



12492 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

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	(1) NGC188-003448+853227	ACS/SBC	2	28-Jun-2011 22:07:05.0	yes
02	(2) NGC188-005431+853209	ACS/SBC	2	28-Jun-2011 22:07:14.0	yes
03	(3) NGC188-002645+851836	ACS/SBC	2	28-Jun-2011 22:07:22.0	yes
04	(4) NGC188-004341+851317	ACS/SBC	2	28-Jun-2011 22:07:28.0	yes
05	(5) NGC188-004518+851920	ACS/SBC	2	28-Jun-2011 22:07:36.0	yes
06	(6) NGC188-004557+851730	ACS/SBC	2	28-Jun-2011 22:07:42.0	yes
07	(7) NGC188-004623+851713	ACS/SBC	2	28-Jun-2011 22:07:49.0	yes
08	(8) NGC188-004713+851640	ACS/SBC	2	28-Jun-2011 22:07:56.0	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>
09	(9) NGC188-004937+851639	ACS/SBC	2	28-Jun-2011 22:08:03.0	yes
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11	(11) NGC188-005011+851438	ACS/SBC	2	28-Jun-2011 22:08:15.0	yes
12	(12) NGC188-004854+851237	ACS/SBC	2	28-Jun-2011 22:08:22.0	yes
13	(13) NGC188-005226+851528	ACS/SBC	2	28-Jun-2011 22:08:29.0	yes
14	(14) NGC188-004015+850348	ACS/SBC	2	28-Jun-2011 22:08:35.0	yes
15	(15) NGC188-005115+854402	ACS/SBC	2	28-Jun-2011 22:08:42.0	yes
16	(16) NGC188-005817+854018	ACS/SBC	2	28-Jun-2011 22:08:49.0	yes
17	(17) NGC188-004207+851647	ACS/SBC	2	28-Jun-2011 22:08:55.0	yes
18	(18) NGC188-004221+851539	ACS/SBC	2	28-Jun-2011 22:09:03.0	yes
19	(19) NGC188-004751+851509	ACS/SBC	2	28-Jun-2011 22:09:09.0	yes
20	(20) NGC188-004324+852033	ACS/SBC	2	28-Jun-2011 22:09:16.0	yes
21	(14) NGC188-004015+850348 (16) NGC188-005817+854018	WFC3/UVIS	1	28-Jun-2011 22:09:20.0	yes

41 Total Orbits Used

ABSTRACT

Blue straggler stars trace the interface between two great fields of astrophysics: stellar evolution and stellar dynamics. They define new stellar evolution pathways, and they challenge our understanding of star cluster dynamics and binary evolution.

The discovery of many blue straggler binaries with long orbital periods in the old open cluster NGC 188 has focussed theoretical attention on three formation models: i) mass transfer in binary stars, ii) stellar collisions during dynamical encounters of multiple star systems, or iii) mergers of inner binaries in primordial triples driven by the Kozai mechanism.

A critical discriminant between these ideas are the secondary stars of the blue straggler binaries. The mass-transfer scenario predicts white dwarf companions, while the collision and merger scenarios predict main-sequence companions. Ground-based spectra do not detect secondary star light, suggesting white dwarfs or low-mass main-sequence stars. Far-UV observations will distinguish these two types of companions for young blue

stragglers in NGC 188.

We propose to obtain precise photometry in the ACS/SBC F140LP, F150LP and F165LP bandpasses for 20 blue stragglers in NGC 188. These observations can detect WD companions with high significance, and also provide initial temperature determinations.

Fifty years since their discovery, we still do not understand how blue stragglers form or evolve. The proposed observations can directly determine for the first time the origin of specific blue stragglers in a star cluster, and will be a definitive test of whether most blue stragglers form by mass transfer.

OBSERVING DESCRIPTION

We propose an ACS/SBC survey of 20 blue stragglers in the open cluster NGC 188, providing multi-band FUV photometry sufficiently sensitive to detect all WD companions with effective temperatures greater than 11,000 K.

Thirteen of the 20 blue stragglers are known long-period binary stars. Two more show low- amplitude velocity variations but are as yet without period determinations. The remaining 5 show no radial-velocity variation, and may be binary stars with periods longer than the current upper limit of 3000d for complete detection of radial-velocity variation (Geller et al. 2008, 2009). We do not propose to observe two short-period double-lined binary blue stragglers.

