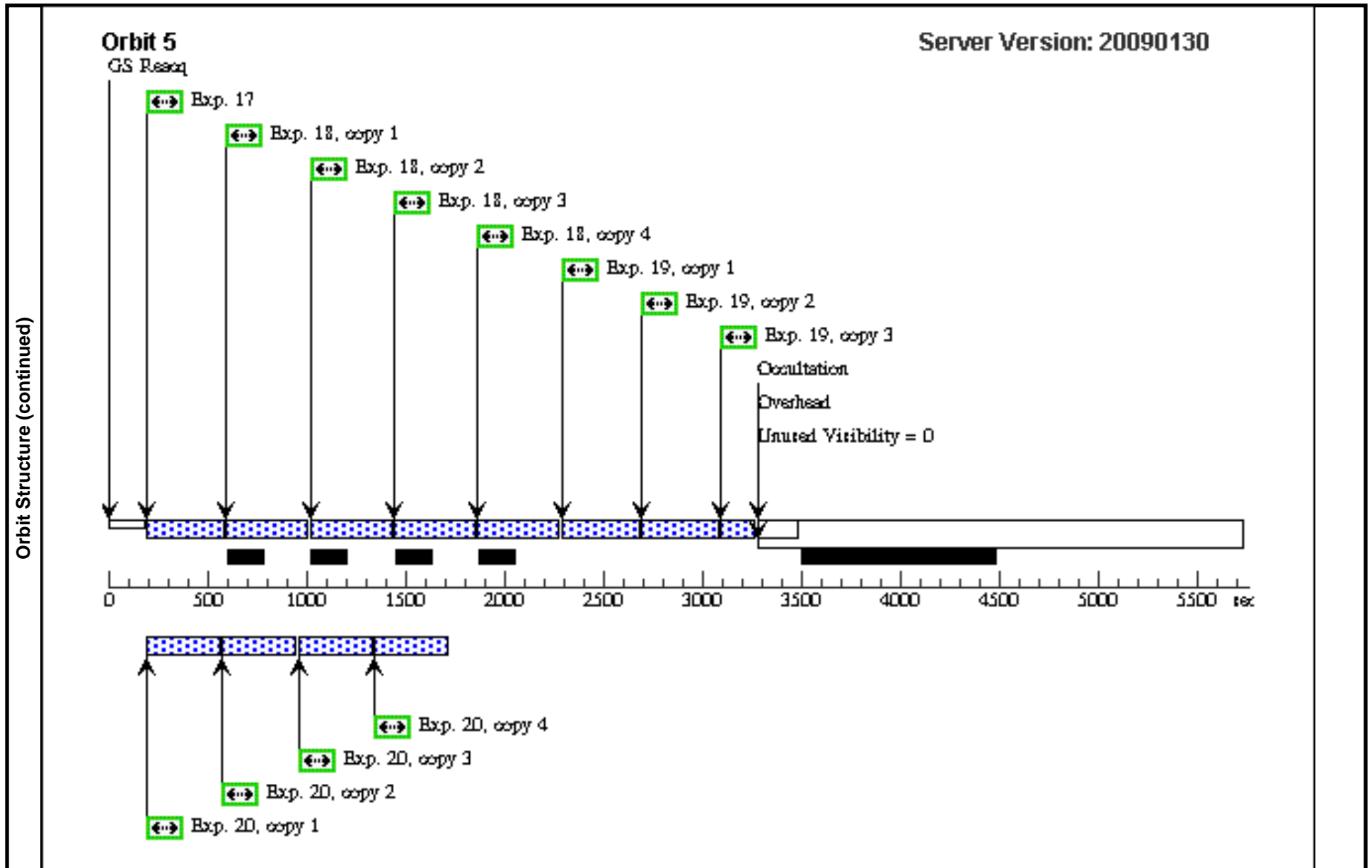
Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	17	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	169 Secs [==>]	[5]
	18	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Gro up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 02 - A Search for Pulsation in Young Brown Dwarfs

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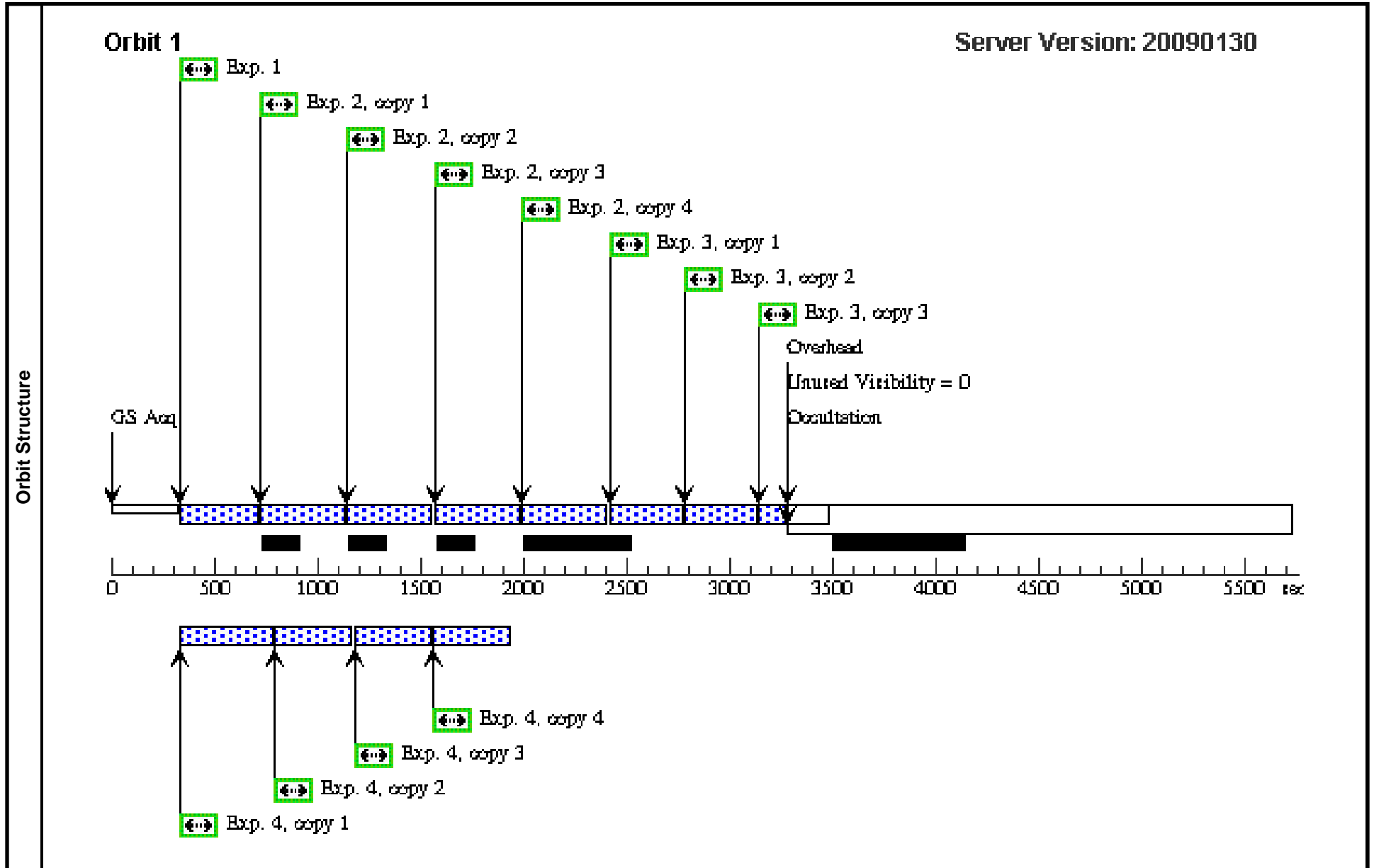
Visit		<b>Proposal 11610, Visit 02, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

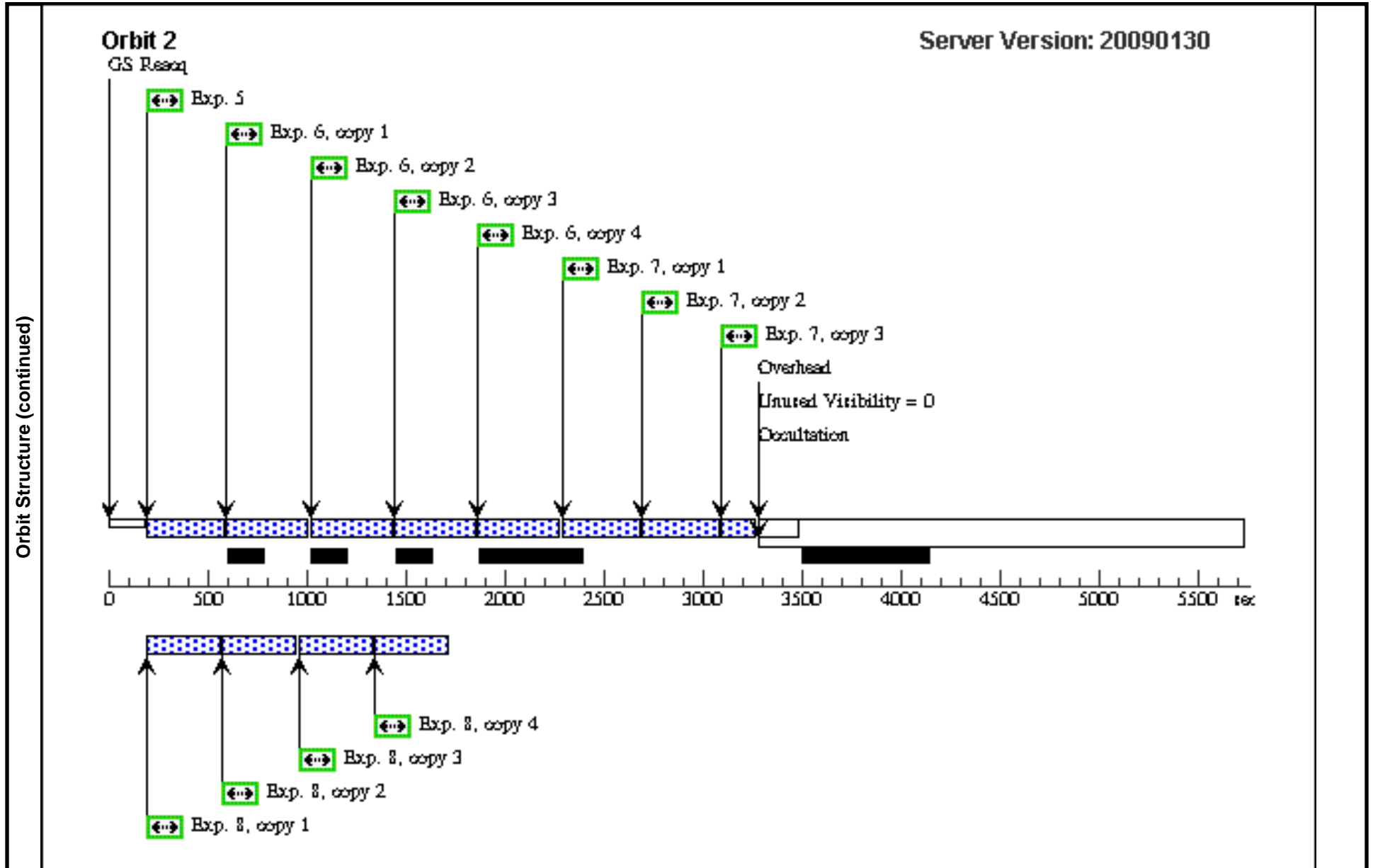
Proposal 11610 - Visit 02 - A Search for Pulsation in Young Brown Dwarfs

