



# 12516 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

Cycle: 19, Proposal Category: GO

(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>
01	(2) NGC6681 ANY	ACS/WFC WFC3/UVIS	5	07-Jul-2011 21:17:48.0	yes
02	(4) NGC6541 ANY	ACS/WFC WFC3/UVIS	5	07-Jul-2011 21:18:26.0	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>
03	(3) NGC362 ANY	ACS/WFC WFC3/UVIS	5	07-Jul-2011 21:19:03.0	yes
04	(1) NGC6293 ANY	ACS/WFC WFC3/UVIS	6	07-Jul-2011 21:19:32.0	yes

21 Total Orbits Used

## **ABSTRACT**

Globular Clusters (GCs) are old stellar systems tracing key stages of the star formation and chemical enrichment history of the early Universe and the galaxy assembly phase. As part of a project (COSMIC-LAB) aimed at using GCs as natural laboratories to study the complex interplay between dynamics and stellar evolution, here we present a proposal dealing with the role of Blue Straggler Stars (BSS).

BSS are core-hydrogen burning stars more massive than the main-sequence turnoff population. The canonical scenarios for BSS formation are either the mass transfer between binary companions, or stellar mergers induced by collisions.

We have recently discovered two distinct and parallel sequences of BSS in the core of M30 (Ferraro et al. 2009, Nature 462, 1082). We suggested that each of the two sequences is populated by BSS formed by one of the two processes, both triggered by the cluster core collapse, that, based on the observed BSS properties, must have occurred ~1-2 Gyr ago. Following this scenario, we have identified a powerful "clock" to date the occurrence of this key event in the GC history.

Here we propose to secure WFC3 images of 4 post-core collapse GCs, reaching S/N=200 at the BSS magnitude level, in order to determine the ubiquity of the BSS double sequence and calibrate the "dynamical clock". This requires very high spatial resolution and very high precision photometry capabilities that are unique to the HST. The modest amount of requested time will have a deep impact on the current and future generations of dynamical evolutionary models of collisional stellar systems.

## **OBSERVING DESCRIPTION**

Observations are organized in 4 visits (one for each of the selected clusters).

Dithering is performed by applying small offsets (via POS TARG keyword) to each exposure.

VISIT 1 - target: NGC6681 - 5 orbits - a total of 35 exposures in the selected filters (F390W,F555W,F814W) are planned. A few (5) parallel exposures are planned at the end of each orbit in order to not affect the execution of the primary observations.

VISIT 2 - target: NGC6541 - 5 orbits - a total of 35 exposures in the selected filters (F390W,F555W,F814W) are planned. A few (5) parallel exposures are planned at the very end of each orbit in order to not affect the execution of the primary observations.

VISIT 3 - target: NGC362 - 5 orbits - a total of 39 exposures in the selected filters (F390W,F555W,F814W) are planned. A few (5) parallel exposures are planned at the very end of each orbit in order to not affect the execution of the primary observations.

VISIT 4 - target: NGC6293 - 6 orbits - a total of 24 exposures in the selected filters (F390W,F555W,F814W) are planned. A few (9) parallel exposures are planned in each orbit.

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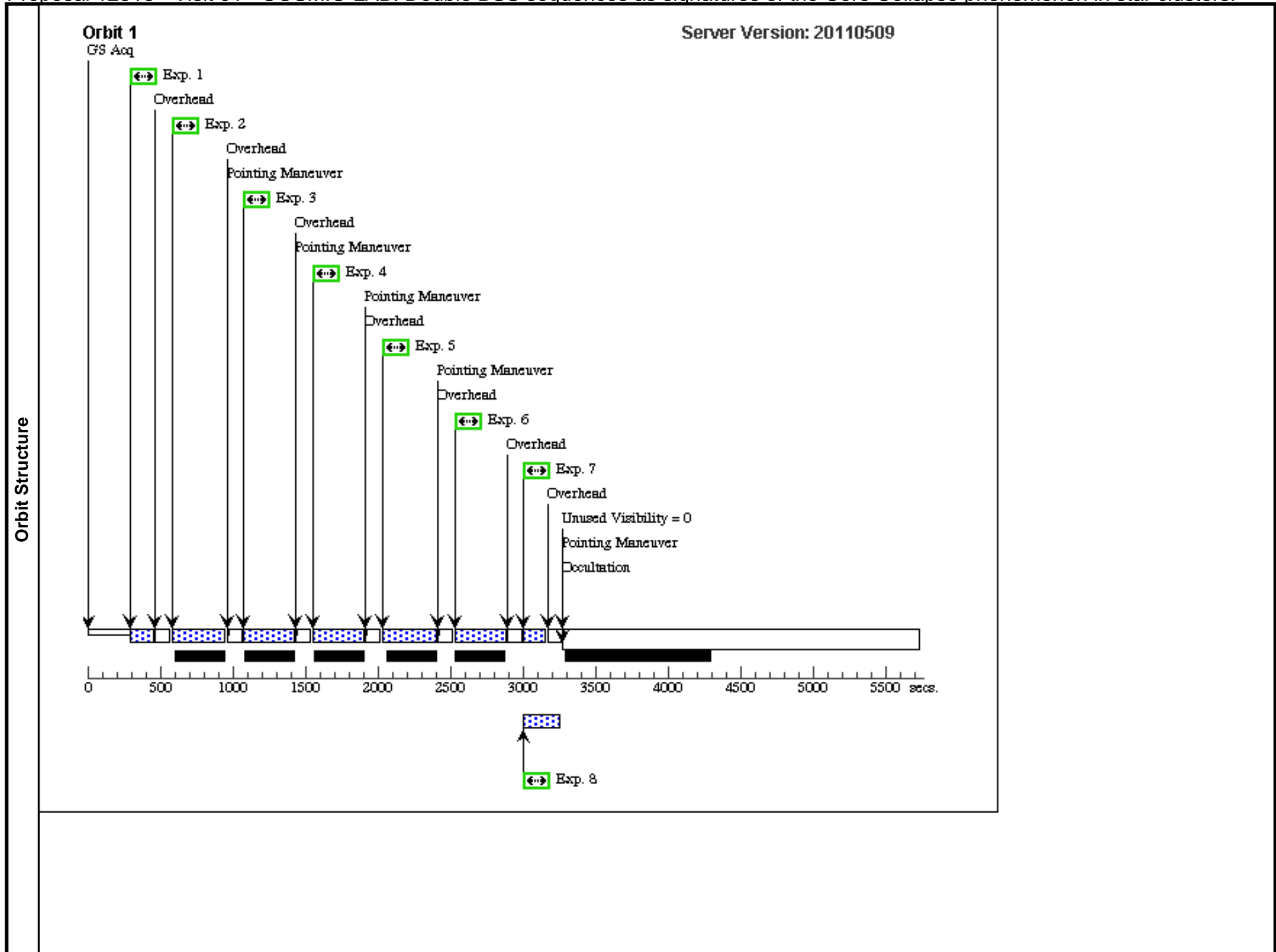
<b>Visit</b>	Proposal 12516, Visit 01 <span style="float: right;">Fri Jul 08 01:19:43 GMT 2011</span> Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: (none)					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(2)		NGC6681	RA: 18 43 12.7000 (280.8029167d) Dec: -32 17 31.00 (-32.29194d) Equinox: J2000		V=19	Reference Frame: ICRS

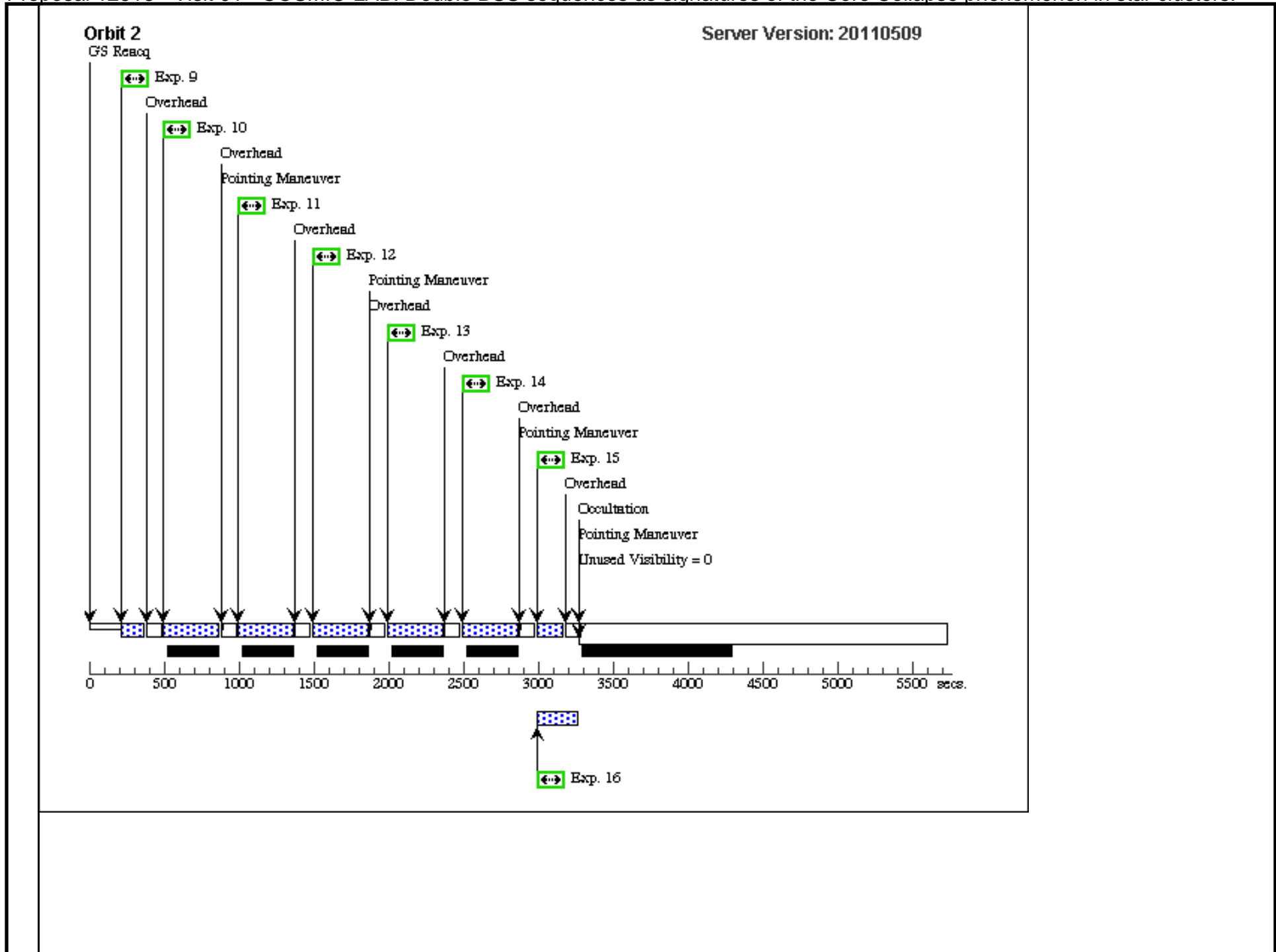
Proposal 12516 - Visit 01 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