The rich population of blue stragglers in NGC 188 is an optimal sample to accomplish the goals of this proposal. Because of the large age of the cluster (7 Gyr; Sarajedini et al. 1999), the blue stragglers are cooler (5800 K – 6400 K) than in most open clusters, increasing the contrast of WD companions in the FUV. At the same time, NGC 188 is one of the nearest old star clusters; at 2 kpc WD companion fluxes are large enough for high significance detections.

We will implement derived narrow FUV bandpasses to aid our WD detection: F140N (=F140LP – F150LP) and F150N (=F150LP – F165LP), along with the F165LP bandpass. The narrow bandpasses help separate the flux contribution from the WD and the relatively cooler blue straggler. Hot WDs are easily detectable in F140N and F150N compared to a typical NGC 188 blue straggler, while a WD at 11,000 K nears the limit of detection in F150N.

A 0.5 solar mass WD with an effective temperature of 11,000 K has an age of 0.4 Gyr (Bergeron, Leggett, & Ruiz 2001). The increased yield in

detected WD companions with increasing sensitivity to older WDs remains substantial at this age – N-body models show almost half of the blue straggler population has an age of 0.4 Gyr or less. Thus our proposed integration times push to achieve significant narrow-band detections at the astrophysical limit of 11,000 K WD companions.

Specifically we propose, for each blue straggler, integrations of 34 minutes, 40 minutes, and 26 minutes in the F140LP, F150LP, and F165LP filters, respectively. These integration times yield a $S/N > 10$ in all three long-pass filters for an 11,000 K WD – cool blue straggler pair, and of course higher S/N for hotter WDs. The relative integration times are chosen to minimize the uncertainties in F150N and for the F140N – F150N color measurement, which is our diagnostic for determining WD temperature independent of WD radius. Including overheads these integrations fill 2 orbits of ACS/SBC FUV imaging for each of the 20 blue stragglers, for a total of 40 orbits.

The angular distances between the blue stragglers require imaging of each blue straggler in independent orbits. We propose 20 2-orbit visits for each target, providing complete photometry per visit. The first orbit will be used for F140LP and F165LP imaging, the second orbit for F150LP and completing the F165LP observation. These integration times allow straightforward and highly significant detections of WD companions with effective temperatures greater than 12,000 K, independent of the effective temperatures of the blue straggler primary stars.

WD companions as cool as 11,000 K can be detected (4-sigma) as excess fluxes in the F150N bandpass relative to the theoretically predicted fluxes of the 10 cooler (<6000K) blue stragglers. In these cases the detection depends on the accuracy of the extrapolation of theoretical spectra for the blue stragglers from the optical, arguably a concern for these anomalous stars. Fortunately, the dominance (86%) of the blue straggler light in the F165LP bandpass acts to our advantage as a FUV anchor on that extrapolation.

UBVRI photometry and intermediate-resolution optical spectra are in hand for all of the target blue stragglers. Near-UV observations are highly valuable for bridging the optical-FUV gap and constraining blue straggler temperatures and spectral energy distributions (Knigge et al. 2008). GALEX near-UV (2267 Å; 5% relative error) photometric data are available for 18 of the blue stragglers. We propose to observe the other 2 blue stragglers with WFC3/UVIS/218W to obtain near-UV photometry. Integrations for both blue stragglers will fill one additional orbit.

In summary, this plan of observations will permit us to i) detect at high significance WD companions with effective temperatures greater than 12,000 K around any of the 20 blue stragglers; ii) detect WD companions with temperatures as cool as 11,000 K around 10 of the 20 NGC 188 blue stragglers; and iii) make initial temperature determinations for all detected WD companions.