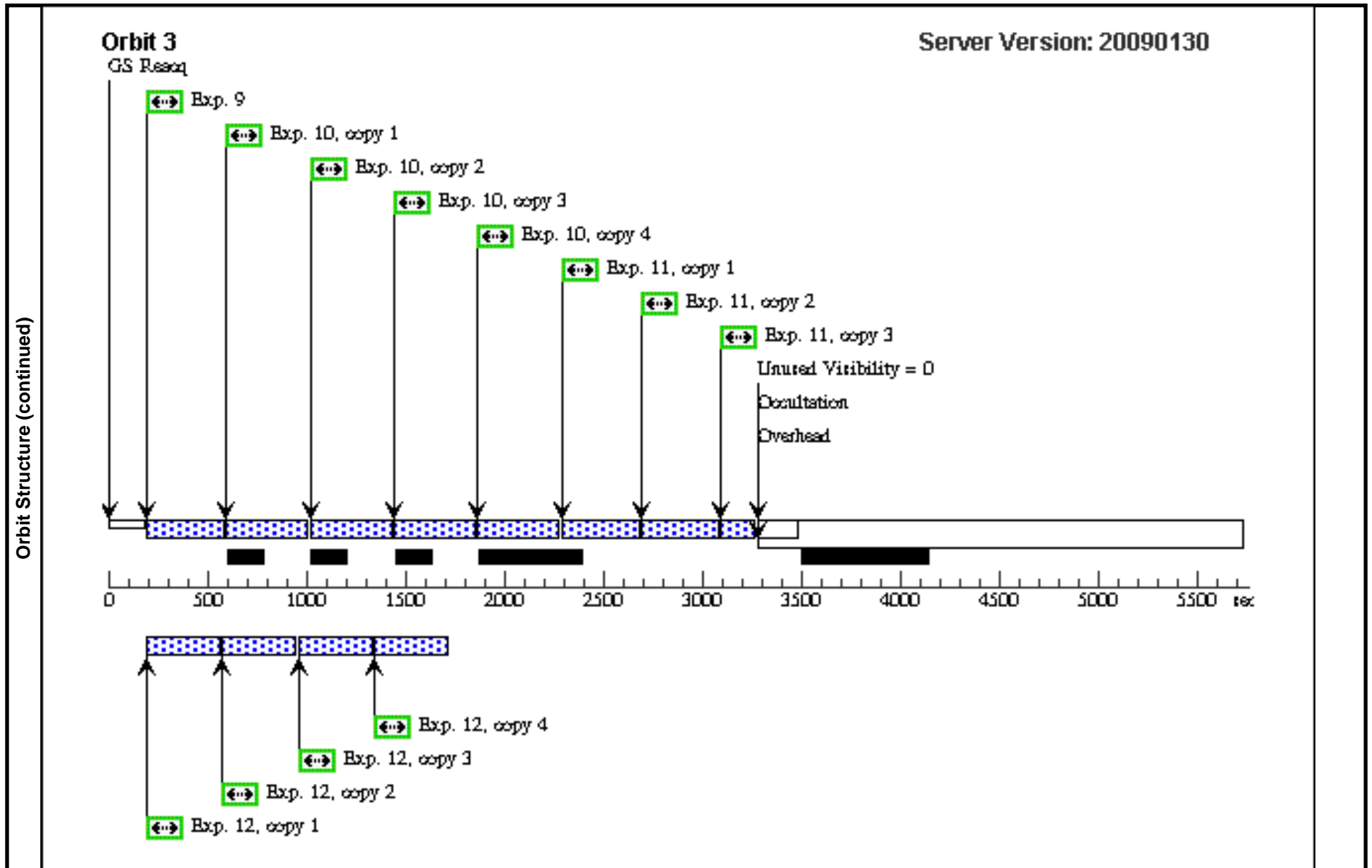
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Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

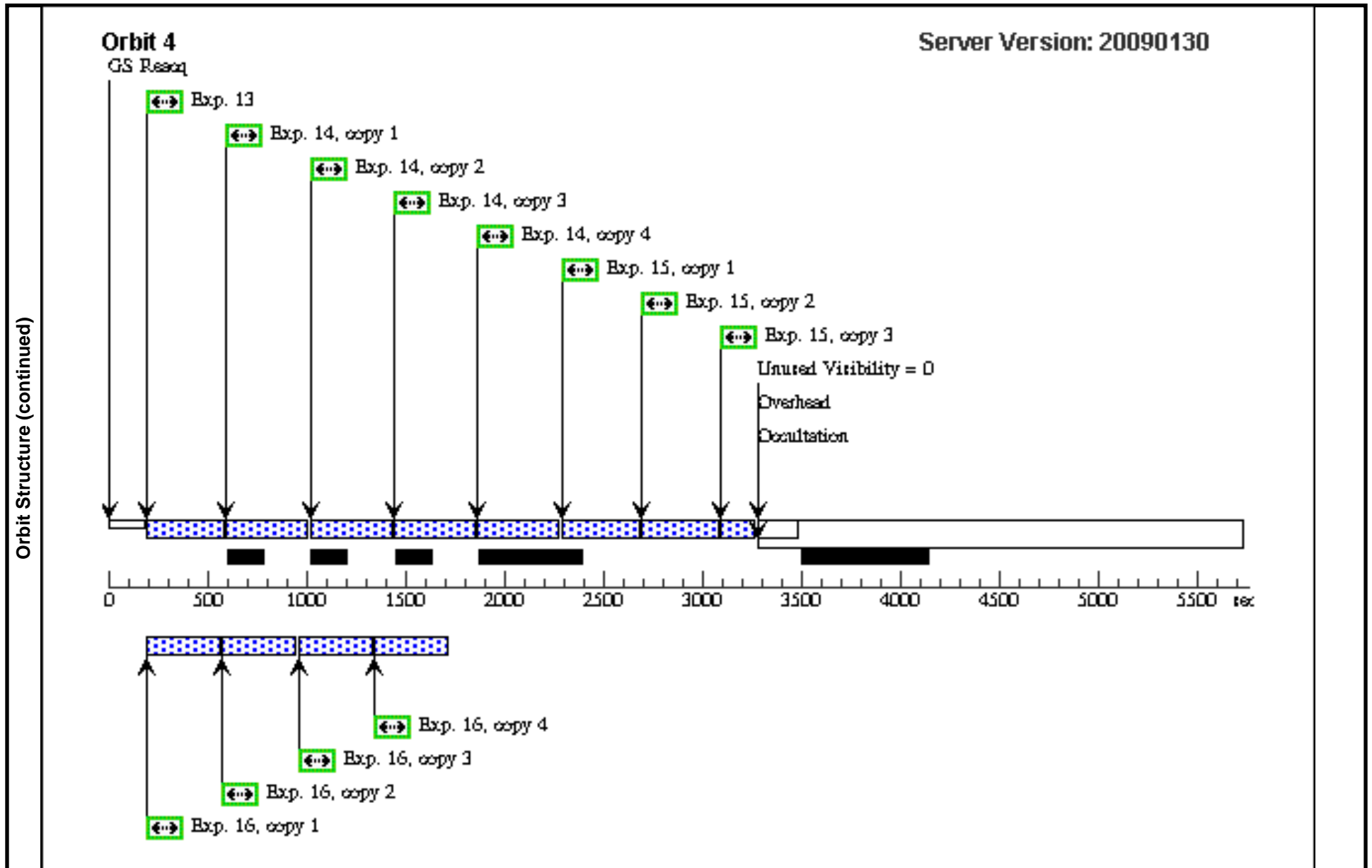
Proposal 11610 - Visit 02 - A Search for Pulsation in Young Brown Dwarfs

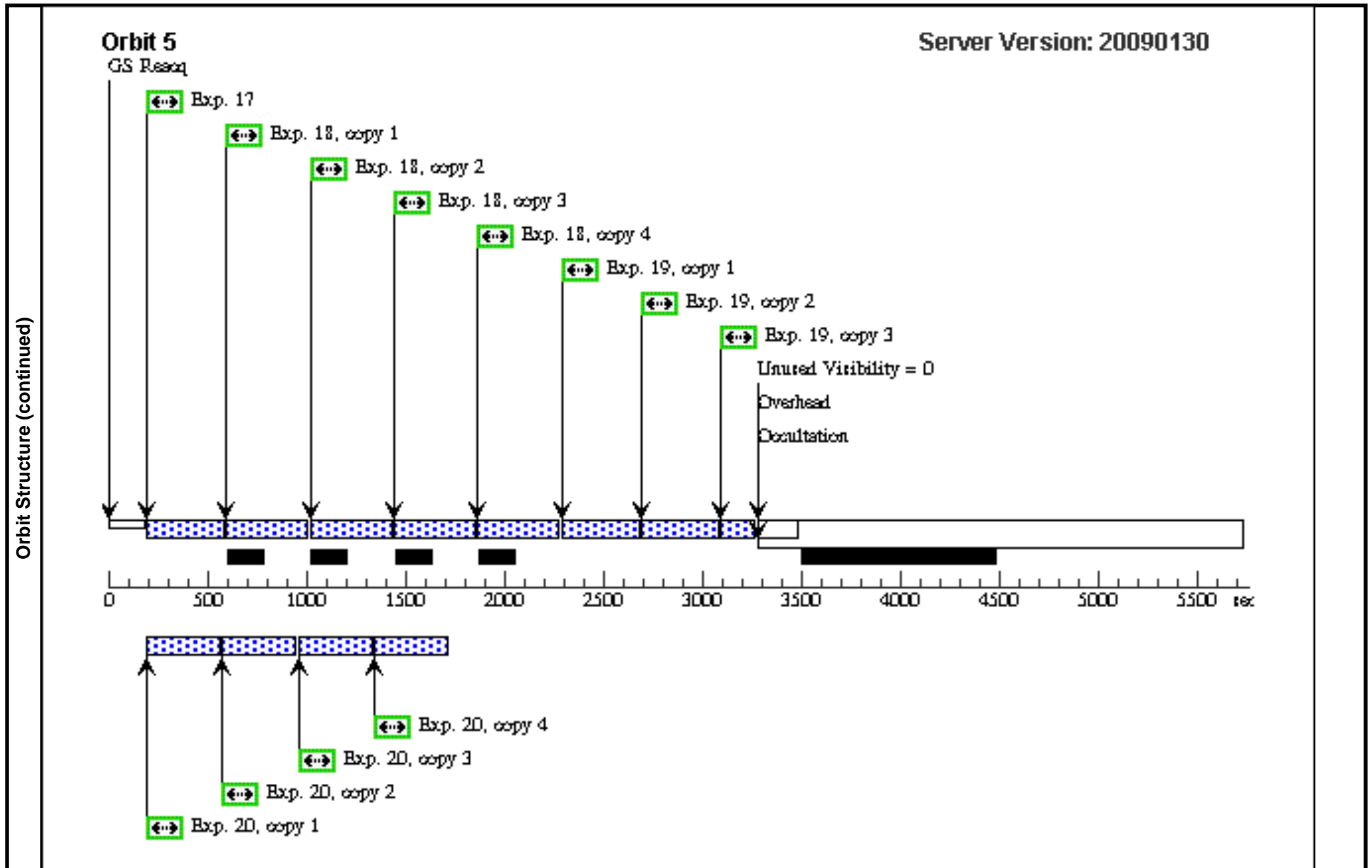
Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	17	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	169 Secs [==>]	[5]
	18	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 03 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:17 GMT 2009

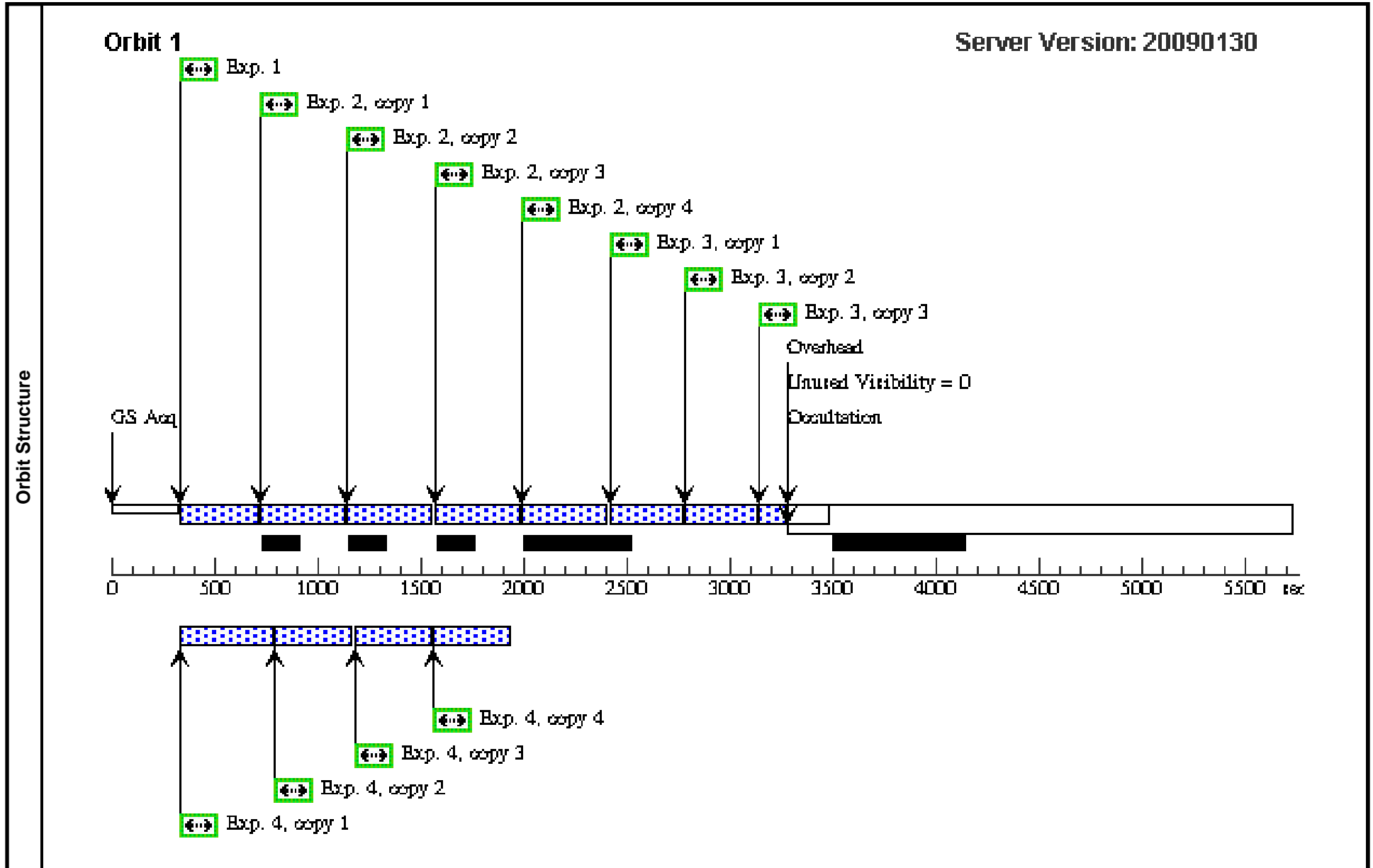
Visit		<b>Proposal 11610, Visit 03, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4		ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