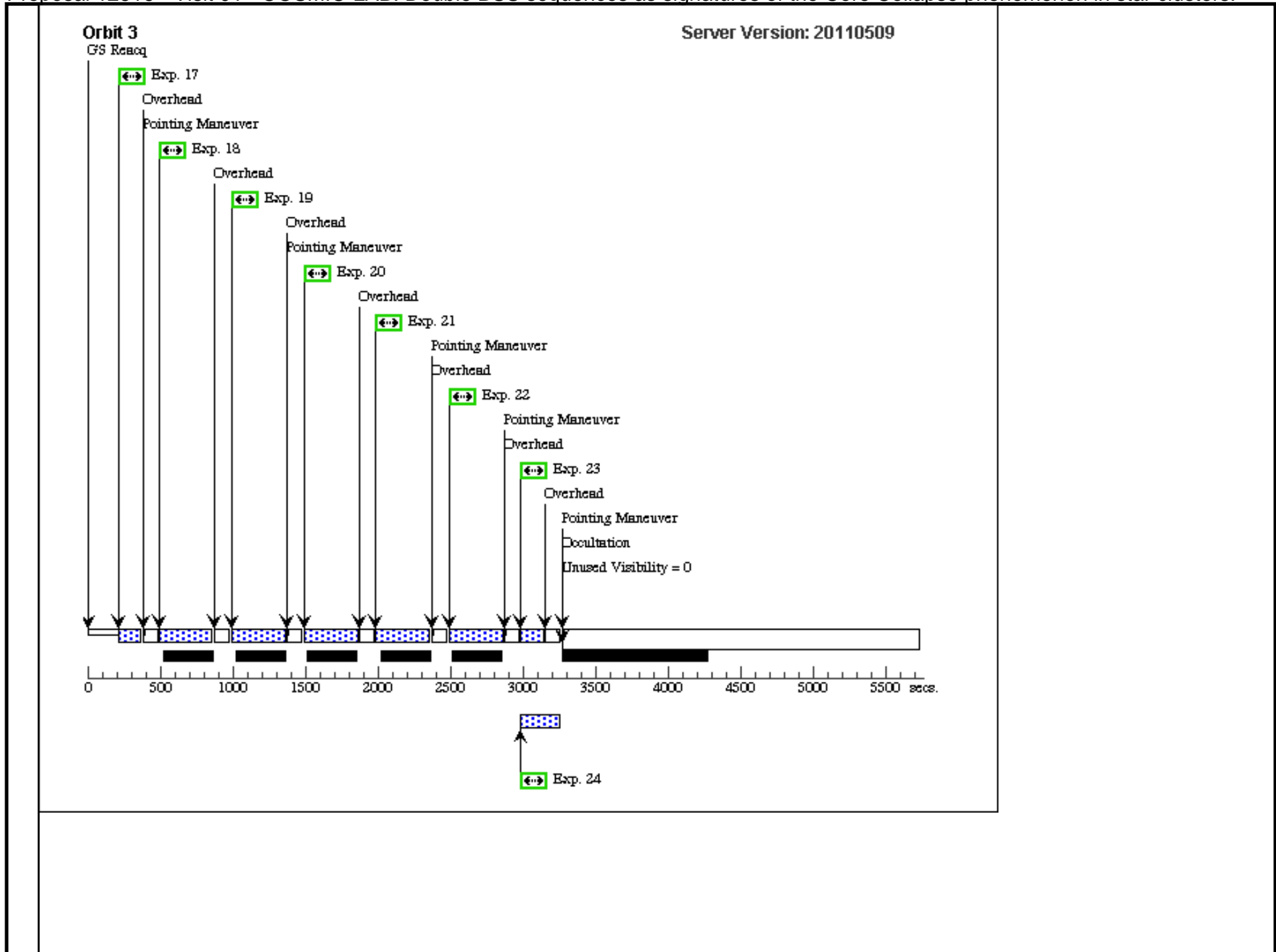
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit	
Exposures	1	6681_v1	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W			127 Secs	[1]		
								[==>]			
	2	6681_i1	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W			348 Secs	[1]		
								[==>]			
	3	6681_i2	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165		348 Secs	[1]	
									[==>]		
	4	6681_i3	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095		348 Secs	[1]	
									[==>]		
	5	6681_u1	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W				348 Secs	[1]	
									[==>]		
	6	6681_u2	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.099,-0.165		348 Secs	[1]	
									[==>]		
	7	6681_v2	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG -0.099,-0.165	Prime + Parallel Group 7-8 in Visit 01	127 Secs	[1]	
									[==>]		
	8	6681para_v42	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 7-8 in Visit 01	42 Secs	[1]	
									[==>]		
	9	6681_v3	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.059,-0.095		150 Secs	[2]	
									[==>]		
	10	6681_u3	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.059,-0.095		348 Secs	[2]	
									[==>]		
	11	6681_i4	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024		348 Secs	[2]	
									[==>]		
12	6681_u4	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.218,-0.024		348 Secs	[2]		
								[==>]			
13	6681_i5	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.070		348 Secs	[2]		
								[==>]			
14	6681_u5	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.158,0.070		348 Secs	[2]		
								[==>]			
15	6681_v4	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.218,-0.024	Prime + Parallel Group 15-16 in Visit 01	150 Secs	[2]		
								[==>]			
16	6681para_v140	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 15-16 in Visit 01	140 Secs	[2]		
								[==>]			
17	6681_v5	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.158,0.070		150 Secs	[3]		
								[==>]			
18	6681_i6	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165		348 Secs	[3]		
								[==>]			
19	6681_u6	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.099,0.165		348 Secs	[3]		
								[==>]			
20	6681_i7	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095		348 Secs	[3]		
								[==>]			
21	6681_u7	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.059,0.095		348 Secs	[3]		
								[==>]			
22	6681_i8	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.218,0.024		348 Secs	[3]		
								[==>]			

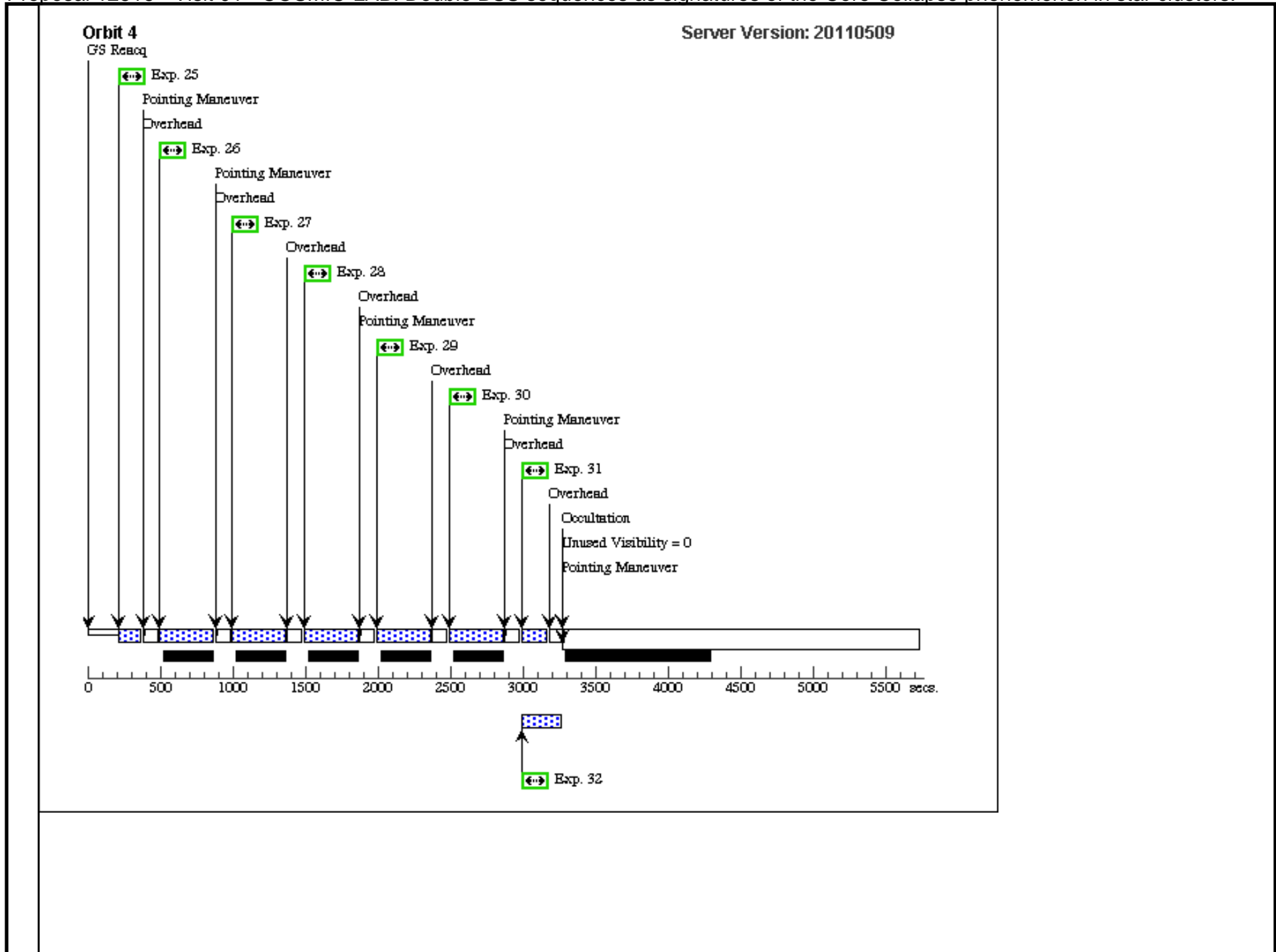
Proposal 12516 - Visit 01 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