Proposal 12492 - Visit 01 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

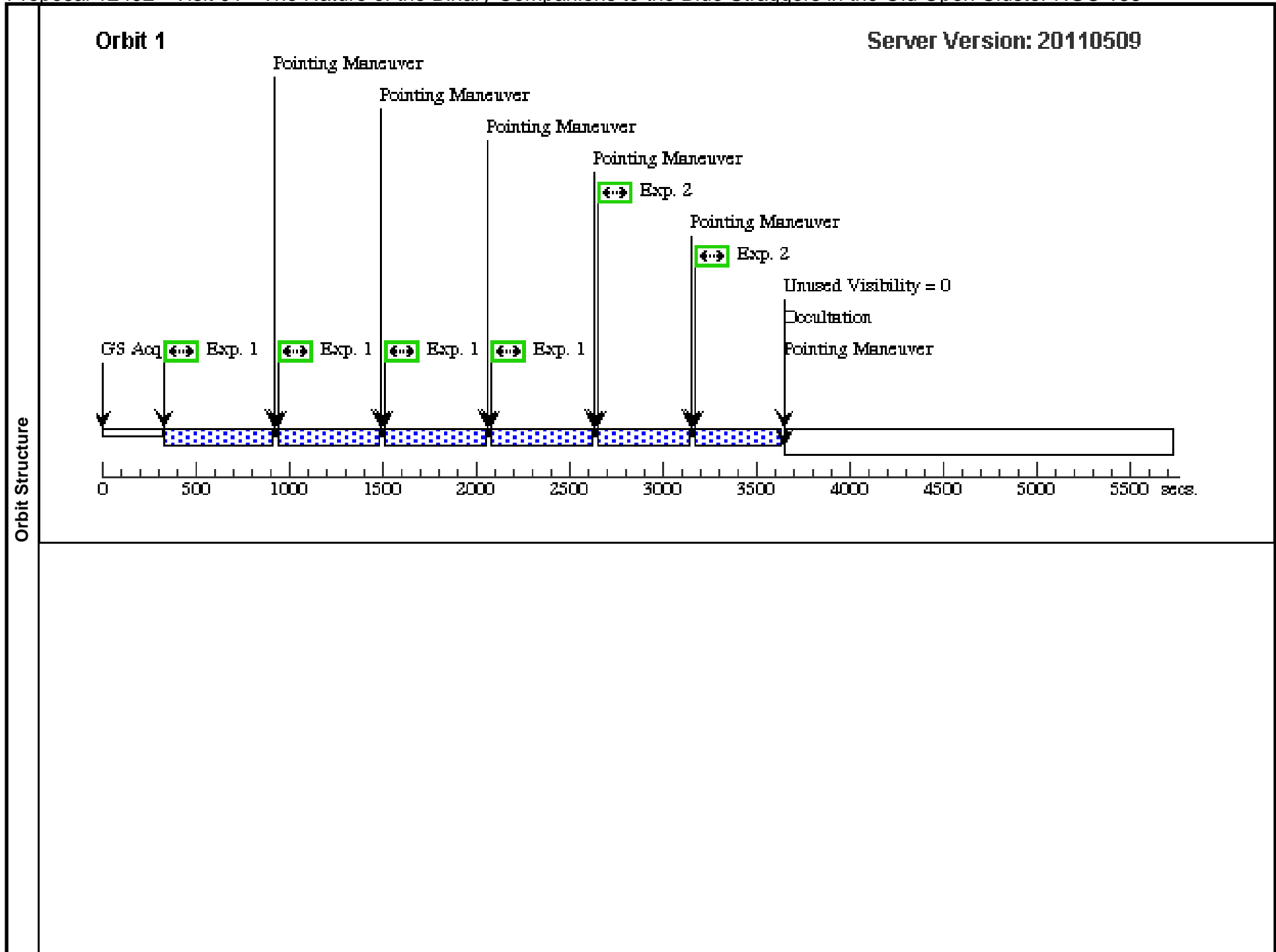
Wed Jun 29 02:09:26 GMT 2011

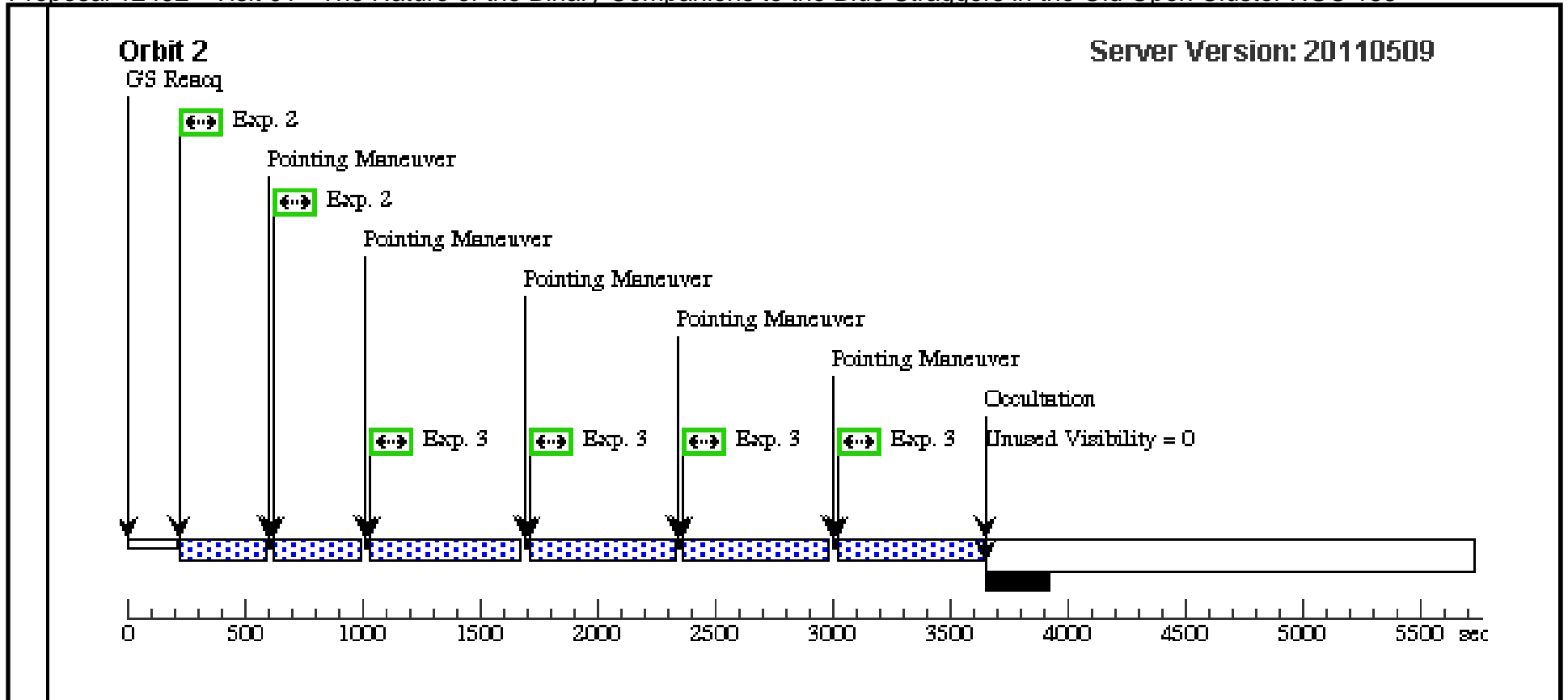
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	NGC188-003448+853227 Alt Name1: WOCS451	RA: 00 34 47.9480 (8.6997833d) Dec: +85 32 27.33 (85.54092d) Equinox: J2000	Proper Motion RA: -2.31 mas/yr Proper Motion Dec: +1.78 mas/yr Epoch of Position: 2000.0	V=13.88+/-0.02 B-V=0.604+/-0.028, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 01 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs451-140LP (179679)	(1) NGC188-003448 +853227	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 in Visit 01 (1)	510 Secs	
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								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate=8.56e4 counts/s - SAFE Global GALEX rate=3.24e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J003447.8+853227, AIS, NUV mag=18.4, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.76e-16</i></p>									
2	WOCs451-165LP (180149)	(1) NGC188-003448 +853227	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 in Visit 01 (1)	345 Secs	
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								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate=1.14e4 counts/s - SAFE Global GALEX rate=3.8e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J003447.8+853227, AIS, NUV mag=18.4, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.76e-16</i></p>									
3	WOCs451-150LP (179681)	(1) NGC188-003448 +853227	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 in Visit 01 (1)	595 Secs	
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								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate=4.55e4 counts/s - SAFE Global GALEX rate=1.13e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J003447.8+853227, AIS, NUV mag=18.4, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.76e-16</i></p>									