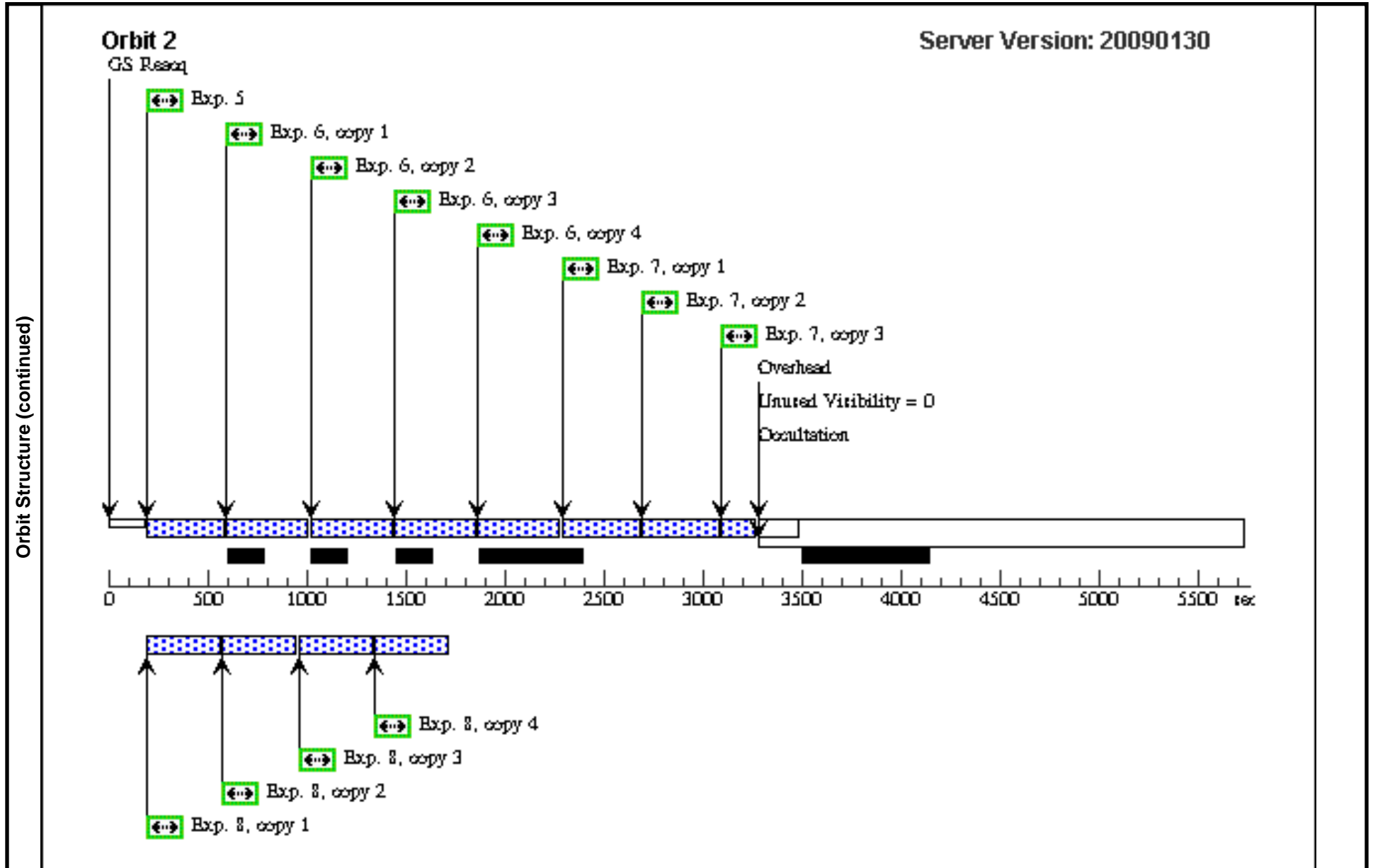
Proposal 11610 - Visit 03 - A Search for Pulsation in Young Brown Dwarfs

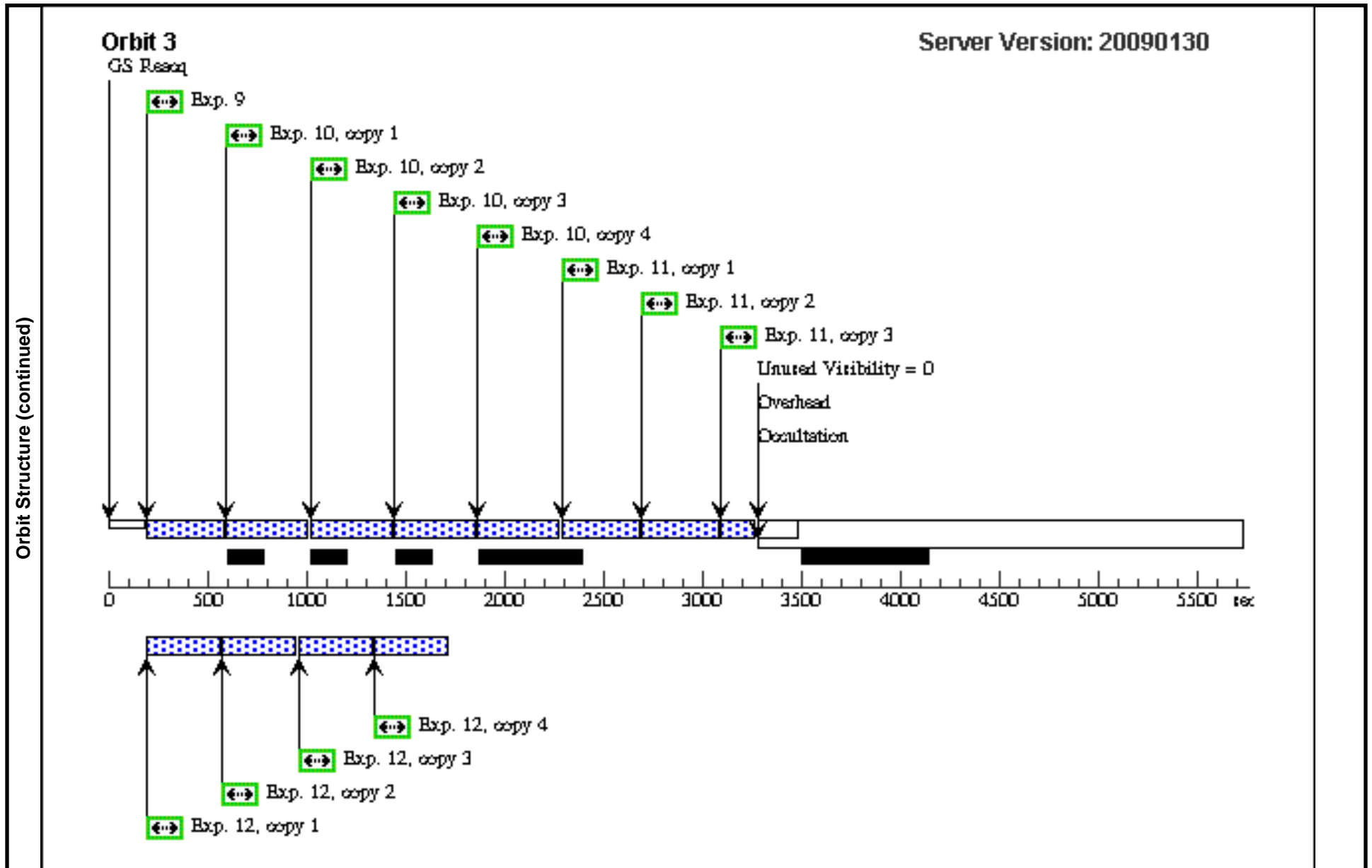
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

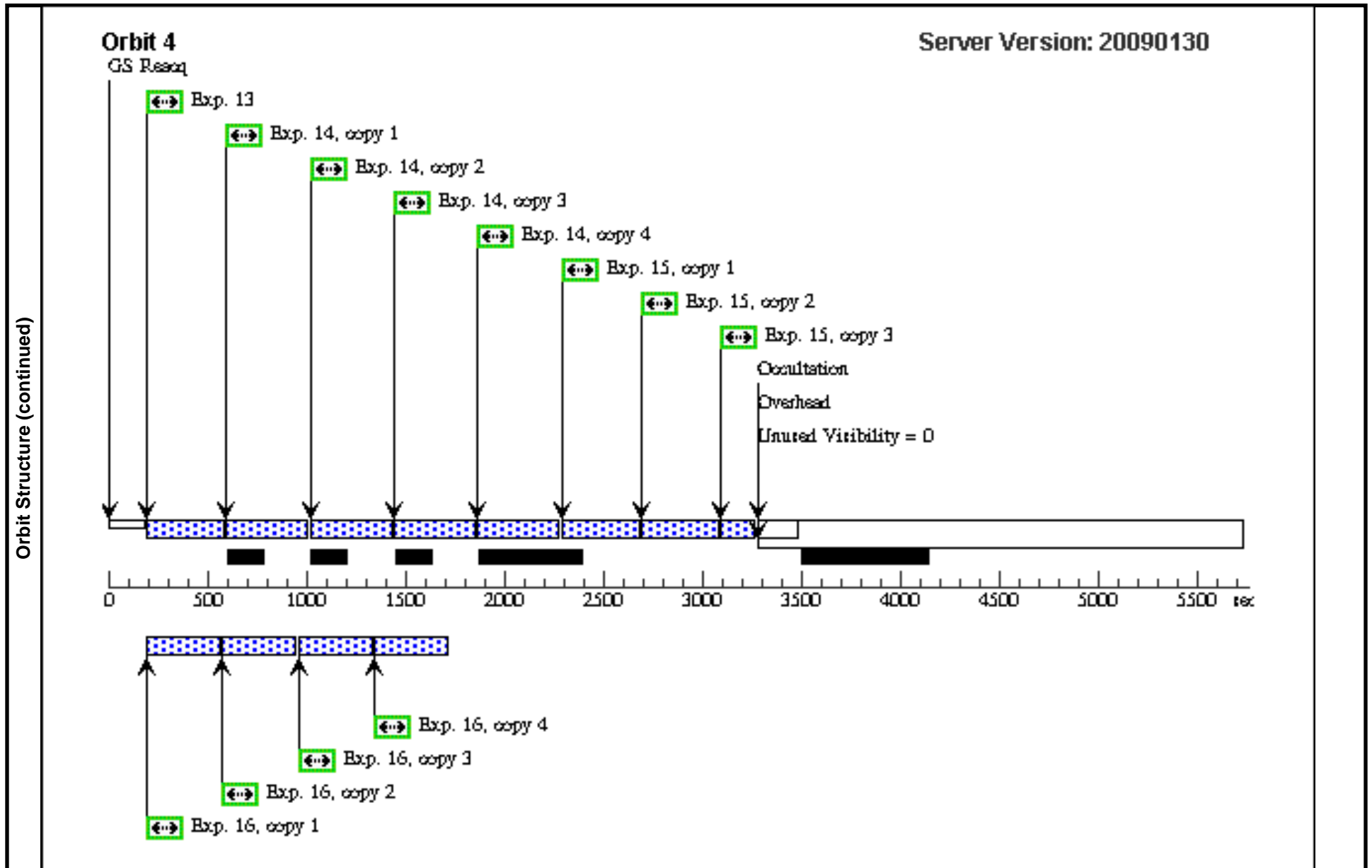
Proposal 11610 - Visit 03 - A Search for Pulsation in Young Brown Dwarfs