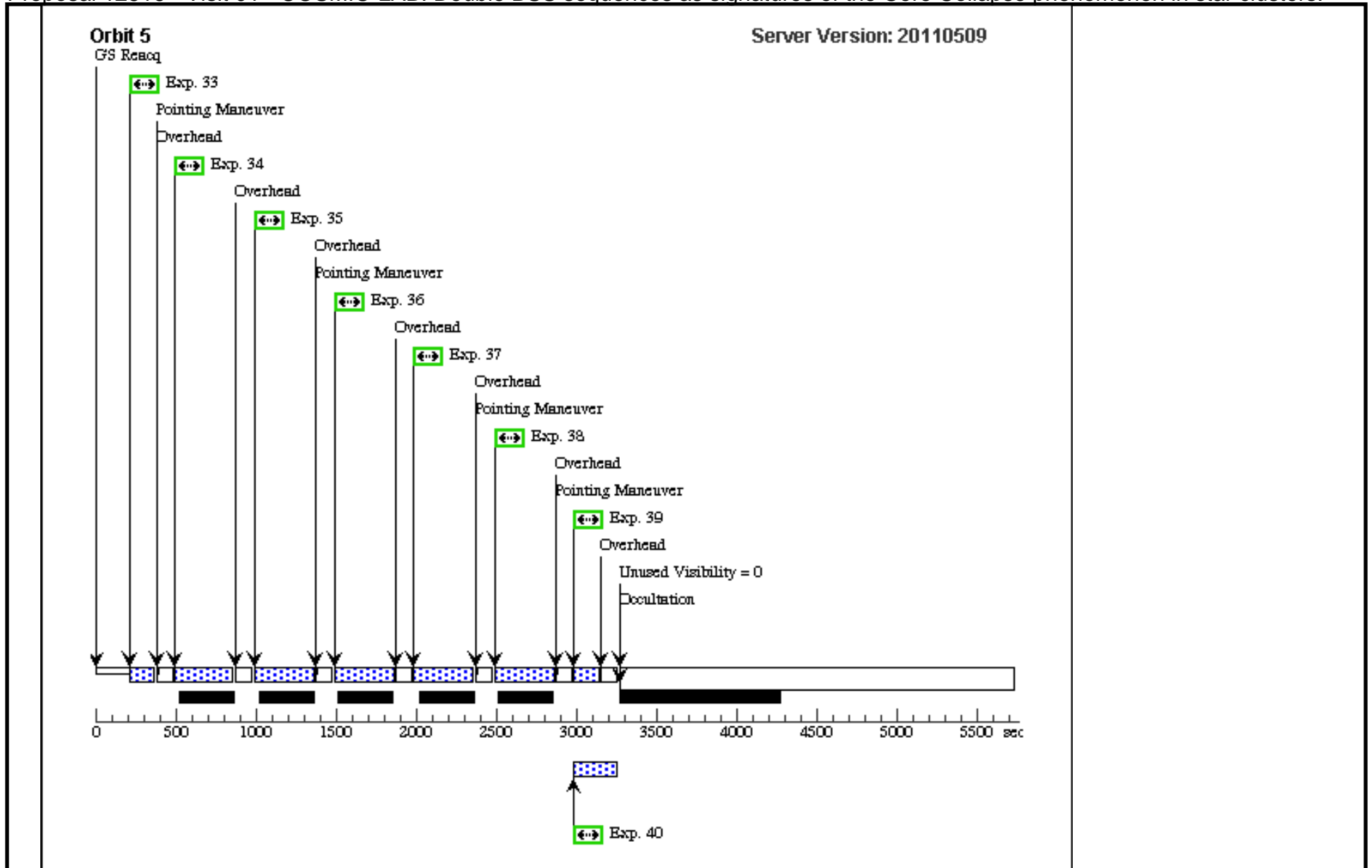
23	6681_v6	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG 0.099,0.165	Prime + Parallel Group 23-24 in Visit 01	150 Secs [==>]	[3]
24	6681para_i9 1	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 23-24 in Visit 01	91 Secs [==>]	[3]
25	6681_v7	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.059,0.095		150 Secs [==>]	[4]
26	6681_u8	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.218,0.024		348 Secs [==>]	[4]
27	6681_i9	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,-0.070		348 Secs [==>]	[4]
28	6681_u9	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,-0.070		348 Secs [==>]	[4]
29	6681_i10	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,-0.11		348 Secs [==>]	[4]
30	6681_u10	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,-0.11		348 Secs [==>]	[4]
31	6681_v8	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.218,0.024	Prime + Parallel Group 31-32 in Visit 01	150 Secs [==>]	[4]
32	6681para_i1 40	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 31-32 in Visit 01	140 Secs [==>]	[4]
33	6681_v9	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,-0.070		150 Secs [==>]	[5]
34	6681_i11	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.099,0.052		348 Secs [==>]	[5]
35	6681_u11	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.099,0.052		348 Secs [==>]	[5]
36	6681_i12	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.04,0.214		348 Secs [==>]	[5]
37	6681_u12	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.04,0.214		348 Secs [==>]	[5]
38	6681_i13	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG 0.059,0.162		348 Secs [==>]	[5]
39	6681_v10	(2) NGC6681	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,-0.11	Prime + Parallel Group 39-40 in Visit 01	150 Secs [==>]	[5]
40	6681para_i1 46	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 39-40 in Visit 01	146 Secs [==>]	[5]











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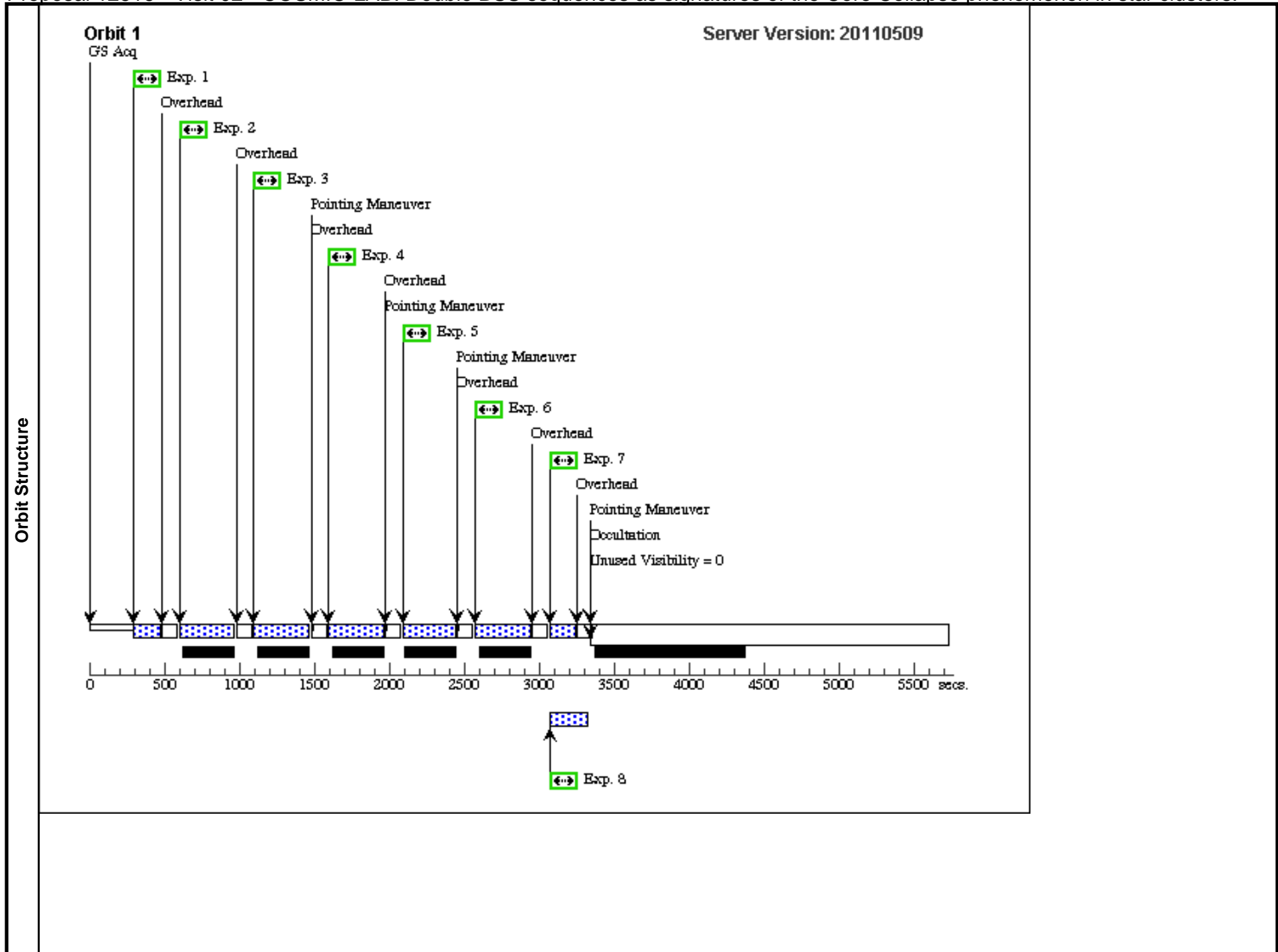
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	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(4)		NGC6541	RA: 18 08 2.3600 (272.0098333d) Dec: -43 42 53.60 (-43.71489d) Equinox: J2000		V=19	Reference Frame: ICRS

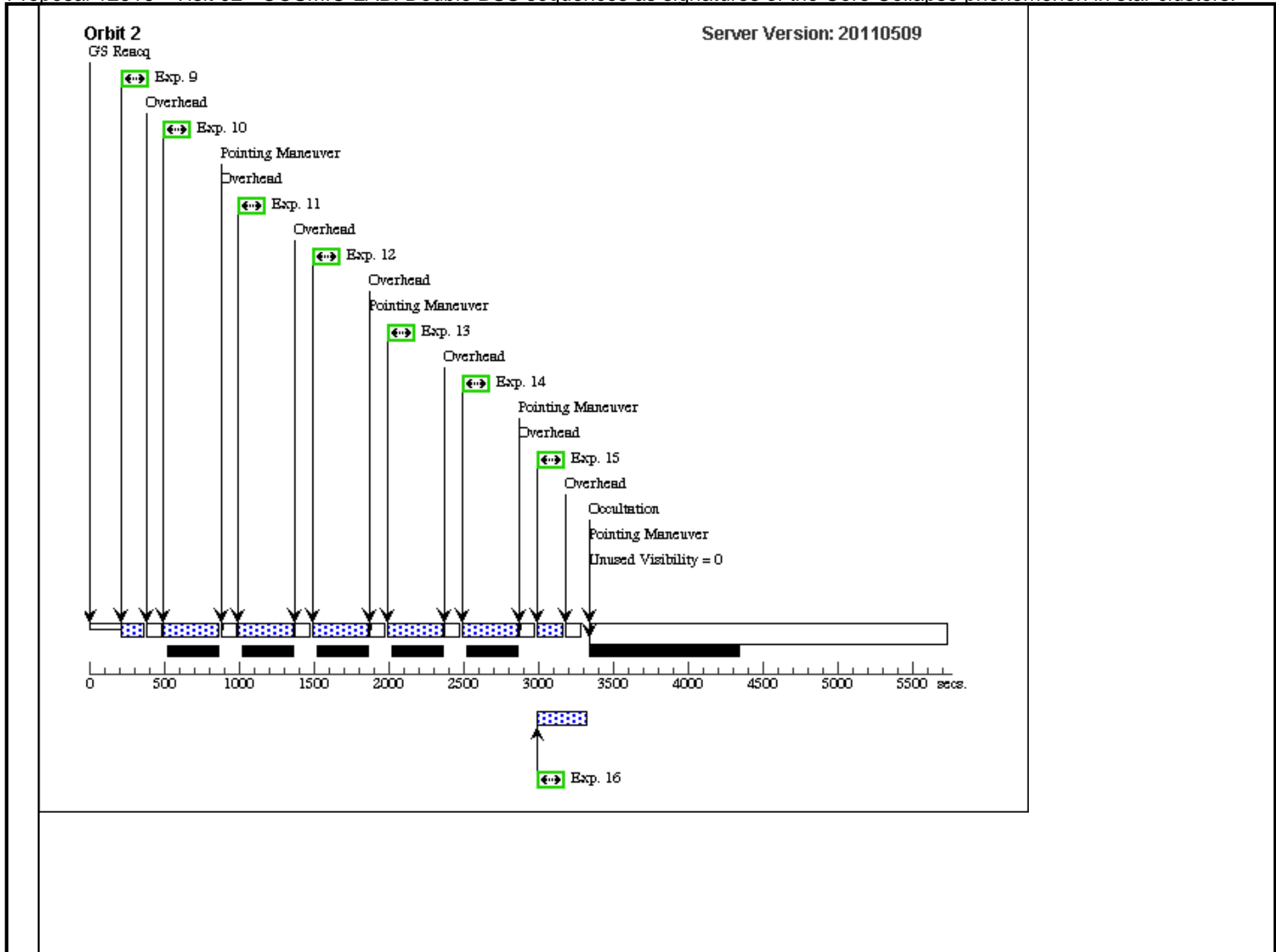
Proposal 12516 - Visit 02 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