Exposures





Proposal 12492 - Visit 02 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

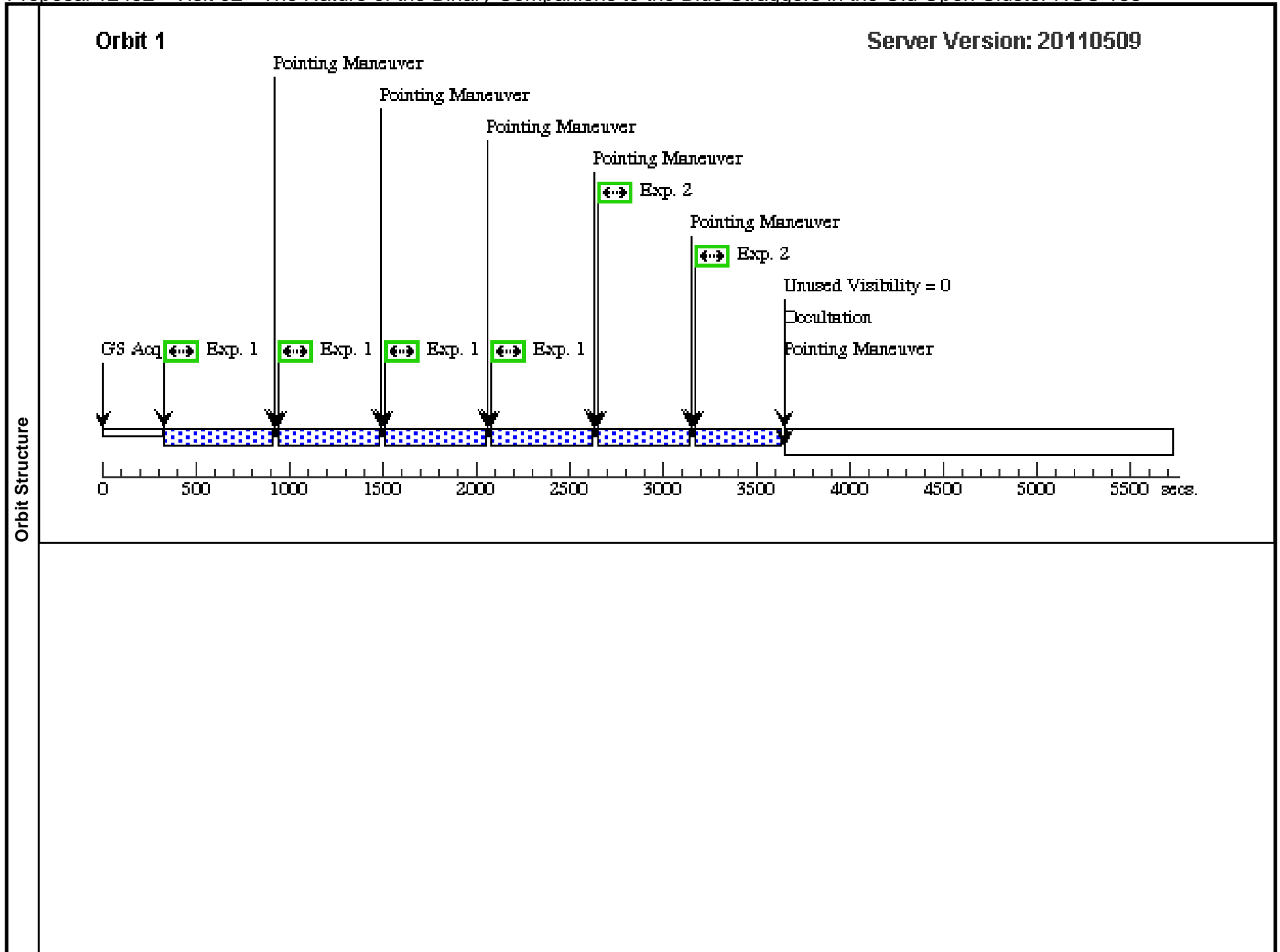
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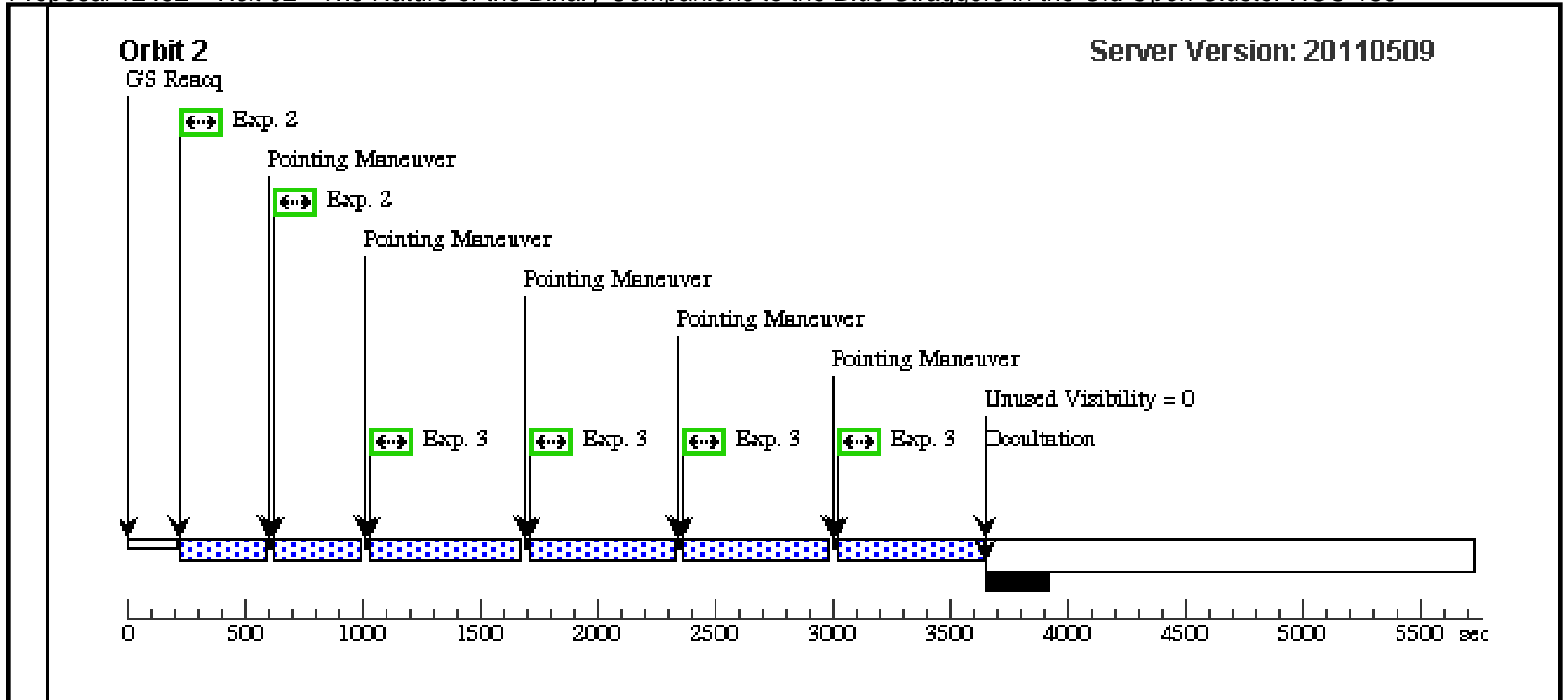
Visit	Proposal 12492, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 1888					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	NGC188-005431+853209 Alt Name1: WOCS1888	RA: 00 54 31.3510 (13.6306292d) Dec: +85 32 9.12 (85.53587d) Equinox: J2000	Proper Motion RA: -2.75 mas/yr Proper Motion Dec: +0.05 mas/yr Epoch of Position: 2000.0	V=14.84+/-0.015 B-V=0.552+/-0.021, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 02 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WCS1888 -140LP (179666)	(2) NGC188-005431 +853209	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 02 (1)	510 Secs	
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								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 3.38e4 counts/s - SAFE Global GALEX rate: 1.82e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005431.7+853208, AIS, NUV mag=19.4, not detected in FUV</i> SAFE in BOT, F-lambda=3.86e-16</p>									
2	WCS1888 -165LP (180154)	(2) NGC188-005431 +853209	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 02 (1)	345 Secs	
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<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.944e3 counts/s - SAFE Global GALEX rate: 1.91e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005431.7+853208, AIS, NUV mag=19.4, not detected in FUV</i> SAFE in BOT, F-lambda=3.86e-16</p>									
3	WCS1888 -150LP (179668)	(2) NGC188-005431 +853209	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 02 (1)	595 Secs	
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<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.79e4 counts/s - SAFE Global GALEX rate: 3.77e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005431.7+853208, AIS, NUV mag=19.4, not detected in FUV</i> SAFE in BOT, F-lambda=3.86e-16</p>									