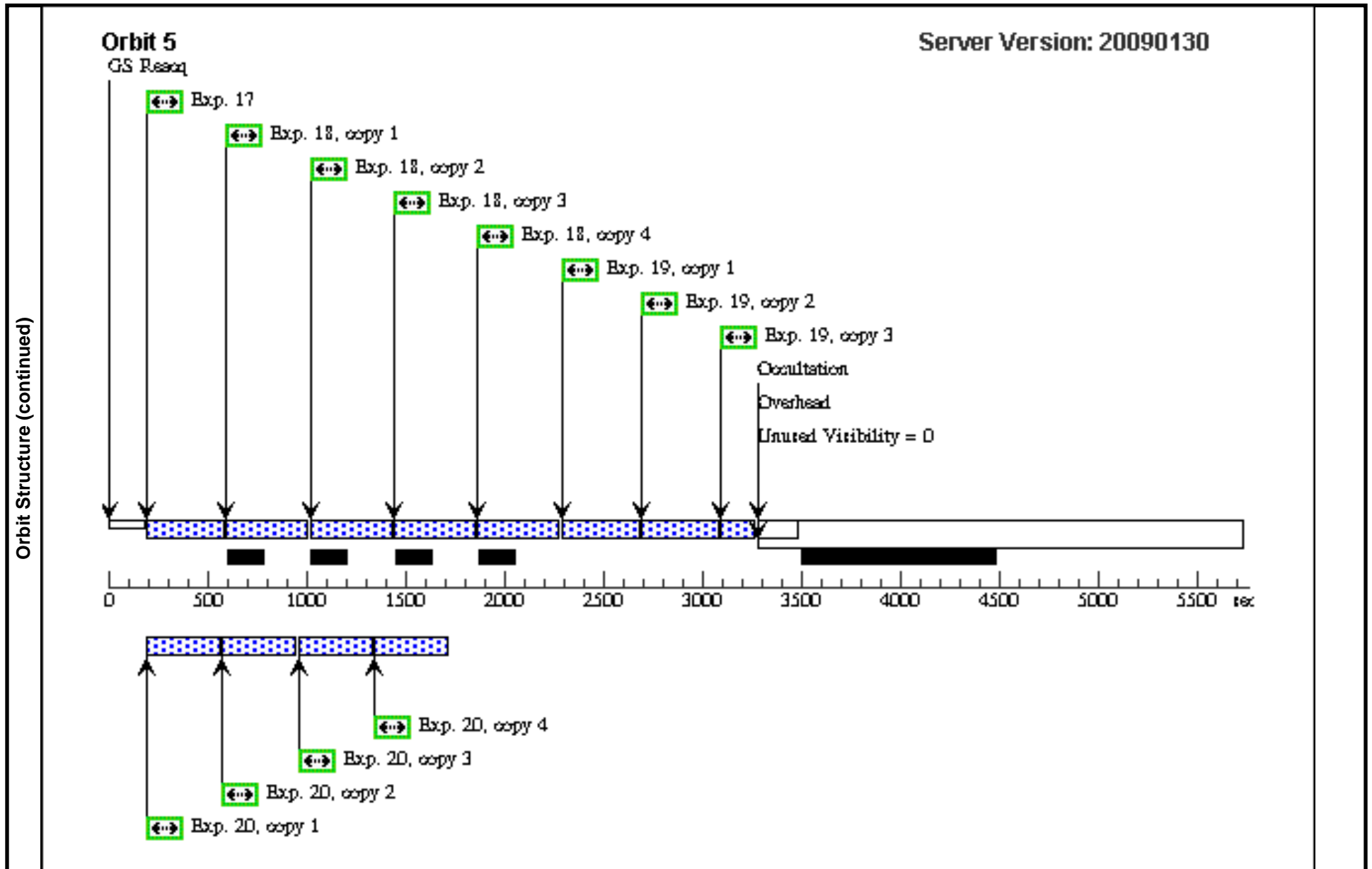
Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	17	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	169 Secs [==>]	[5]
	18	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 04 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:19 GMT 2009

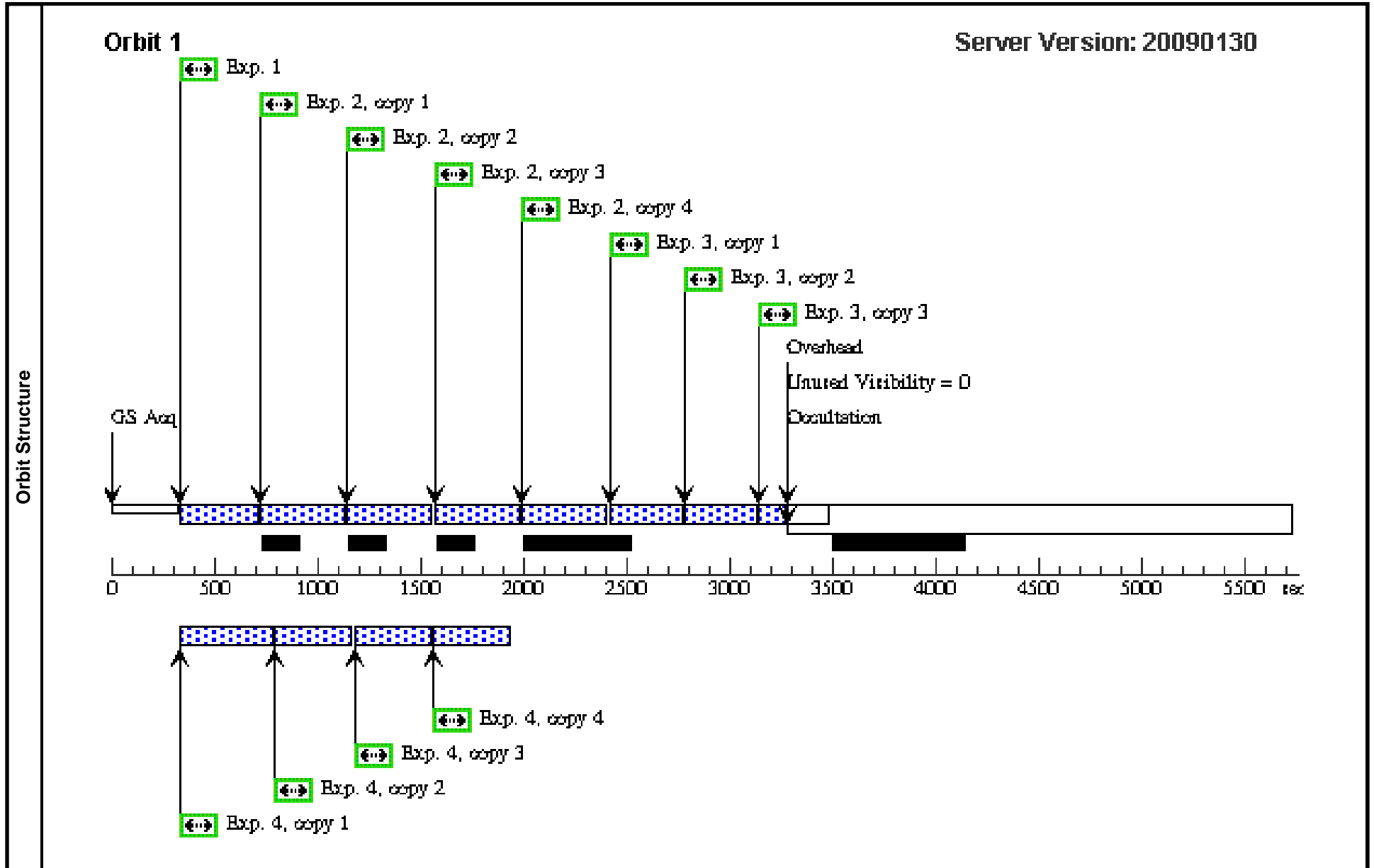
Visit		Proposal 11610, Visit 04, implementation								
		Diagnostic Status: No Diagnostics								
		Scientific Instruments: ACS/WFC, WFC3/UVIS								
		Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

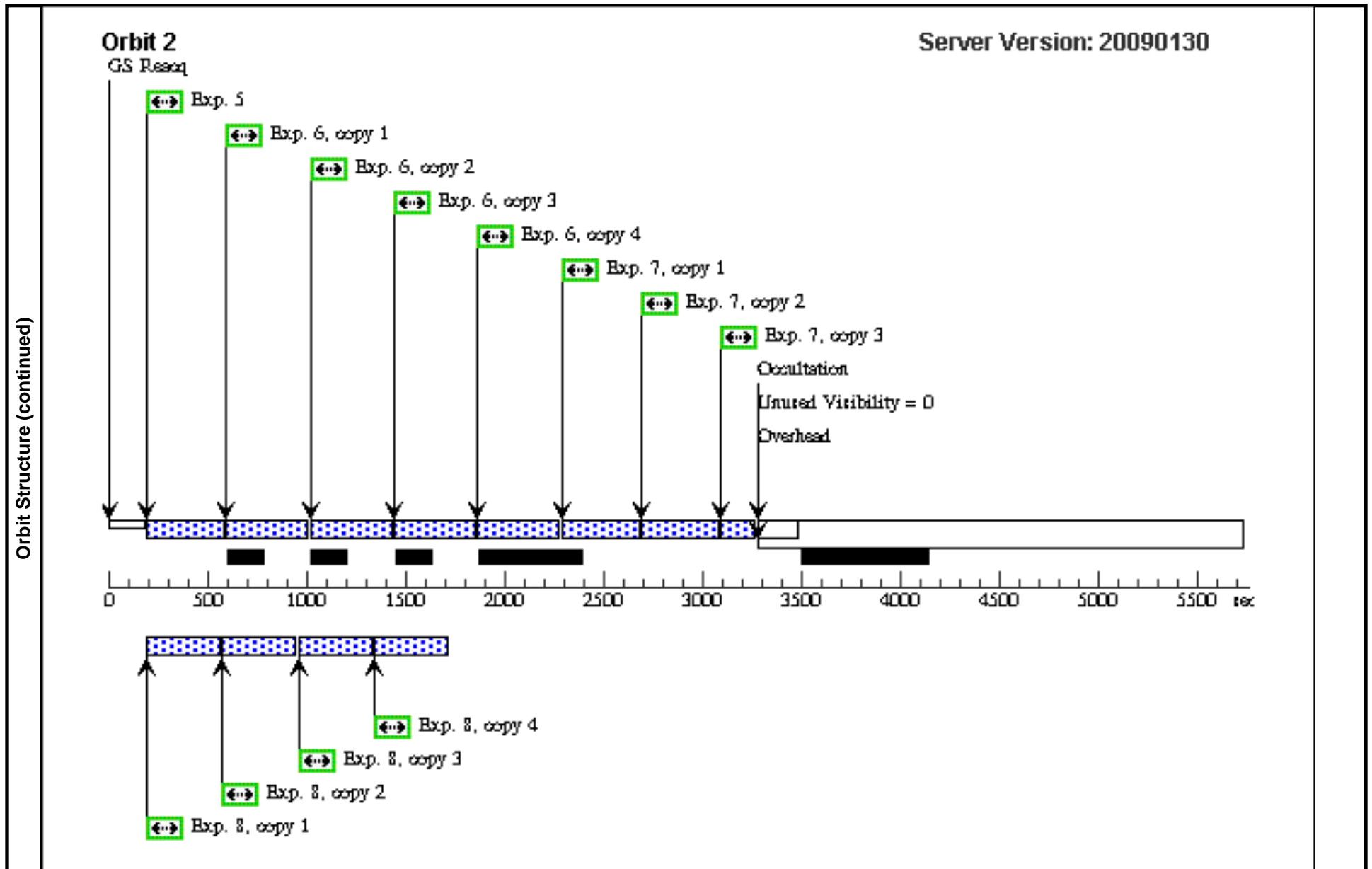
Proposal 11610 - Visit 04 - A Search for Pulsation in Young Brown Dwarfs