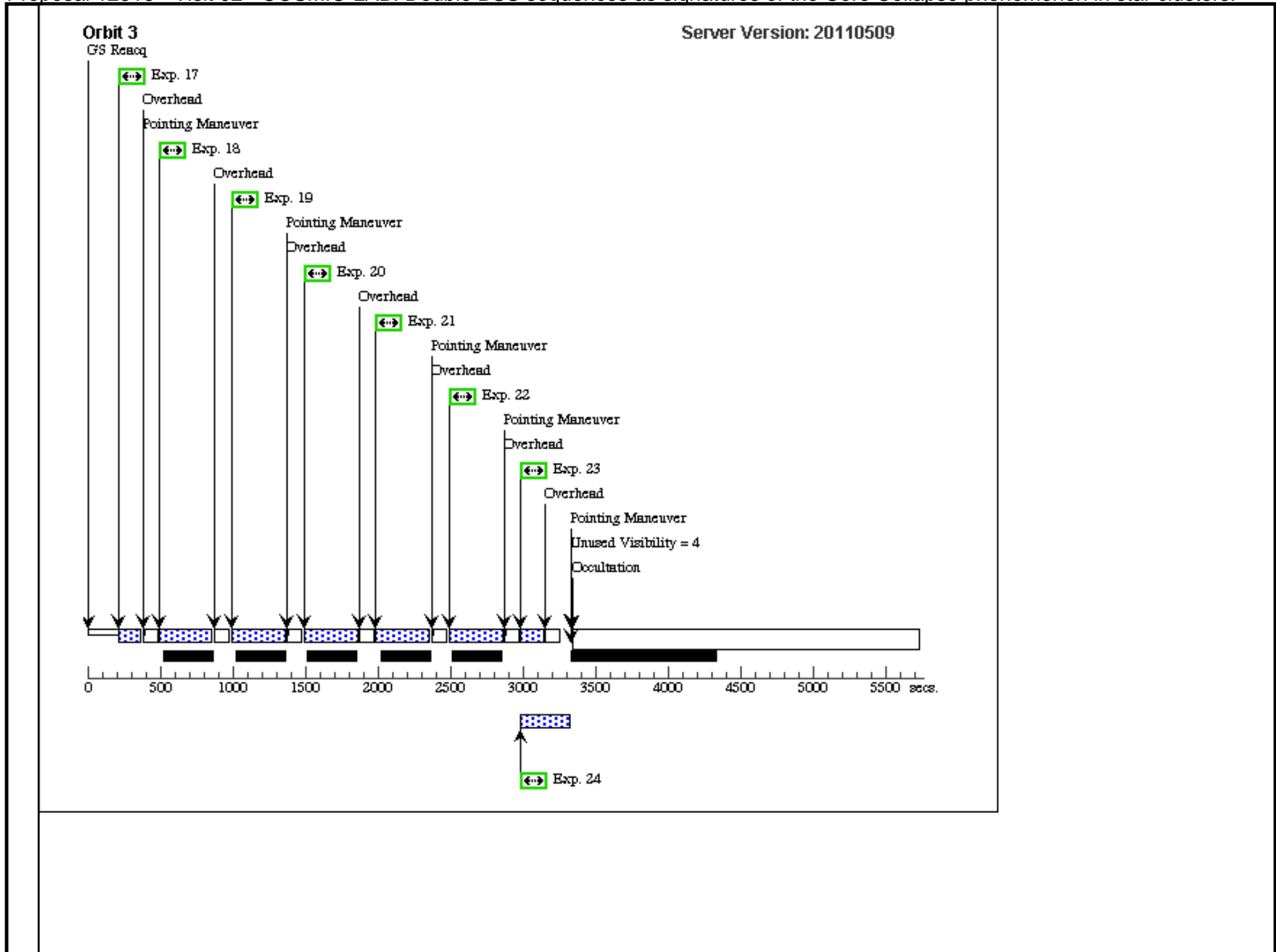
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
Exposures	1	6541_v1	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W			145 Secs	[1]	
								[==>]		
	2	6541_i1	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W			348 Secs	[1]	
								[==>]		
	3	6541_u1	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W			348 Secs	[1]	
								[==>]		
	4	6541_i2	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165	348 Secs	[1]	
								[==>]		
	5	6541_i3	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095	348 Secs	[1]	
								[==>]		
	6	6541_u2	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.099,-0.165	348 Secs	[1]	
								[==>]		
	7	6541_v2	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG -0.099,-0.165	145 Secs	[1]	
							Prime + Parallel Group 7-8 in Visit 02	[==>]		
	8	6541para_v44	ANY	ACS/WFC, ACCUM, WFC	F606W			44 Secs	[1]	
							Prime + Parallel Group 7-8 in Visit 02	[==>]		
	9	6541_v3	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.059,-0.095	150 Secs	[2]	
								[==>]		
	10	6541_u3	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.059,-0.095	348 Secs	[2]	
								[==>]		
	11	6541_i4	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024	348 Secs	[2]	
								[==>]		
12	6541_u4	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.218,-0.024	348 Secs	[2]		
							[==>]			
13	6541_i5	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.070	348 Secs	[2]		
							[==>]			
14	6541_u5	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.158,0.070	348 Secs	[2]		
							[==>]			
15	6541_v4	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.218,-0.024	150 Secs	[2]		
						Prime + Parallel Group 15-16 in Visit 02	[==>]			
16	6541para_v210	ANY	ACS/WFC, ACCUM, WFC	F606W			210 Secs	[2]		
						Prime + Parallel Group 15-16 in Visit 02	[==>]			
17	6541_v5	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.158,0.070	150 Secs	[3]		
							[==>]			
18	6541_i6	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165	348 Secs	[3]		
							[==>]			
19	6541_u6	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.099,0.165	348 Secs	[3]		
							[==>]			
20	6541_i7	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095	348 Secs	[3]		
							[==>]			
21	6541_u7	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.059,0.095	348 Secs	[3]		
							[==>]			
22	6541_i8	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.218,0.024	348 Secs	[3]		
							[==>]			

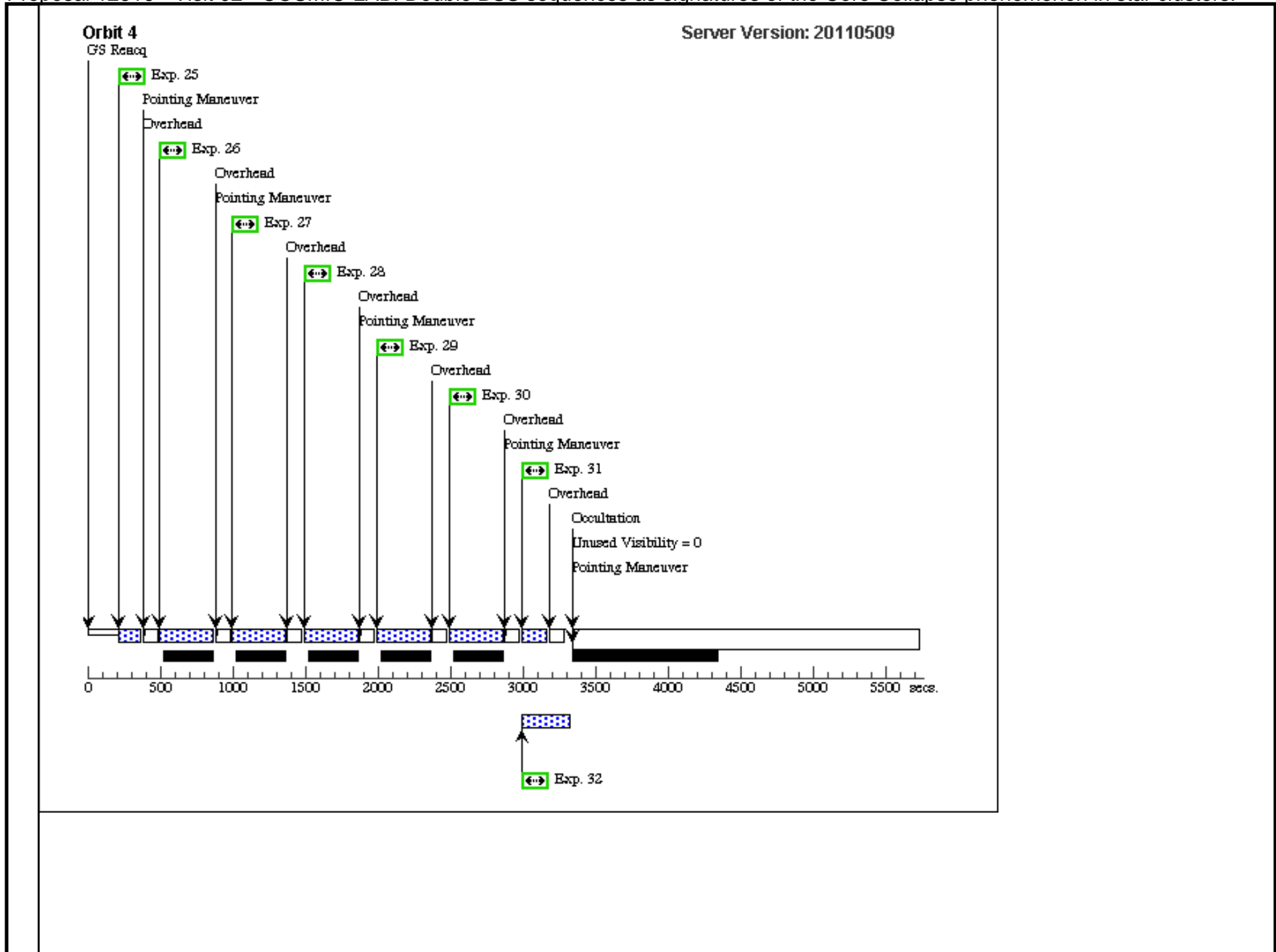
Proposal 12516 - Visit 02 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