Exposures





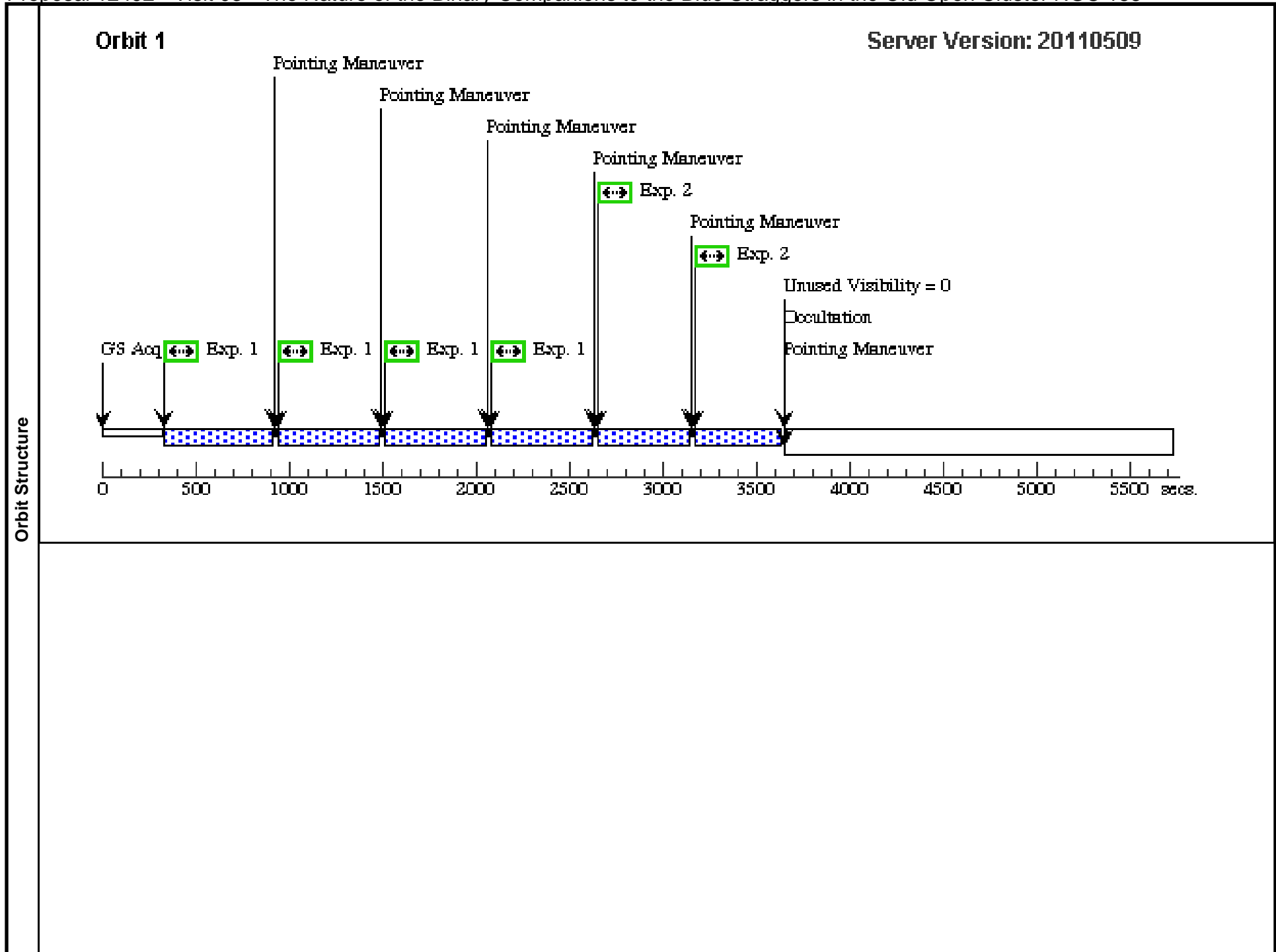
Proposal 12492 - Visit 03 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