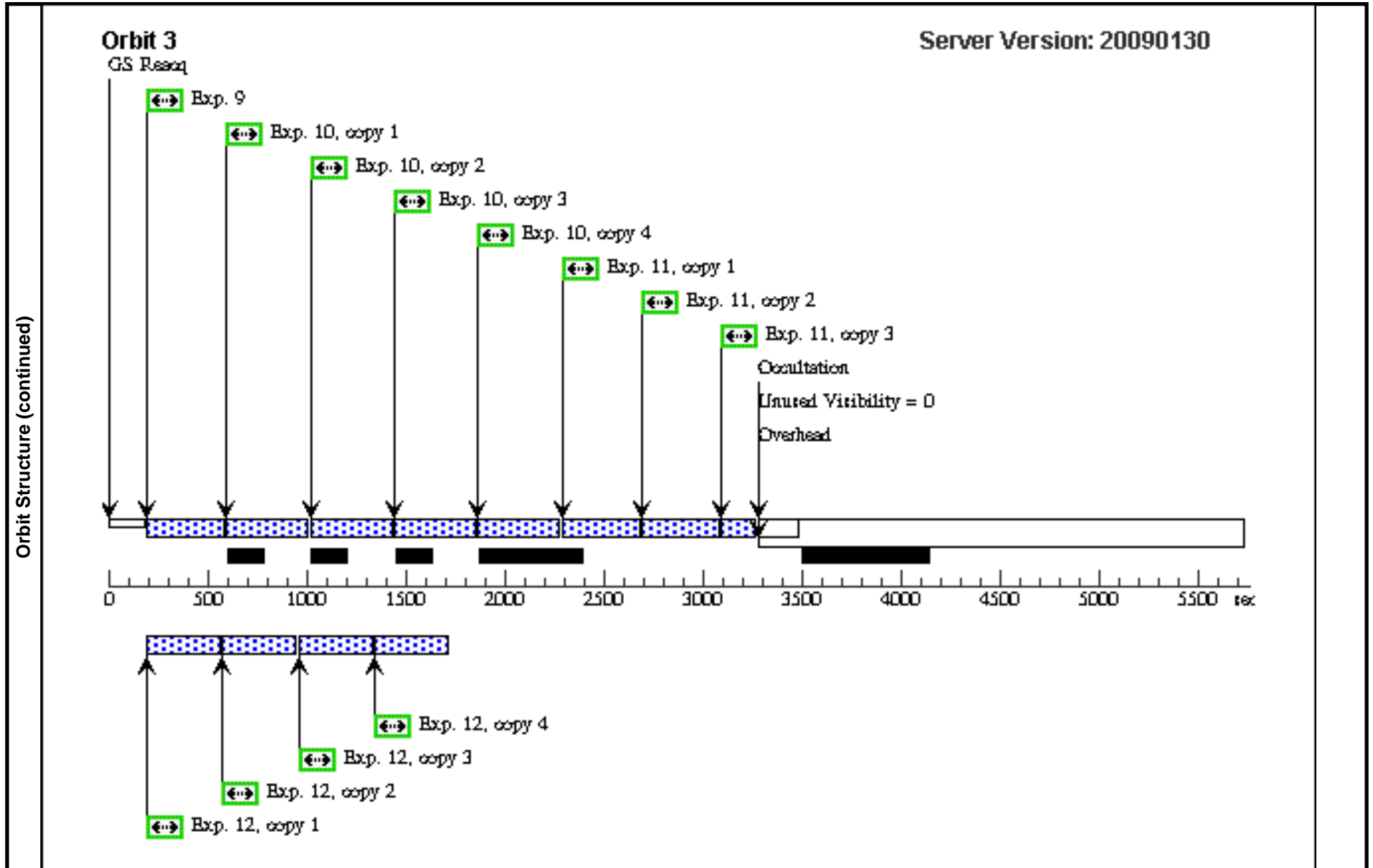
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

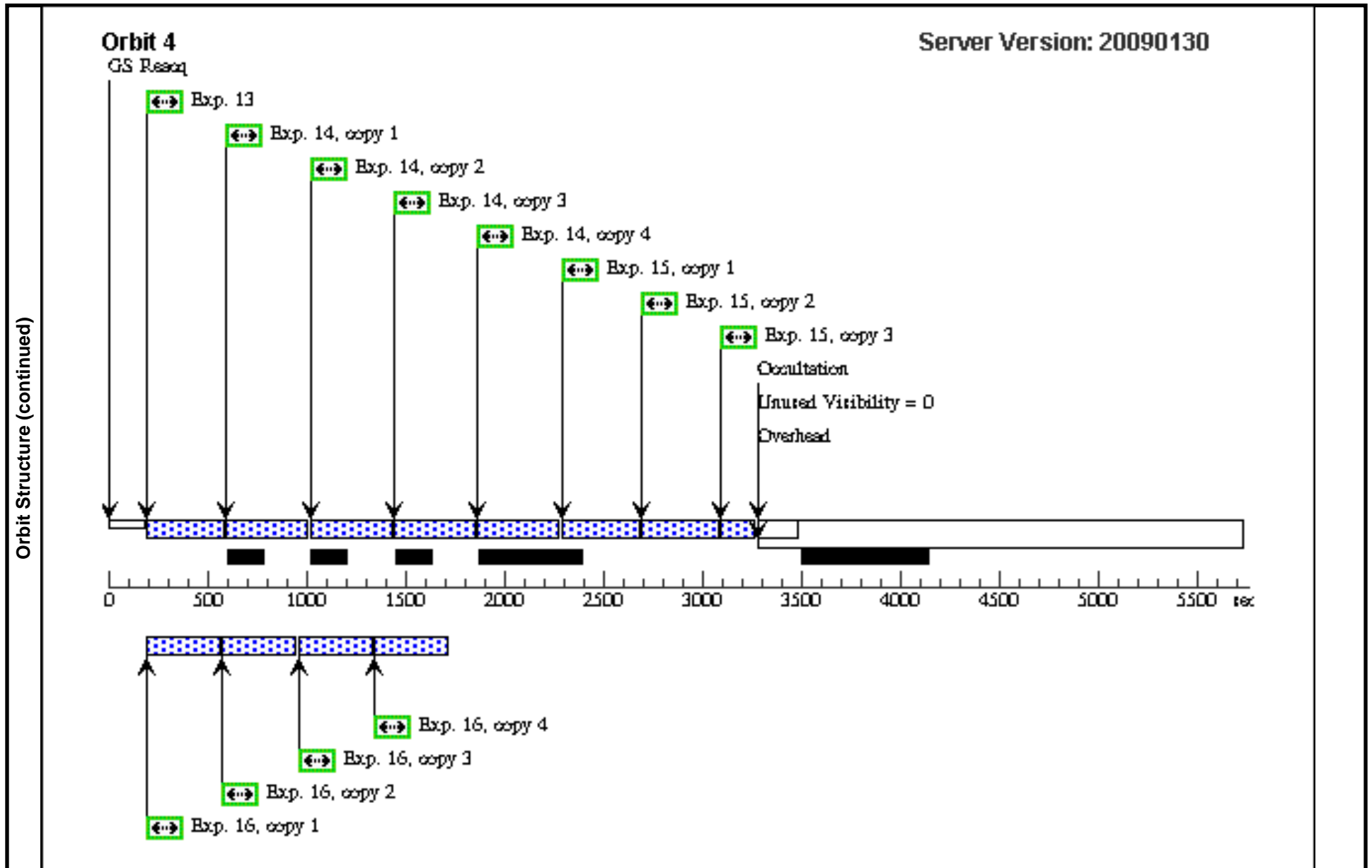
Proposal 11610 - Visit 04 - A Search for Pulsation in Young Brown Dwarfs

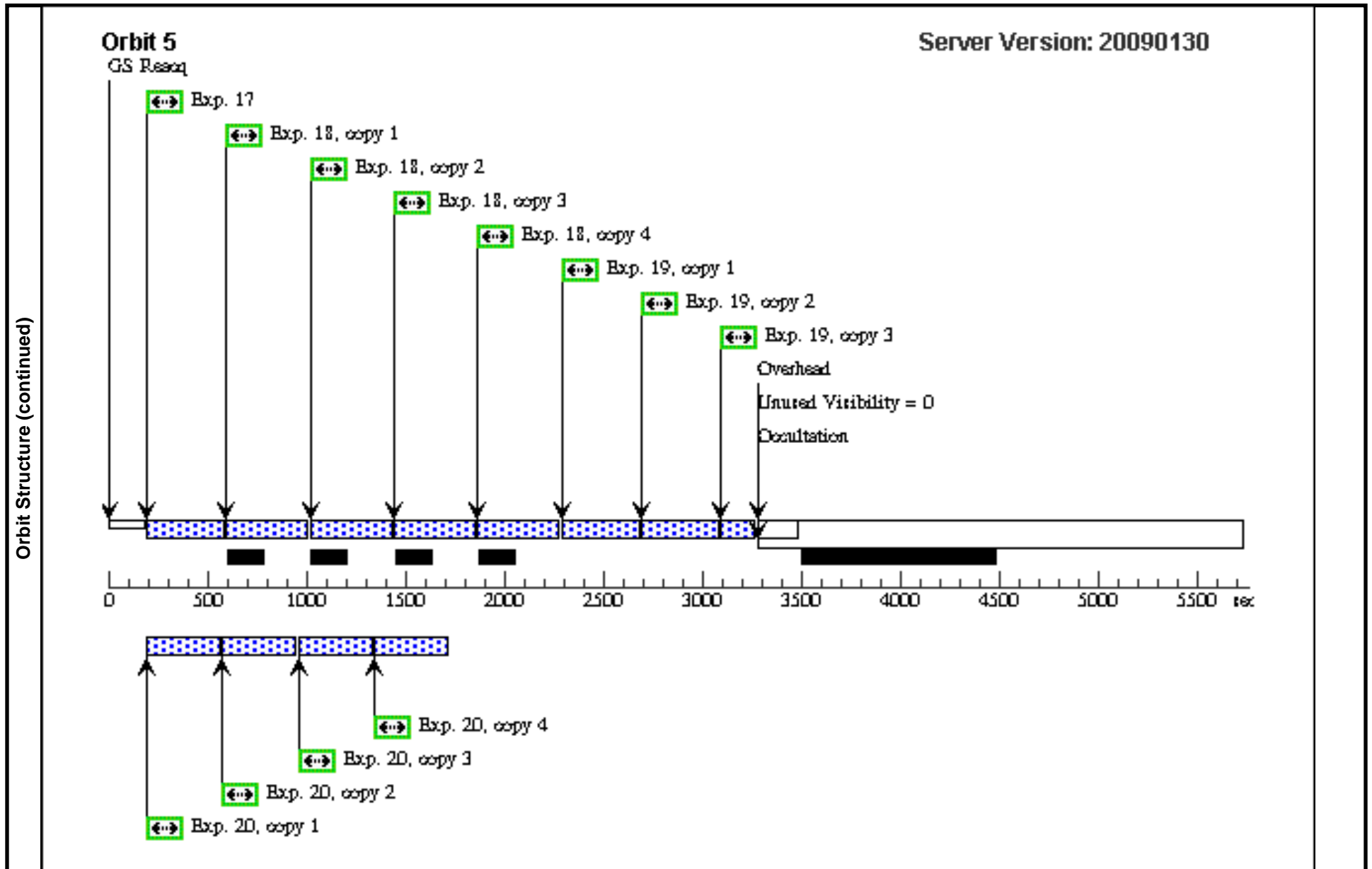
Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	17	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	169 Secs [==>]	[5]
	18	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Gro up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 05 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:21 GMT 2009