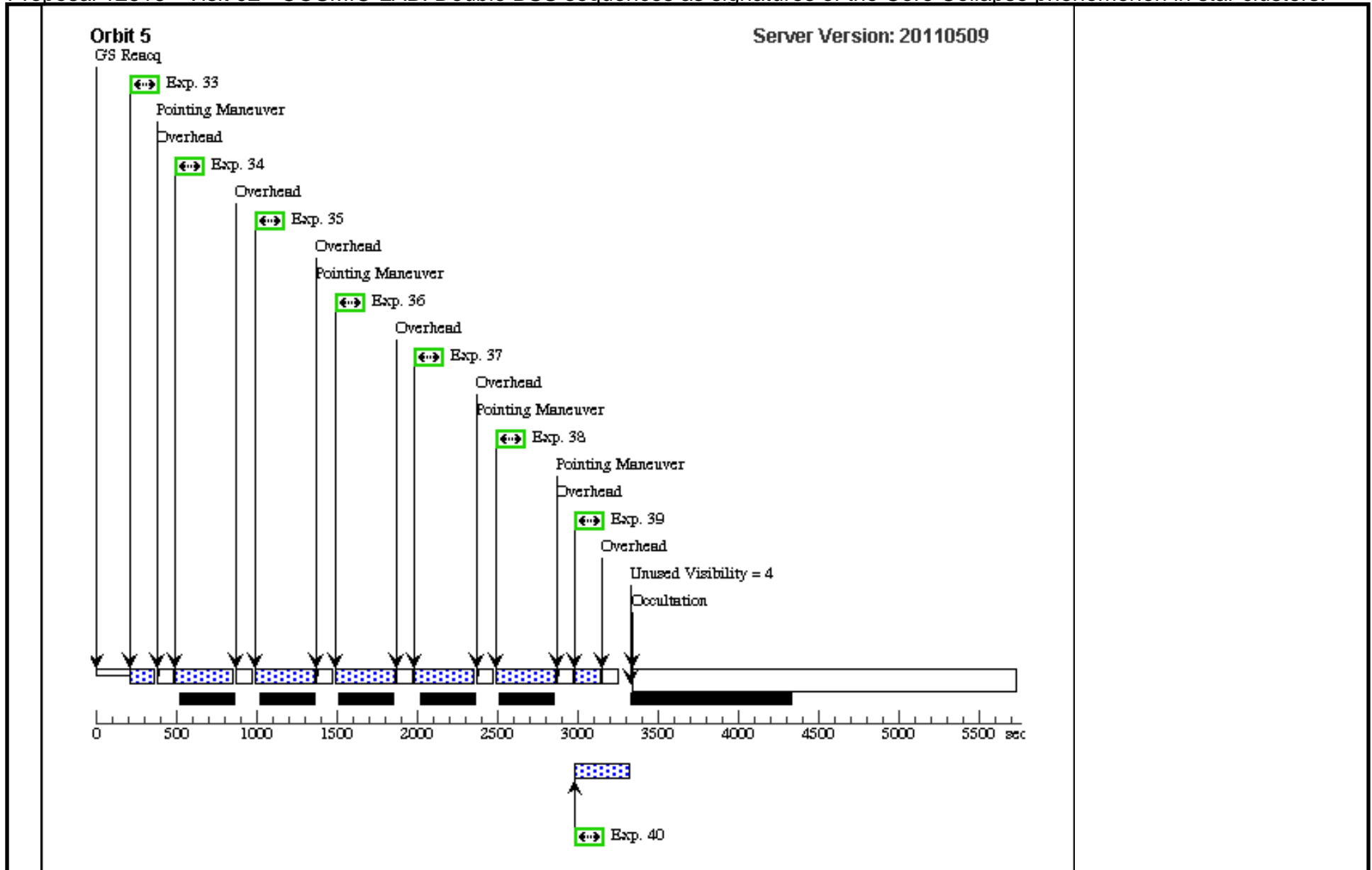
23	6541_v6	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG 0.099,0.165	Prime + Parallel Group 23-24 in Visit 02	150 Secs [==>]	[3]
24	6541para_i1_53	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 23-24 in Visit 02	153 Secs [==>]	[3]
25	6541_v7	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.059,0.095		150 Secs [==>]	[4]
26	6541_u8	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.218,0.024		348 Secs [==>]	[4]
27	6541_i9	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,-0.070		348 Secs [==>]	[4]
28	6541_u9	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,-0.070		348 Secs [==>]	[4]
29	6541_i10	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,-0.11		348 Secs [==>]	[4]
30	6541_u10	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,-0.11		348 Secs [==>]	[4]
31	6541_v8	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.218,0.024	Prime + Parallel Group 31-32 in Visit 02	150 Secs [==>]	[4]
32	6541para_i2_10	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 31-32 in Visit 02	210 Secs [==>]	[4]
33	6541_v9	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,-0.070		150 Secs [==>]	[5]
34	6541_i11	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.099,0.052		348 Secs [==>]	[5]
35	6541_u11	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.099,0.052		348 Secs [==>]	[5]
36	6541_i12	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.04,0.214		348 Secs [==>]	[5]
37	6541_u12	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.04,0.214		348 Secs [==>]	[5]
38	6541_i13	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG 0.059,0.162		348 Secs [==>]	[5]
39	6541_v10	(4) NGC6541	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,-0.11	Prime + Parallel Group 39-40 in Visit 02	150 Secs [==>]	[5]
40	6541para_i2_12	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 39-40 in Visit 02	212 Secs [==>]	[5]











Proposal 12516 - Visit 03 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

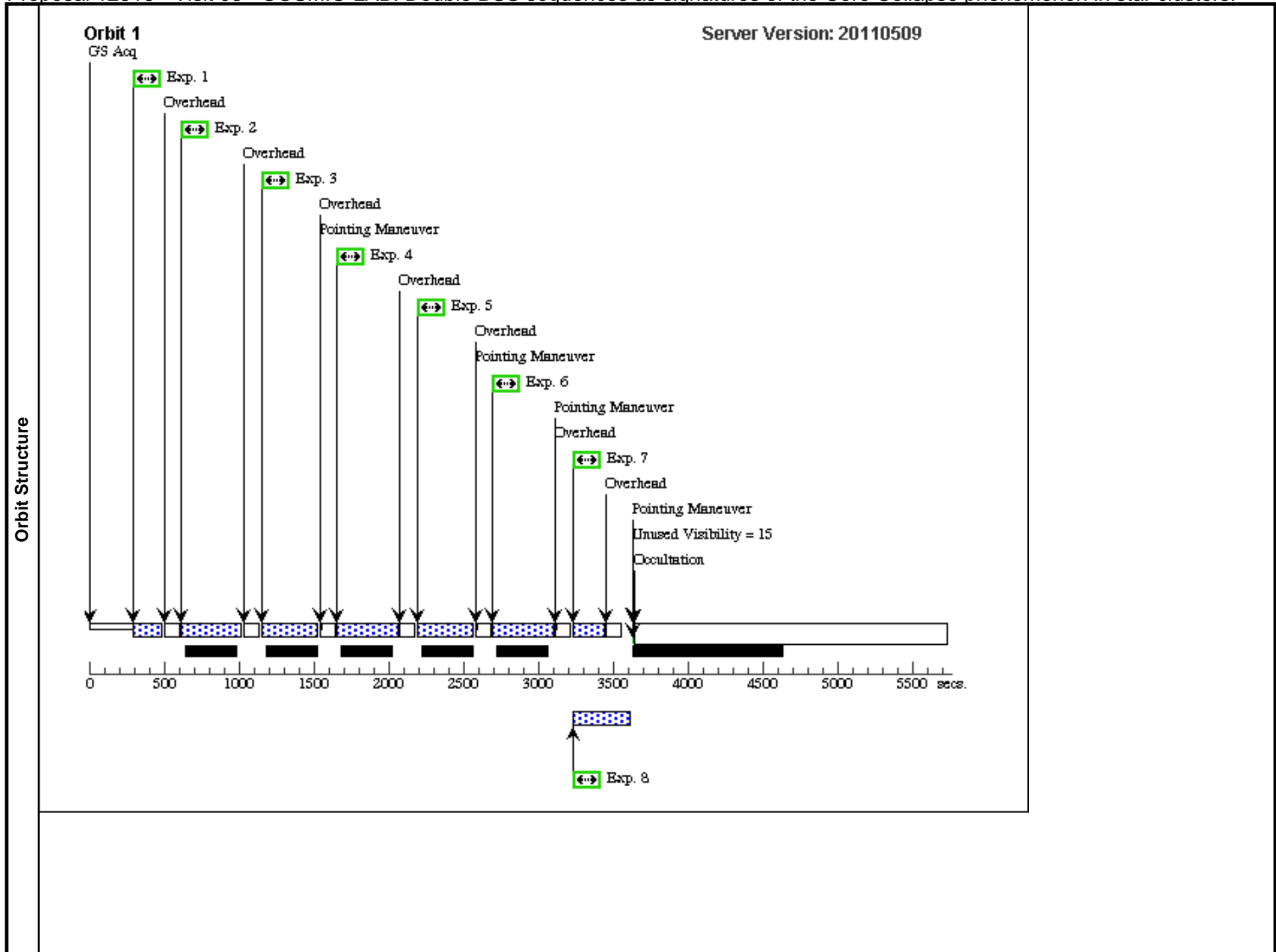
<b>Visit</b>	Proposal 12516, Visit 03 <span style="float: right;">Fri Jul 08 01:19:48 GMT 2011</span> Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: (none)					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(3)		NGC362	RA: 01 03 14.3000 (15.8095833d) Dec: -70 50 54.00 (-70.84833d) Equinox: J2000		V=19	Reference Frame: ICRS

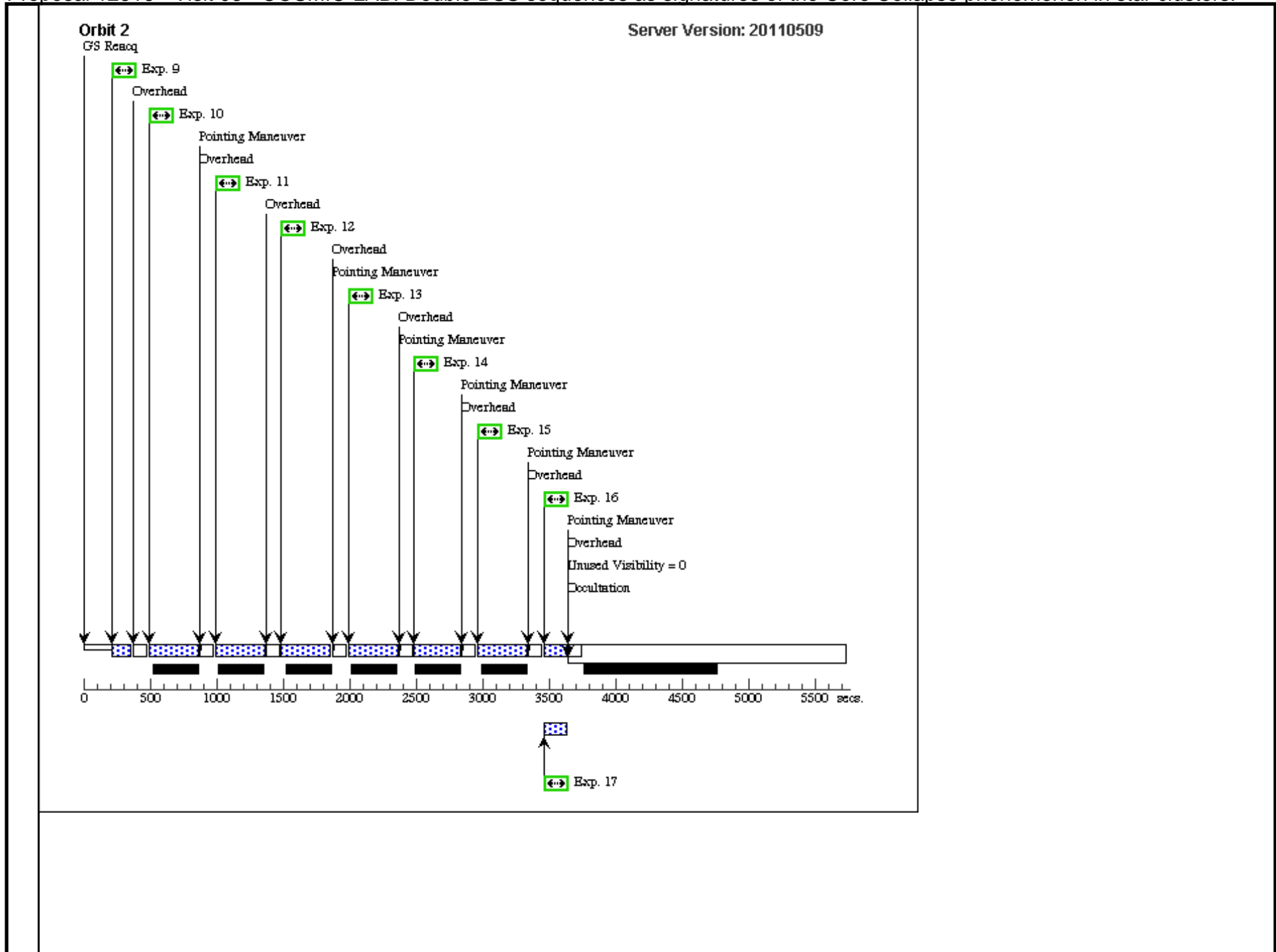
Proposal 12516 - Visit 03 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

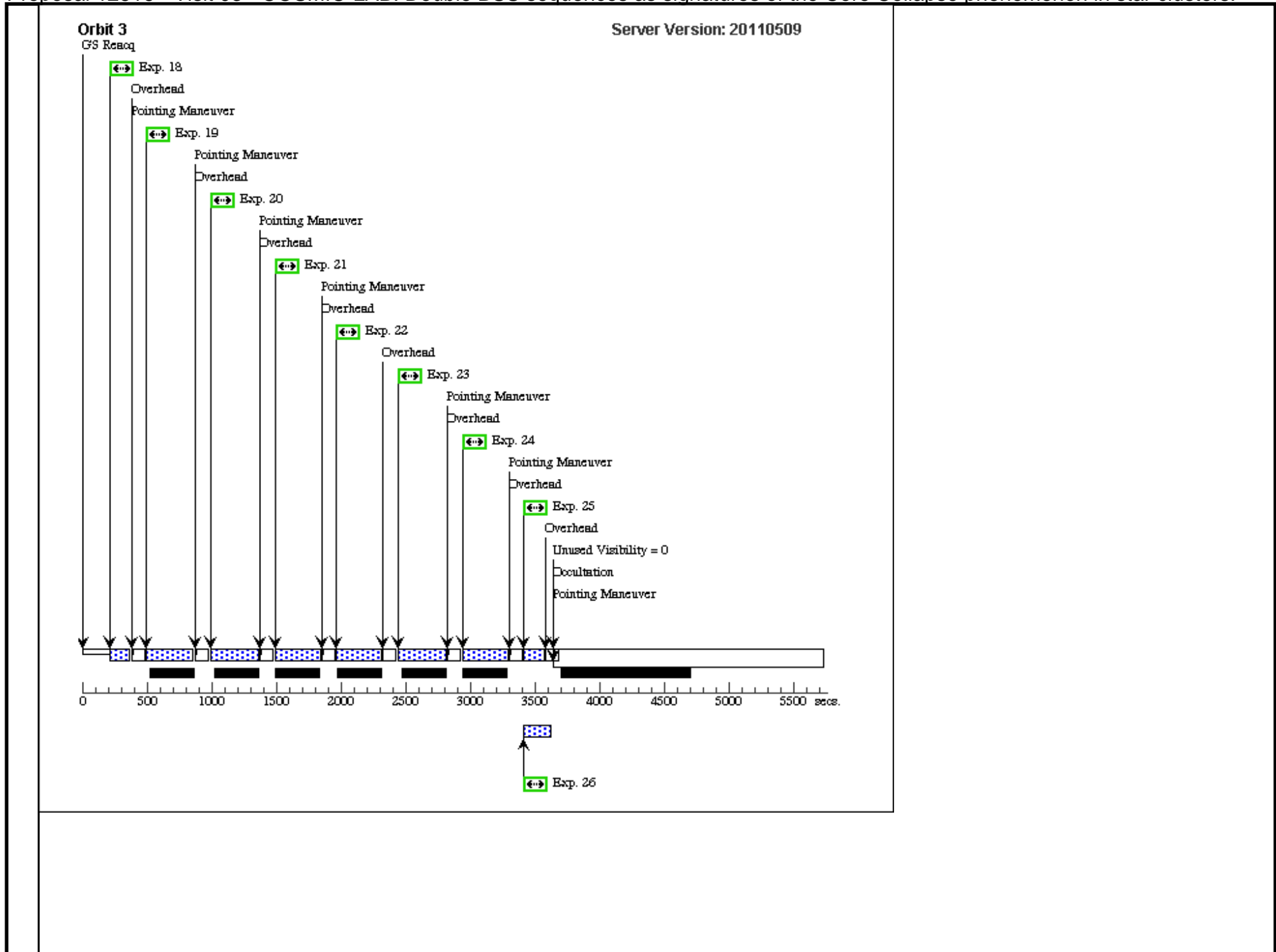
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit	
Exposures	1	362_v1	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W			160 Secs	[=>]	[1]	
	2	362_i1	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W			390 Secs	[=>]	[1]	
	3	362_u1	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W			348 Secs	[=>]	[1]	
	4	362_i2	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165		390 Secs	[=>]	[1]
	5	362_u2	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.099,-0.165		348 Secs	[=>]	[1]
	6	362_i3	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095		390 Secs	[=>]	[1]
	7	362_v2	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG -0.099,-0.165	Prime + Parallel Group 7-8 in Visit 03	200 Secs	[=>]	[1]
	8	362para_v1 72	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 7-8 in Visit 03	172 Secs	[=>]	[1]
	9	362_v3	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.059,-0.095		145 Secs	[=>]	[2]
	10	362_u3	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.059,-0.095		348 Secs	[=>]	[2]
	11	362_i4	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024		348 Secs	[=>]	[2]
	12	362_u4	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.218,-0.024		348 Secs	[=>]	[2]
	13	362_i5	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.070		348 Secs	[=>]	[2]
	14	362_i6	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165		348 Secs	[=>]	[2]
	15	362_u5	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.158,0.070		348 Secs	[=>]	[2]
	16	362_v4	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.218,-0.024	Prime + Parallel Group 16-17 in Visit 03	144 Secs	[=>]	[2]
	17	362para_v3 9	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 16-17 in Visit 03	39 Secs	[=>]	[2]
	18	362_v5	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.158,0.070		150 Secs	[=>]	[3]
	19	362_i7	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095		348 Secs	[=>]	[3]
	20	362_u6	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.099,0.165		348 Secs	[=>]	[3]
	21	362_u7	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.059,0.095		348 Secs	[=>]	[3]
	22	362_u8	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.218,0.024		348 Secs	[=>]	[3]

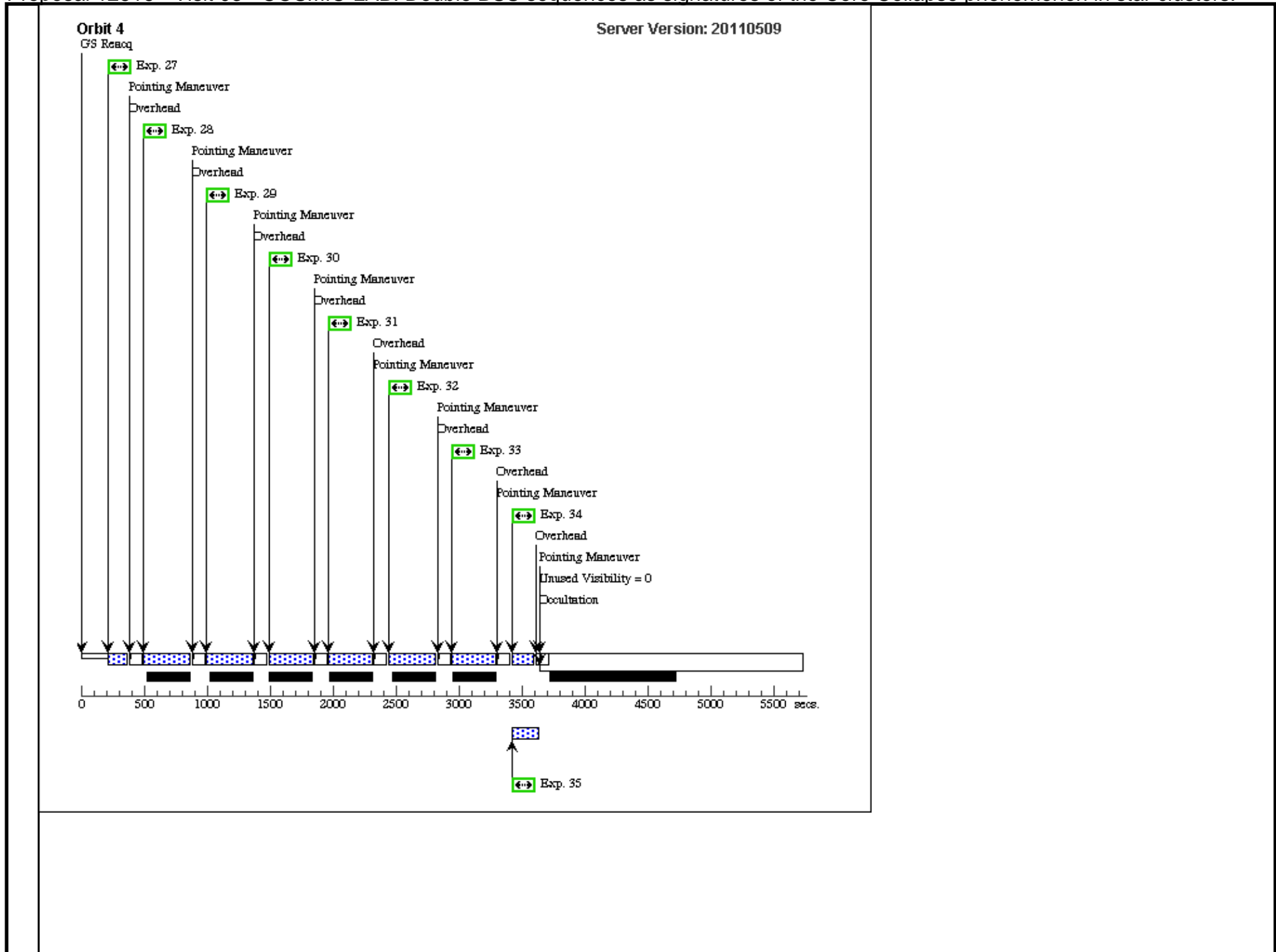
Proposal 12516 - Visit 03 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