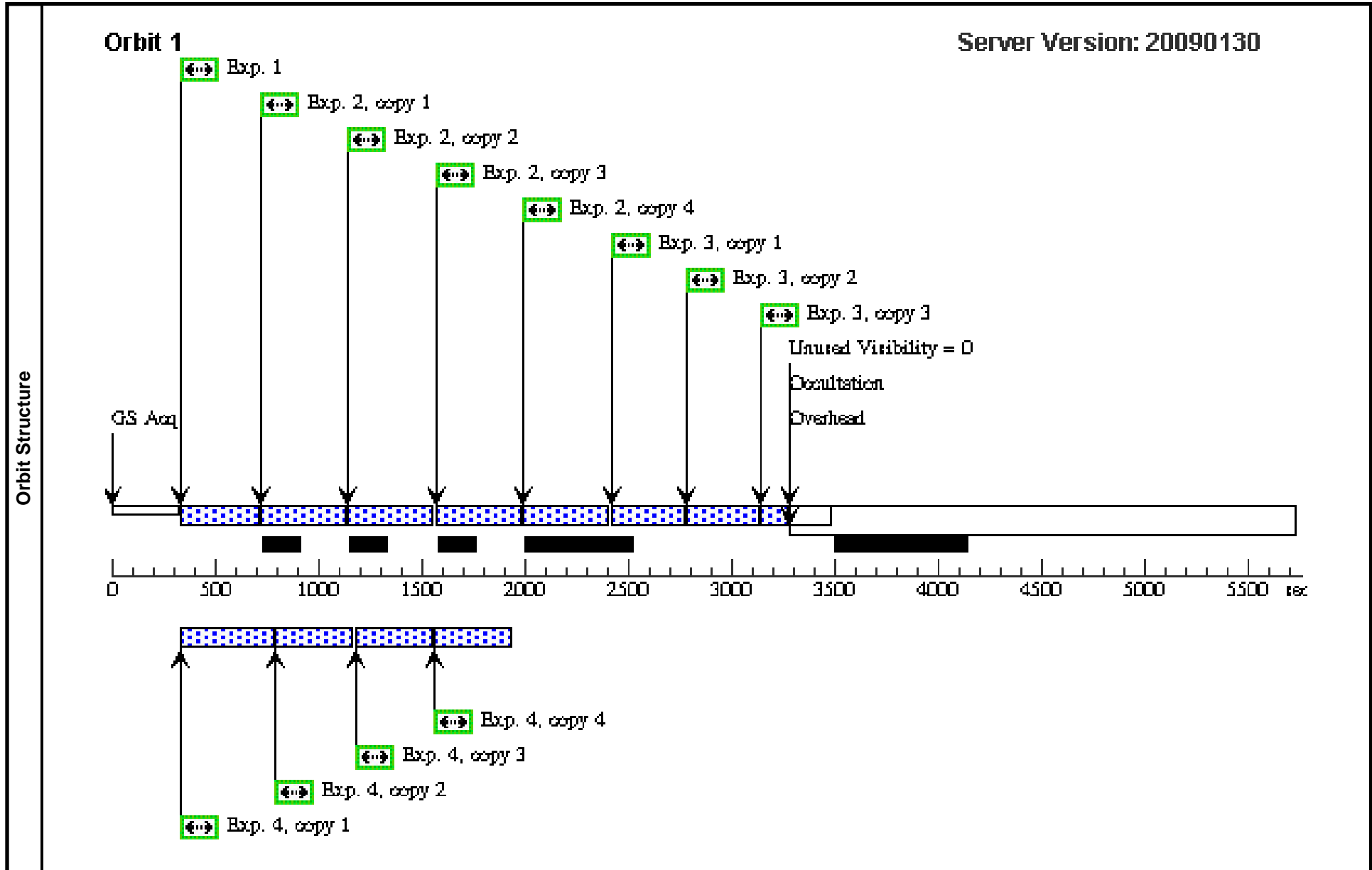
Visit		Proposal 11610, Visit 05, implementation								
		Diagnostic Status: No Diagnostics								
		Scientific Instruments: ACS/WFC, WFC3/UVIS								
		Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

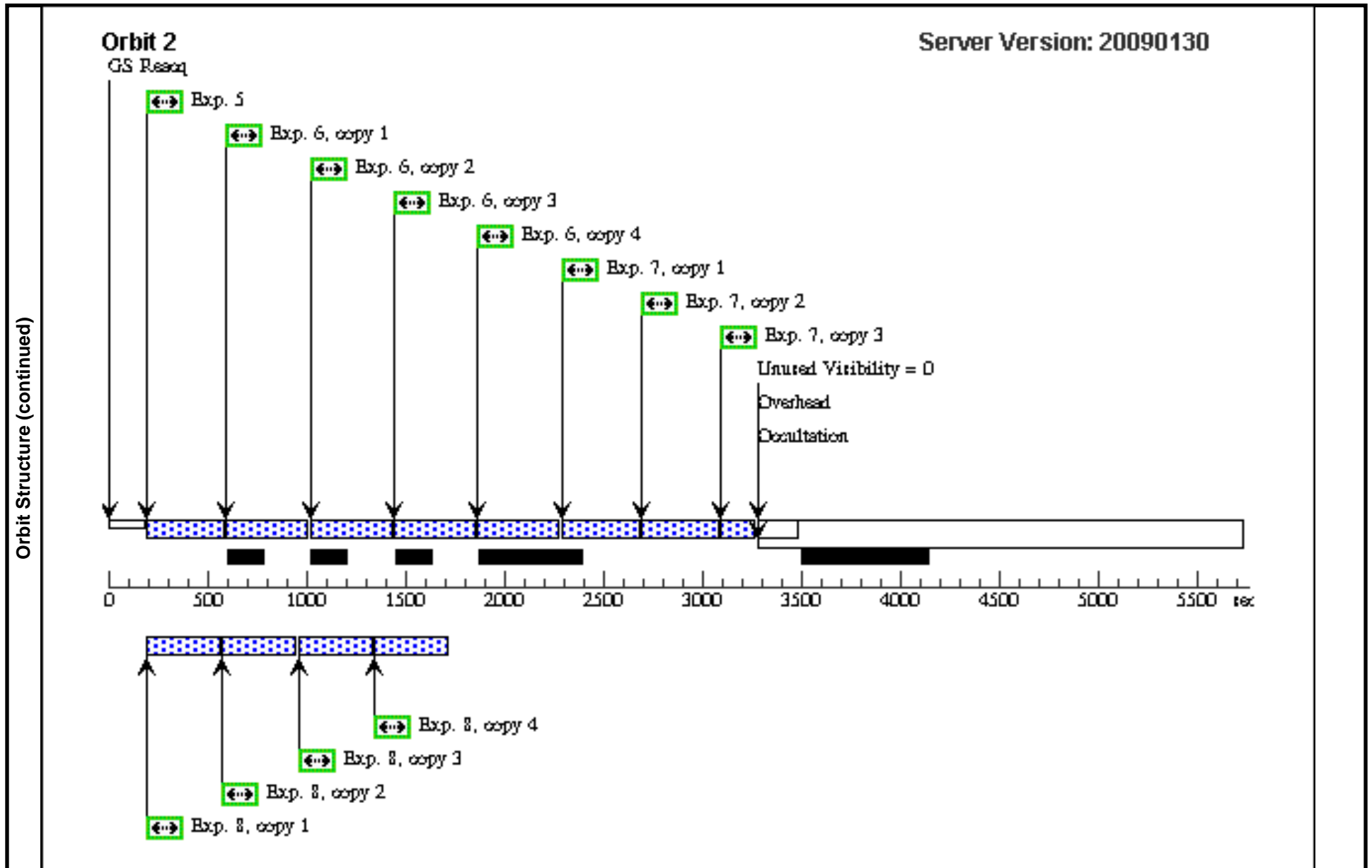
Proposal 11610 - Visit 05 - A Search for Pulsation in Young Brown Dwarfs

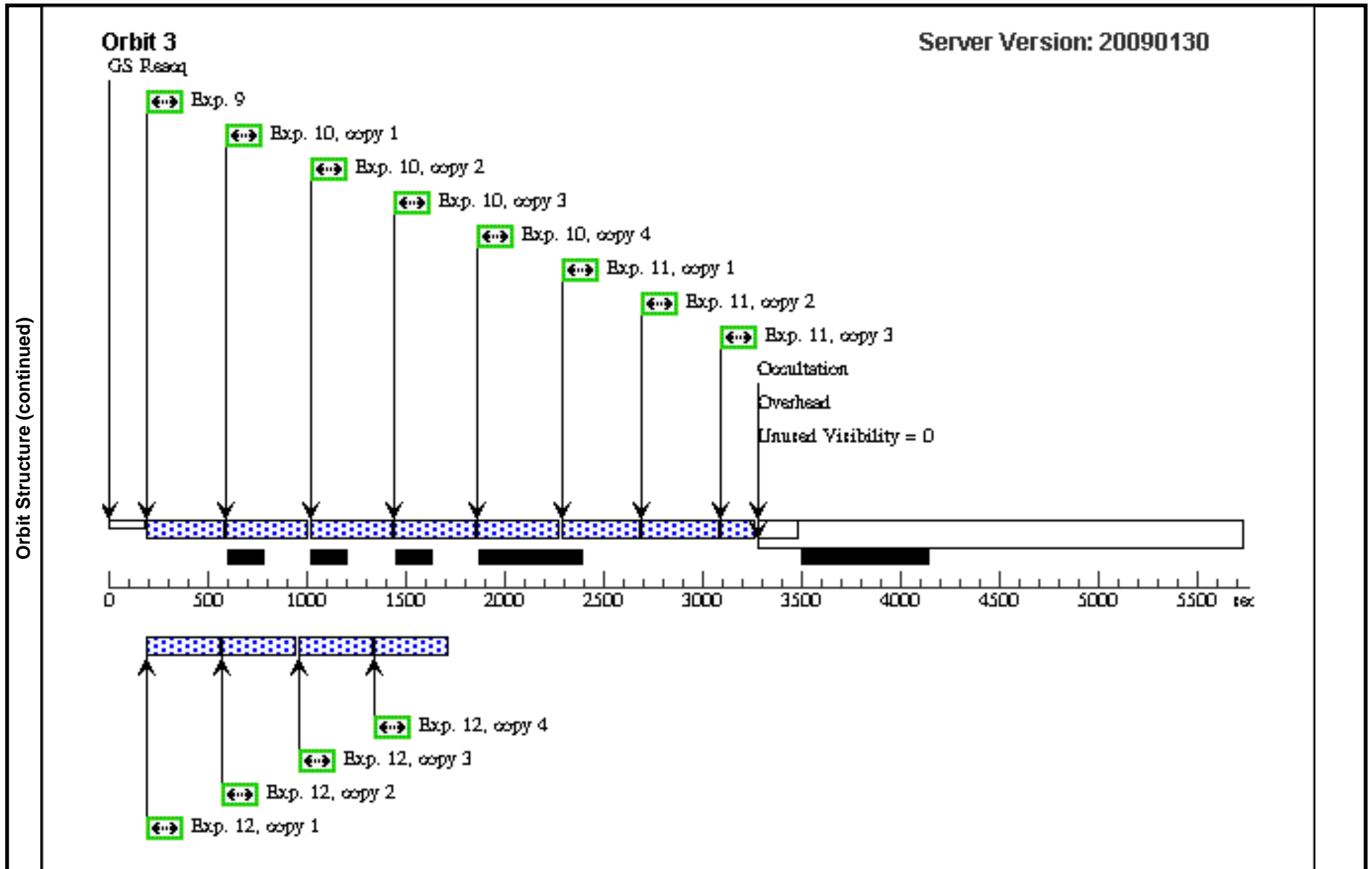
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

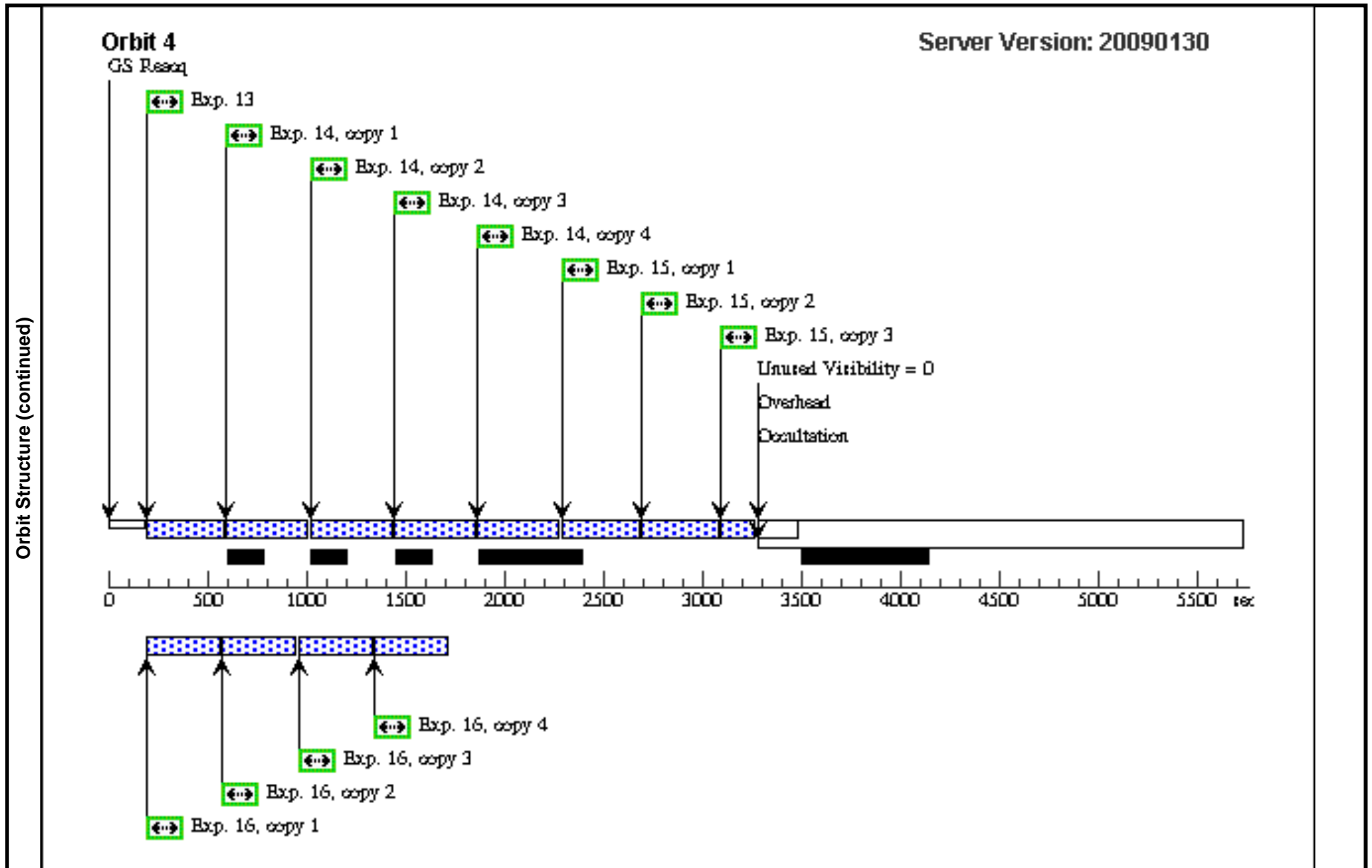
Proposal 11610 - Visit 05 - A Search for Pulsation in Young Brown Dwarfs