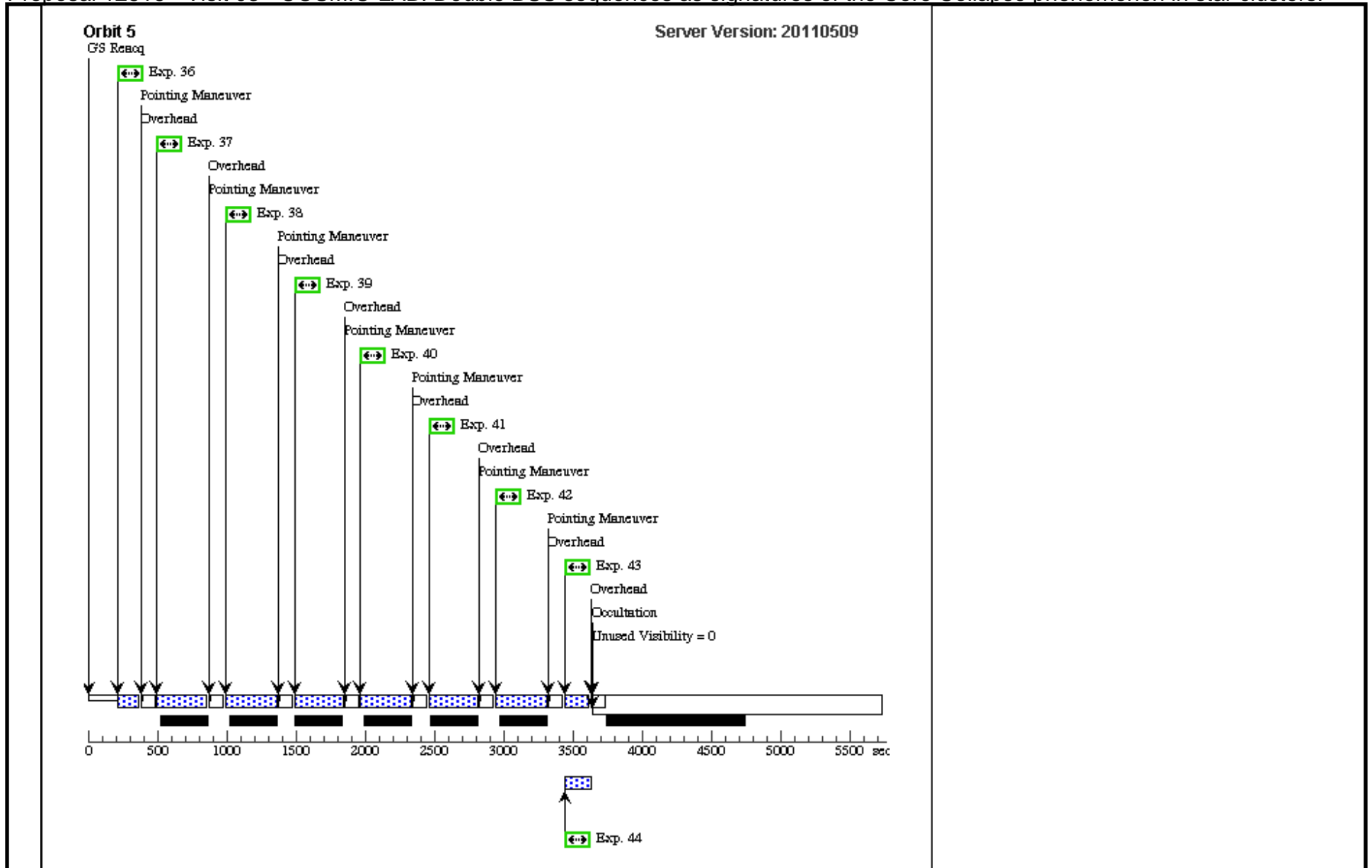
23	362_i8	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.218,0 .024		348 Secs	[3]
24	362_i9	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,- 0.070		348 Secs	[3]
25	362_v6	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG 0.099,0. 165	Prime + Parallel Gro up 25-26 in Visit 03	150 Secs	[3]
26	362para_v8 6	ANY	ACS/WFC, ACCUM, WFC	F606W		Prime + Parallel Gro up 25-26 in Visit 03	86 Secs	[3]
27	362_v7	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.059,0 .095		150 Secs	[4]
28	362_u9	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,- 0.070		348 Secs	[4]
29	362_i10	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,- 0.11		348 Secs	[4]
30	362_i11	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.099,0 .052		348 Secs	[4]
31	362_i12	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.04,0. 214		348 Secs	[4]
32	362_u10	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.158,- 0.11		348 Secs	[4]
33	362_u11	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.099,0 .052		348 Secs	[4]
34	362_v8	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.218,0 .024	Prime + Parallel Gro up 34-35 in Visit 03	150 Secs	[4]
35	362para_i25	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Gro up 34-35 in Visit 03	25 Secs	[4]
36	362_v9	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,- 0.070		150 Secs	[5]
37	362_i13	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG 0.059,0. 162		348 Secs	[5]
38	362_u12	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG -0.04,0. 214		348 Secs	[5]
39	362_u13	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG 0.059,0. 162		348 Secs	[5]
40	362_i14	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG 0.158,0. 11		348 Secs	[5]
41	362_i15	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG 0.099,-0 .052		348 Secs	[5]
42	362_u14	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG 0.158,0. 11		348 Secs	[5]
43	362_v10	(3) NGC362	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,- 0.11	Prime + Parallel Gro up 43-44 in Visit 03	150 Secs	[5]
44	362para_i60	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Gro up 43-44 in Visit 03	60 Secs	[5]











Proposal 12516 - Visit 04 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

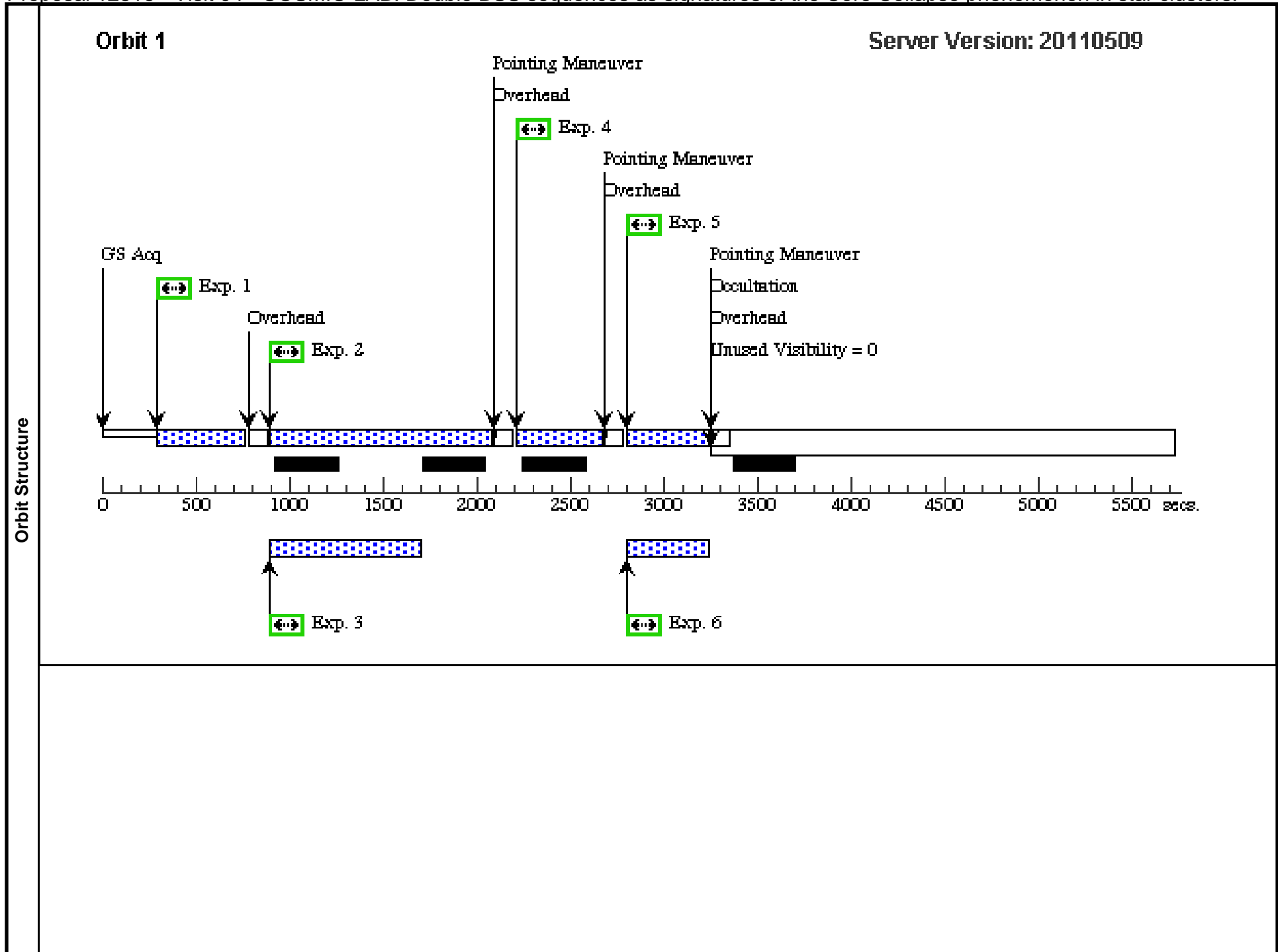
<b>Visit</b>	Proposal 12516, Visit 04 <span style="float: right;">Fri Jul 08 01:19:50 GMT 2011</span> Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: (none)					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(1)		NGC6293	RA: 17 10 10.4000 (257.5433333d) Dec: -26 34 54.00 (-26.58167d) Equinox: J2000		V=19	Reference Frame: ICRS

Proposal 12516 - Visit 04 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
Exposures	1	6293_v1	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W			440 Secs	[1]	
								[==>]		
	2	6293_u1	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F390W		Prime + Parallel Group 2-3 in Visit 04	1166 Secs	[1]	
								[==>]		
	3	6293para_v600	ANY	ACS/WFC, ACCUM, WFC	F606W		Prime + Parallel Group 2-3 in Visit 04	600 Secs	[1]	
								[==>]		
	4	6293_v2	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG -0.099,-0.165	440 Secs	[1]	
								[==>]		
	5	6293_v3	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.059,-0.095	440 Secs	[1]	
								[==>]		
	6	6293para_v314	ANY	ACS/WFC, ACCUM, WFC	F606W		Prime + Parallel Group 5-6 in Visit 04	314 Secs	[1]	
								[==>]		
	7	6293_i1	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W			700 Secs	[2]	
								[==>]		
	8	6293_i2	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165	700 Secs	[2]	
								[==>]		
	9	6293_v4	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.218,-0.024	480 Secs	[2]	
								[==>]		
	10	6293_i3	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095	700 Secs	[2]	
								[==>]		
	11	6293para_i574	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 10-11 in Visit 04	574 Secs	[2]	
								[==>]		
12	6293_v5	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.158,0.070	440 Secs	[3]		
							[==>]			
13	6293_u2	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.099,-0.165	1000 Secs	[3]		
							[==>]			
14	6293para_v600	ANY	ACS/WFC, ACCUM, WFC	F606W		Prime + Parallel Group 13-14 in Visit 04	600 Secs	[3]		
							[==>]			
15	6293_v6	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG 0.099,0.165	440 Secs	[3]		
							[==>]			
16	6293_i4	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024	700 Secs	[3]		
							[==>]			
17	6293para_i500	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 16-17 in Visit 04	500 Secs	[3]		
							[==>]			
18	6293_i5	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.070	700 Secs	[4]		
							[==>]			
19	6293_v7	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W		POS TARG -0.059,0.095	440 Secs	[4]		
							[==>]			
20	6293_i6	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165	700 Secs	[4]		
							[==>]			
21	6293_i7	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095	700 Secs	[4]		
							[==>]			
22	6293para_i650	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Group 21-22 in Visit 04	650 Secs	[4]		
							[==>]			