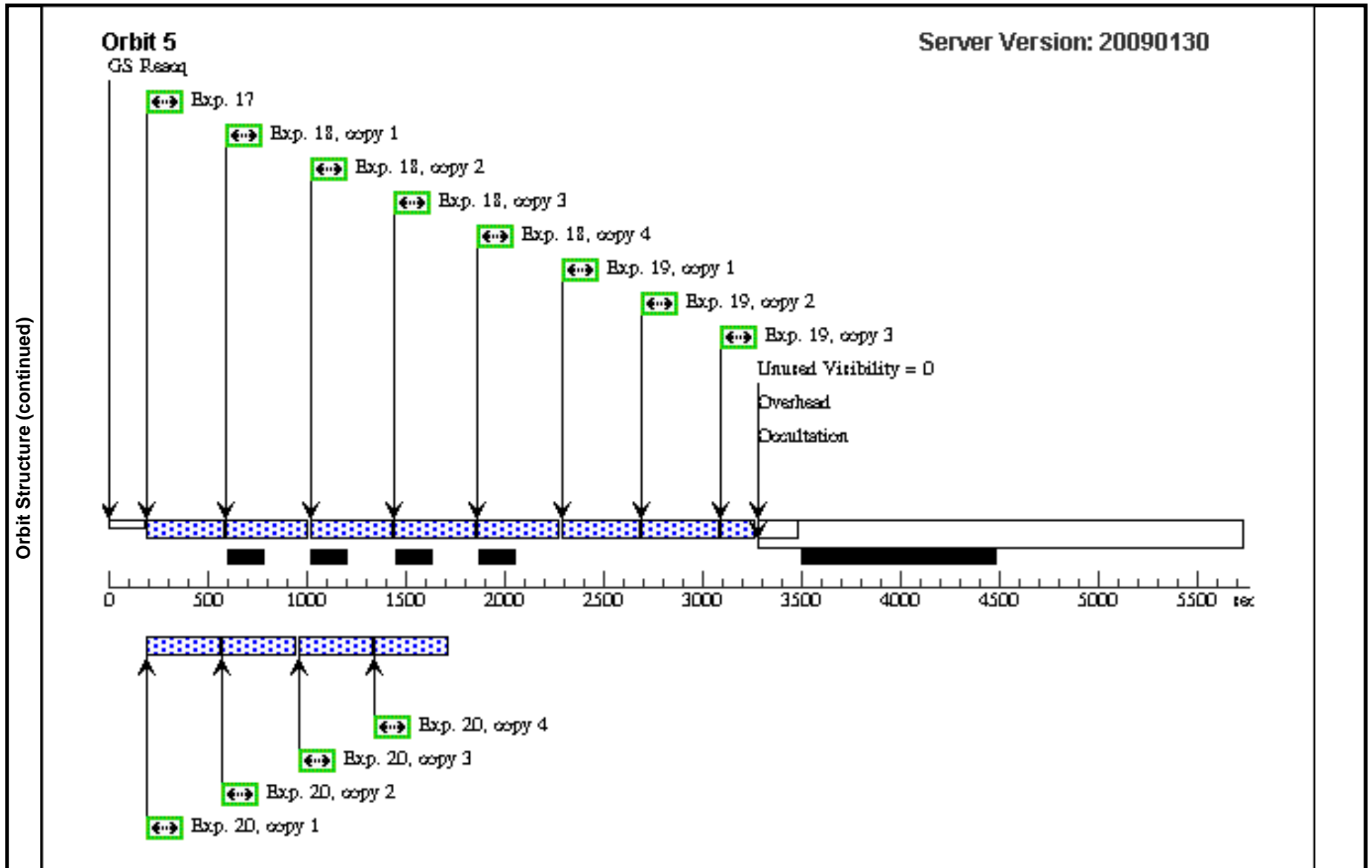
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
<b>Exposures (continued)</b>	17		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	169 Secs [==>]	[5]
	18		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19		(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group up 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20		ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group up 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 06 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:22 GMT 2009

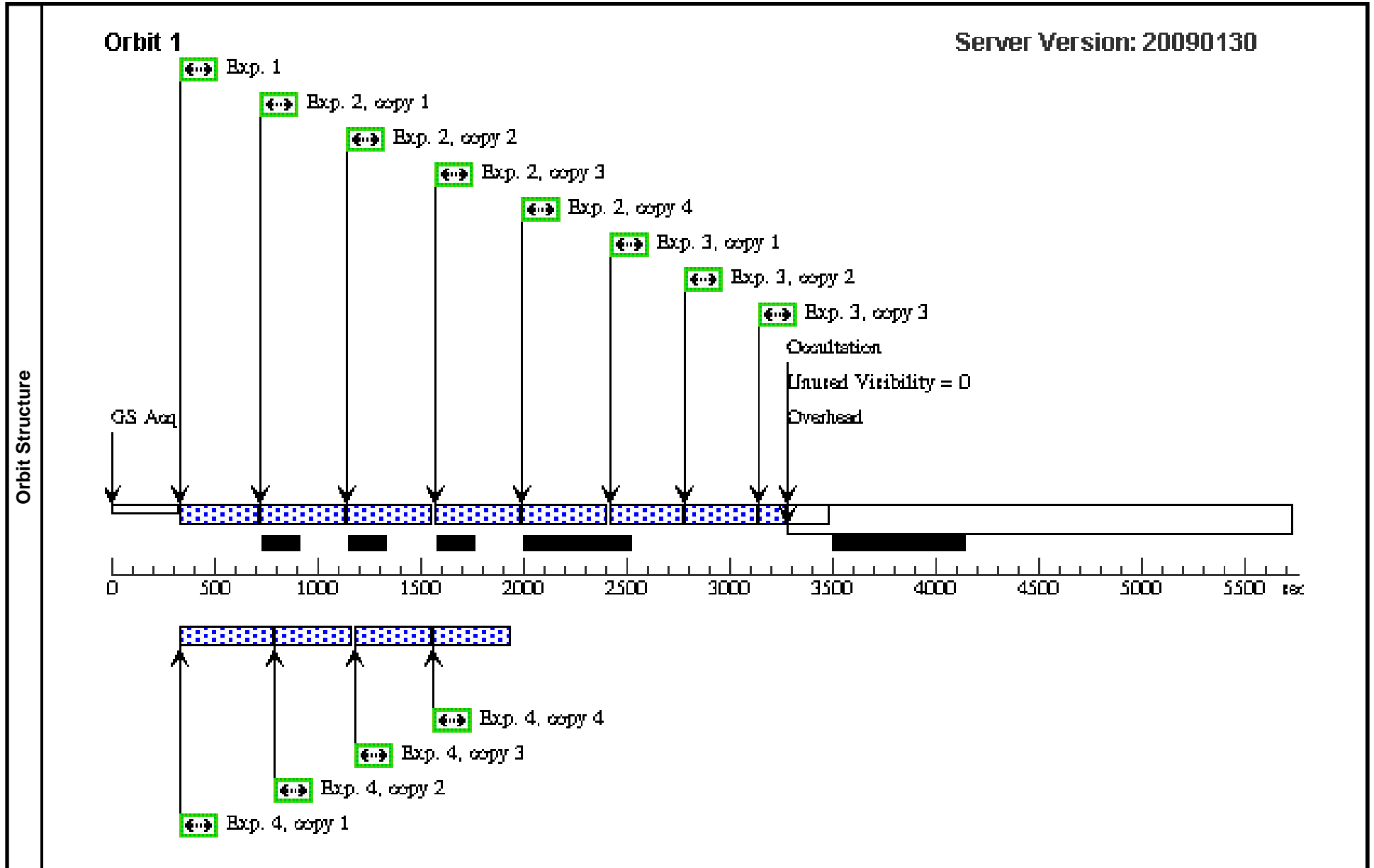
Visit		<b>Proposal 11610, Visit 06, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

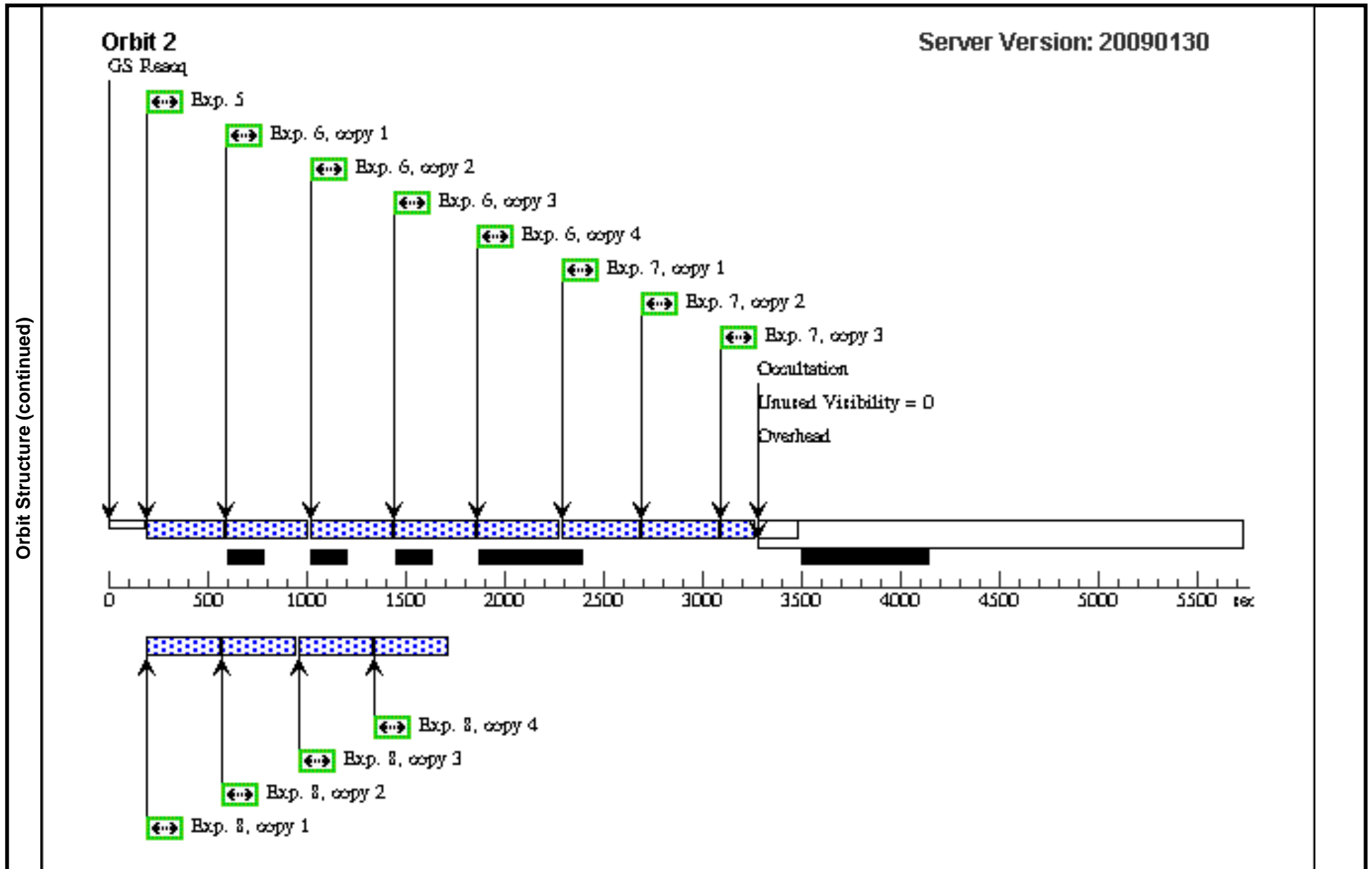
Proposal 11610 - Visit 06 - A Search for Pulsation in Young Brown Dwarfs

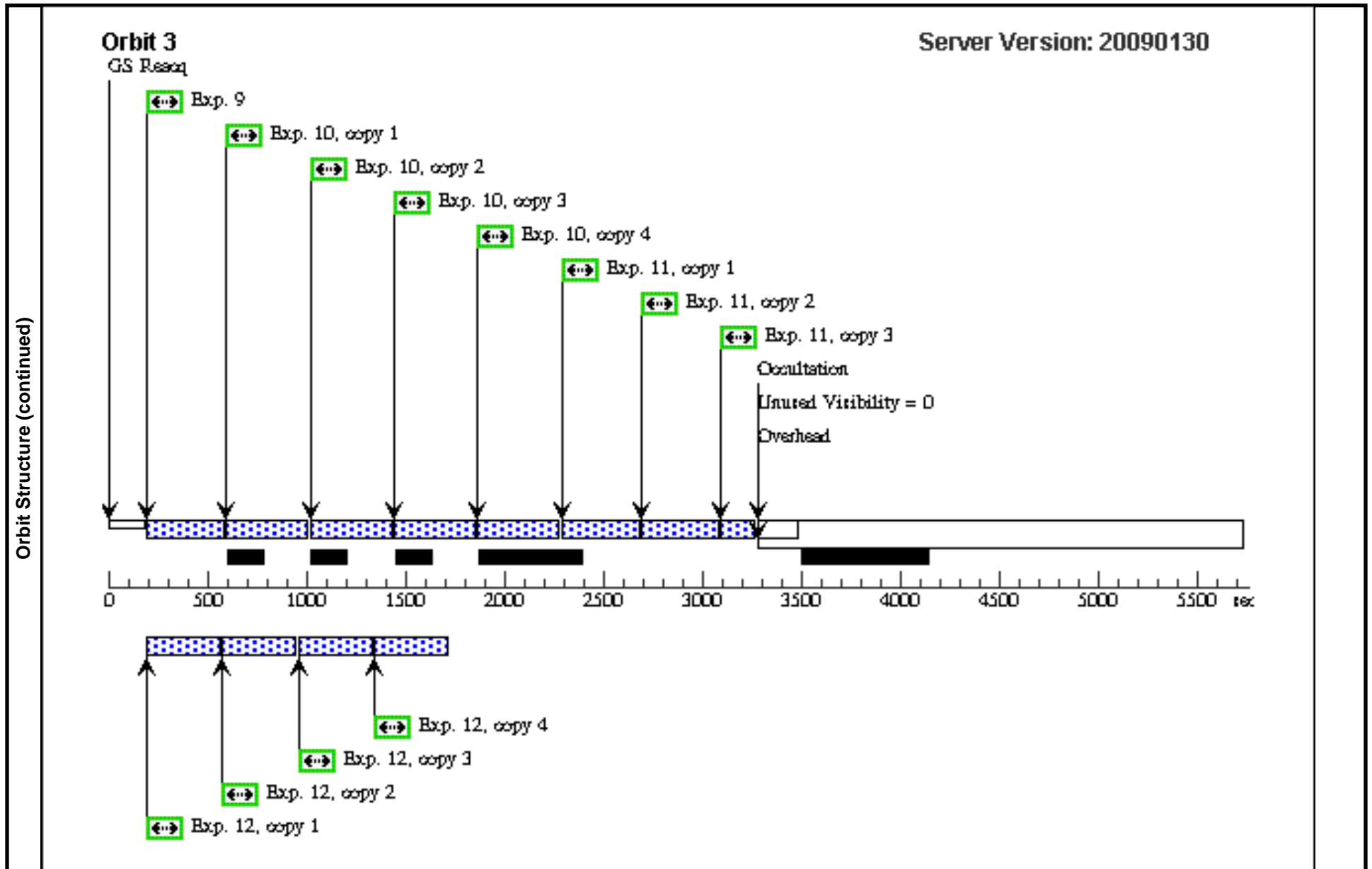
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

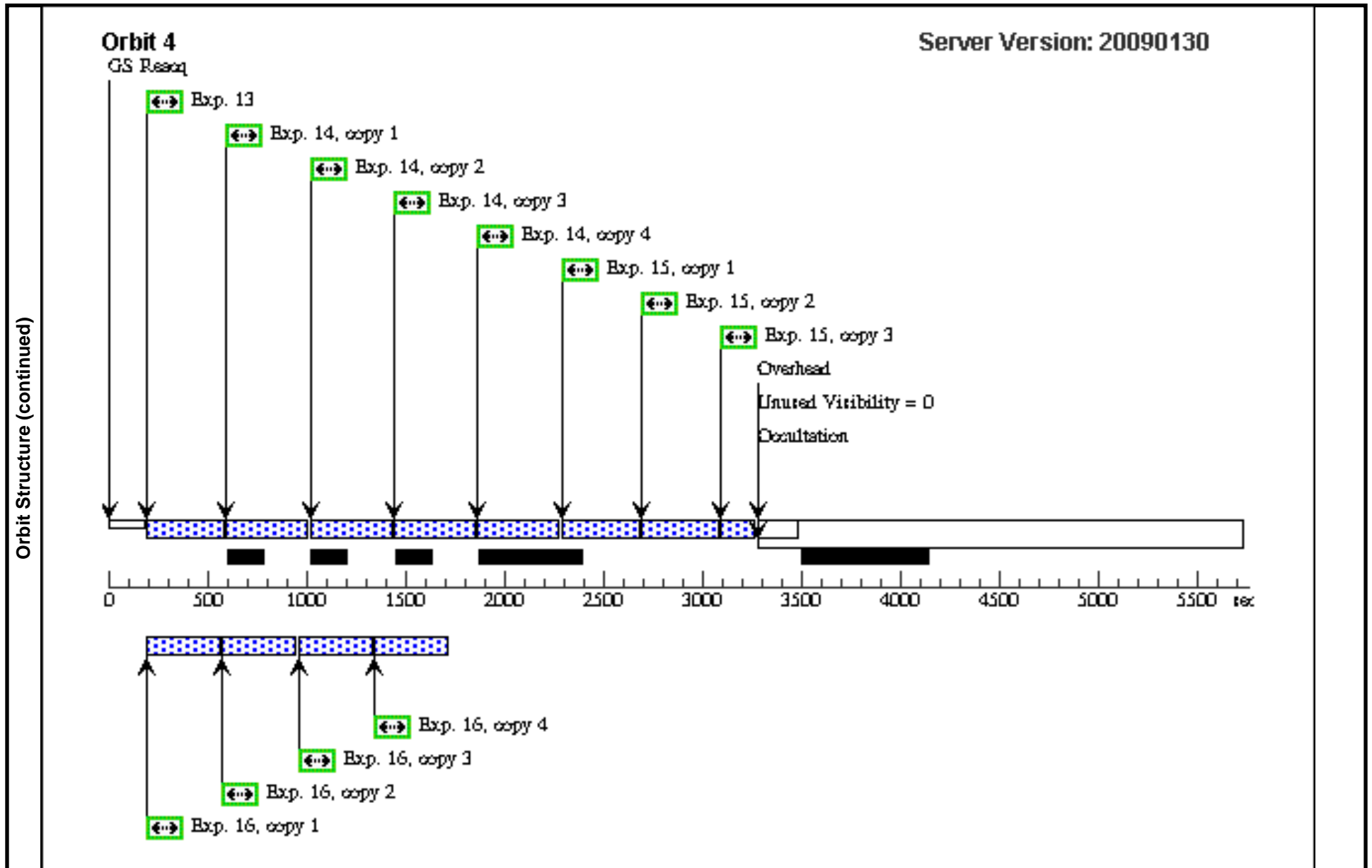
Proposal 11610 - Visit 06 - A Search for Pulsation in Young Brown Dwarfs

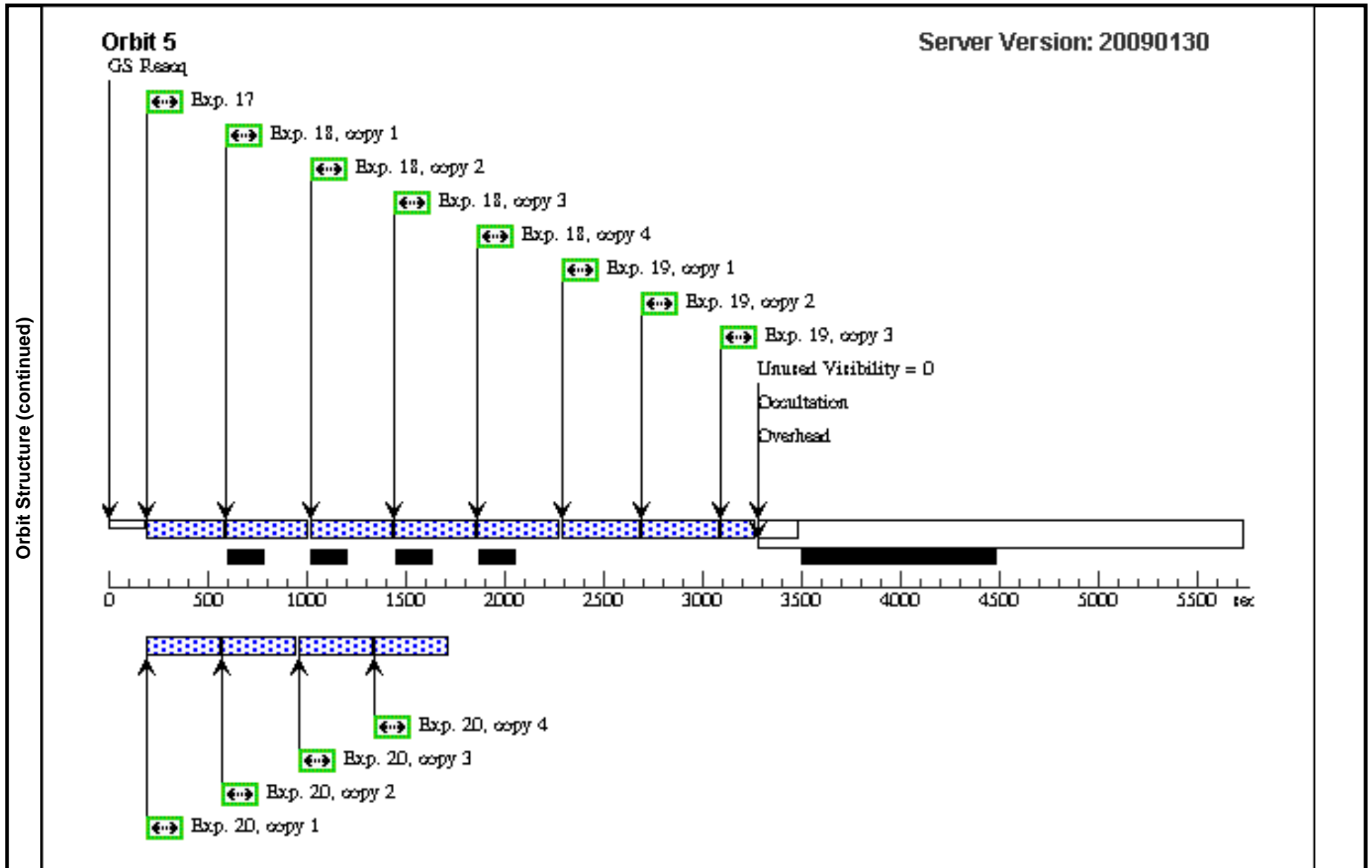
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	17	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	169 Secs [==>]	[5]
	18	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]











Proposal 11610 - Visit 07 - A Search for Pulsation in Young Brown Dwarfs

Wed May 06 01:09:24 GMT 2009

Visit		Proposal 11610, Visit 07, implementation								
		Diagnostic Status: No Diagnostics								
		Scientific Instruments: ACS/WFC, WFC3/UVIS								
		Special Requirements: ORIENT 90DD TO 115D D; ORIENT 270DD TO 295D D								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
		(1)	IC348	RA: 03 44 19.5500 (56.0814583d) Dec: +32 06 19.80 (32.10550d) Equinox: J2000		V=22+/-3	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs [==>]	[1]
	2	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	3	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 1-4	128 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
	4	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 1-4	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[1]
	5	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	169 Secs [==>]	[2]
	6	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	7	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 5-8	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[2]

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#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	8	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 5-8	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[2]
	9	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	169 Secs [==>]	[3]
	10	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	11	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 9-12	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[3]
	12	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 9-12	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[3]
	13	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	169 Secs [==>]	[4]
	14	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]
	15	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 13-16	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[4]
	16	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 13-16	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[4]

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Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	17	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	169 Secs [==>]	[5]
	18	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]
	19	(1) IC348	(1) IC348	WFC3/UVIS, ACCUM, UVIS1-2K4-SUB	F814W	CR-SPLIT=NO		Prime + Parallel Group 17-20	171 Secs X 3 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[5]
	20	ANY	ANY	ACS/WFC, ACCUM, WFC1-2K	F814W			Prime + Parallel Group 17-20	192 Secs X 4 [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)] [==>(Copy 4)]	[5]