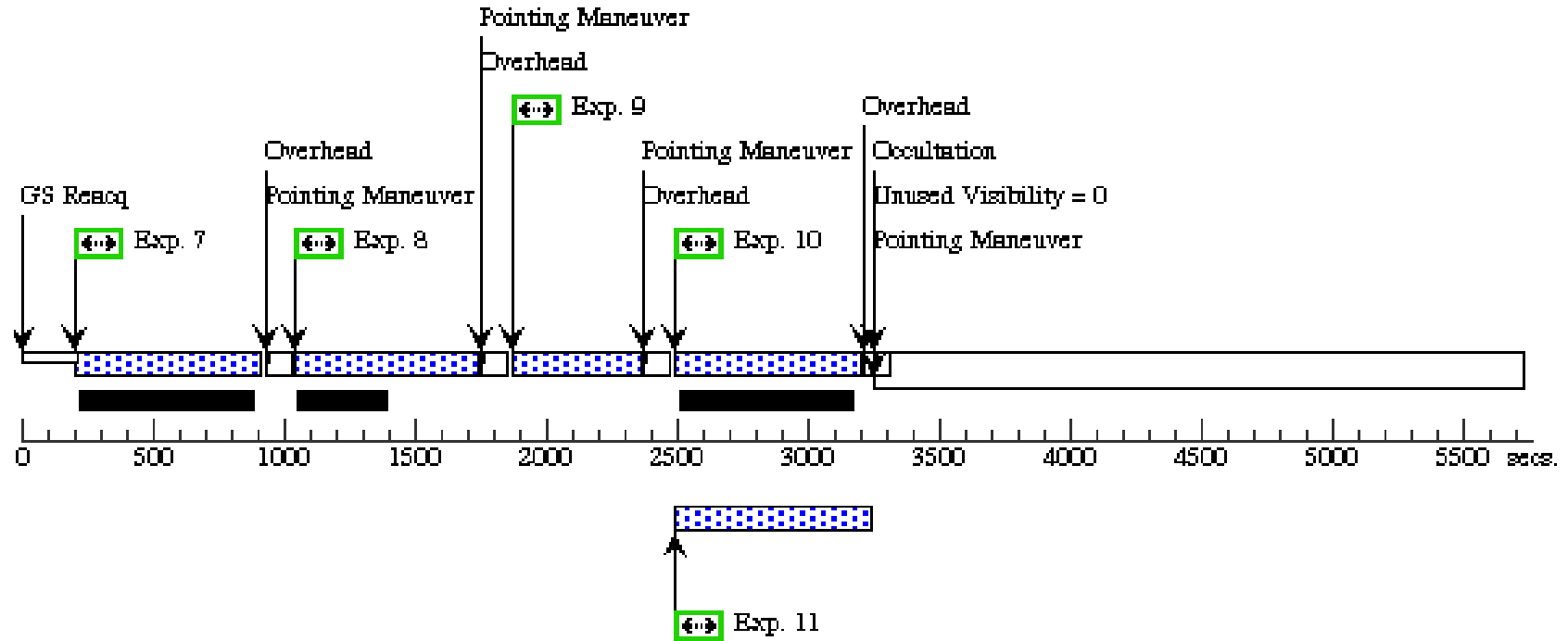
Proposal 12516 - Visit 04 - COSMIC-LAB: Double BSS sequences as signatures of the Core Collapse phenomenon in star clusters.

23	6293_i8	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.218,0 .024		700 Secs	[5]
24	6293_v8	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.218,0 .024		440 Secs	[5]
25	6293_i9	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,- 0.070		700 Secs	[5]
26	6293_i10	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.158,- 0.110	Prime + Parallel Gro up 26-27 in Visit 04	700 Secs	[5]
27	6293para_v 597	ANY	ACS/WFC, ACCUM, WFC	F606W		Prime + Parallel Gro up 26-27 in Visit 04	597 Secs	[5]
28	6293_i11	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F814W	POS TARG -0.099,0 .052		700 Secs	[6]
29	6293_u3	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F390W	POS TARG 0.059,-0 .095	Prime + Parallel Gro up 29-30 in Visit 04	1000 Secs	[6]
30	6293para_i6 00	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Gro up 29-30 in Visit 04	600 Secs	[6]
31	6293_v9	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,- 0.070		440 Secs	[6]
32	6293_v10	(1) NGC6293	WFC3/UVIS, ACCUM, UVIS1	F555W	POS TARG -0.158,- 0.11	Prime + Parallel Gro up 32-33 in Visit 04	440 Secs	[6]
33	6293para_i3 28	ANY	ACS/WFC, ACCUM, WFC	F814W		Prime + Parallel Gro up 32-33 in Visit 04	328 Secs	[6]



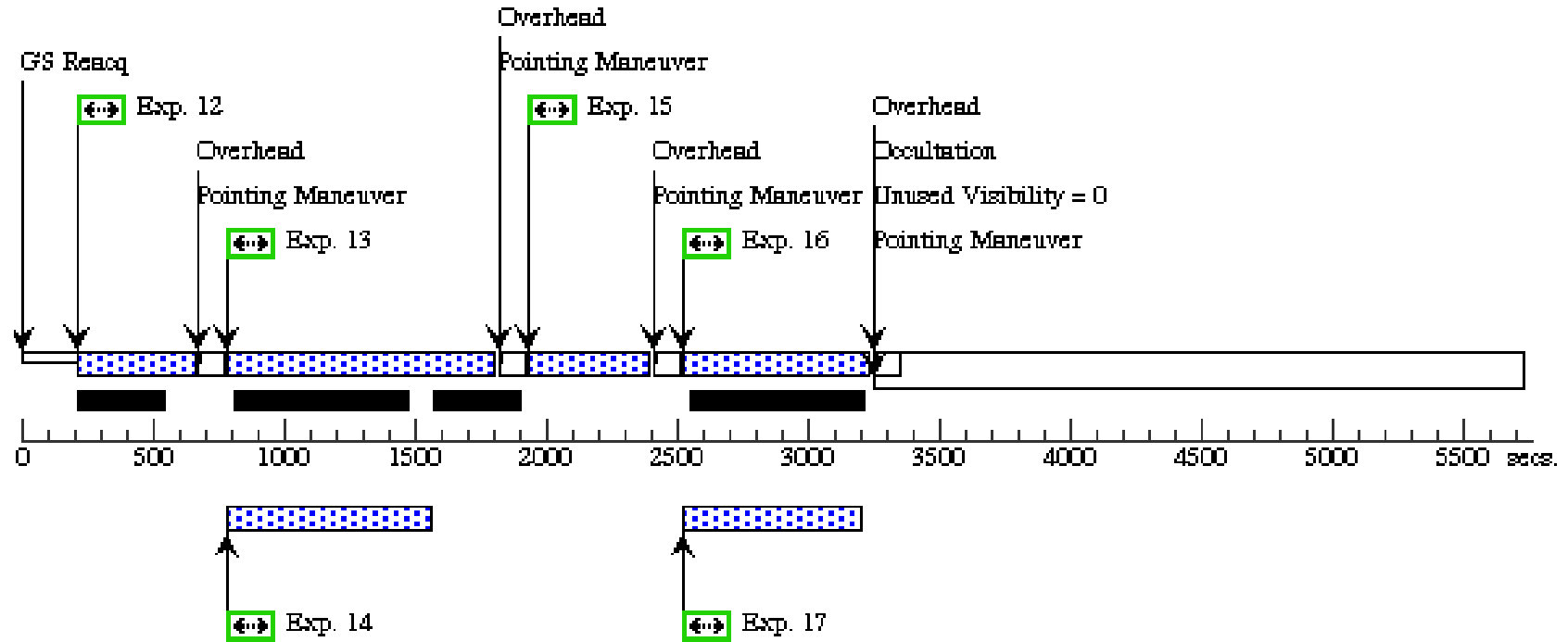
Orbit 2

Server Version: 20110509



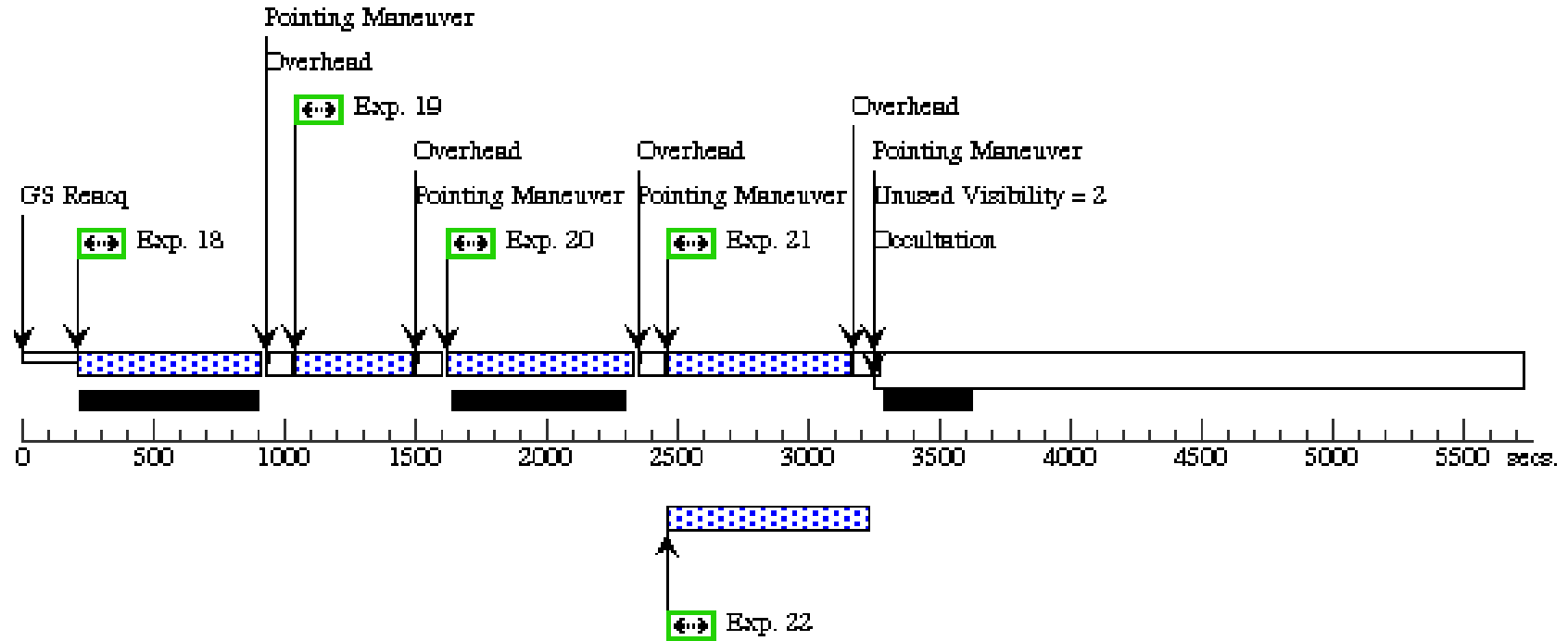
Orbit 3

Server Version: 20110509



Orbit 4

Server Version: 20110509



Orbit 5

Server Version: 20110509