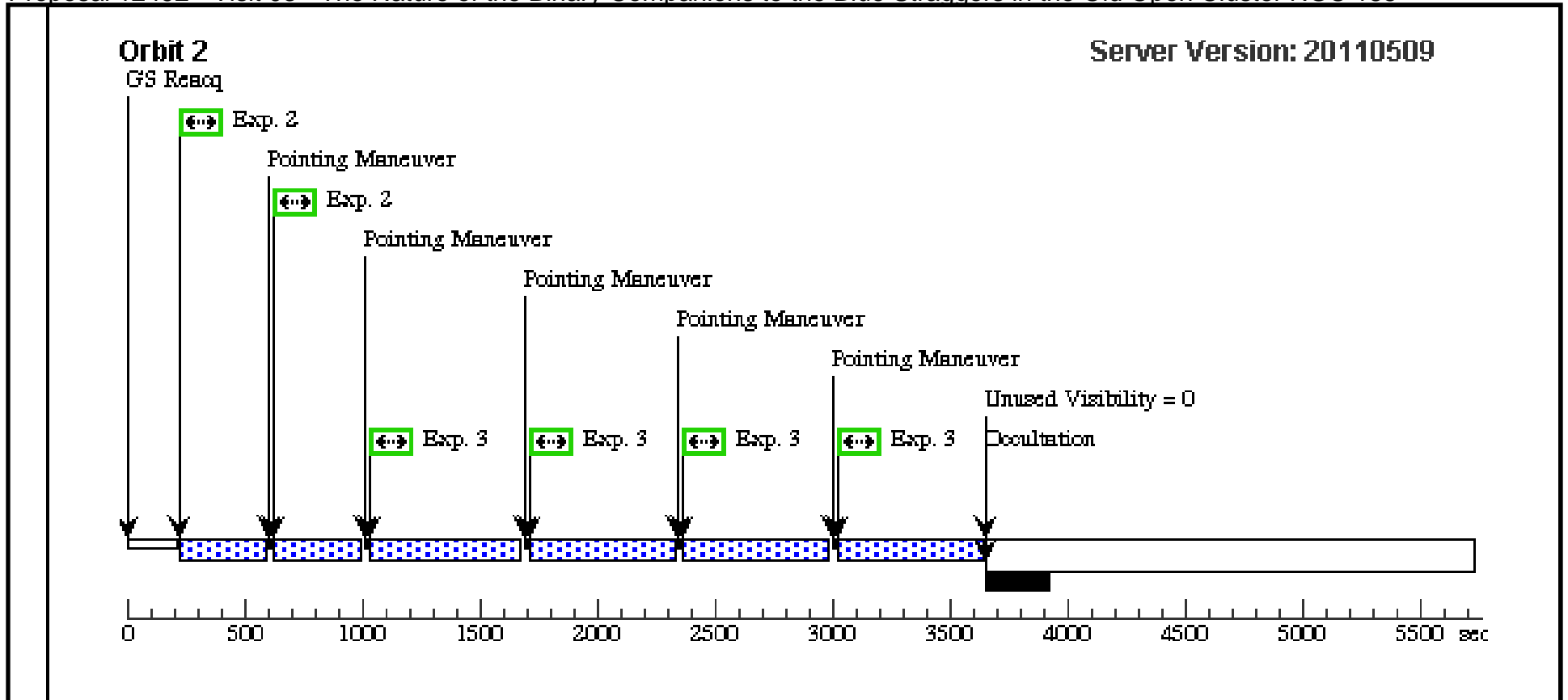
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Visit	Proposal 12492, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 2679					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	NGC188-002645+851836 Alt Name1: WOCS2679	RA: 00 26 44.6380 (6.6859917d) Dec: +85 18 35.94 (85.30998d) Equinox: J2000	Proper Motion RA: -0.96 mas/yr Proper Motion Dec: -0.42 mas/yr Epoch of Position: 2000.0	V=15.011+/-0.015 B-V=0.515+/-0.021, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 03 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs2679 -140LP (179692)	(3) NGC188-002645 +851836	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 03 (1)	510 Secs	
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								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.61e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.97e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J002643.5+851836, AIS, NUV mag=19.11, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.14e-16</i></p>									
2	WOCs2679 -165LP (181304)	(3) NGC188-002645 +851836	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 03 (1)	345 Secs	
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								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.29e1 counts/s - SAFE</i> <i>Global GALEX rate: 2.12e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J002643.5+851836, AIS, NUV mag=19.11, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.14e-16</i></p>									
3	WOCs2679 -150LP (179699)	(3) NGC188-002645 +851836	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 03 (1)	595 Secs	
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								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 8.52e3 counts/s - SAFE</i> <i>Global GALEX rate: 4.61e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J002643.5+851836, AIS, NUV mag=19.11, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.14e-16</i></p>									





Proposal 12492 - Visit 04 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

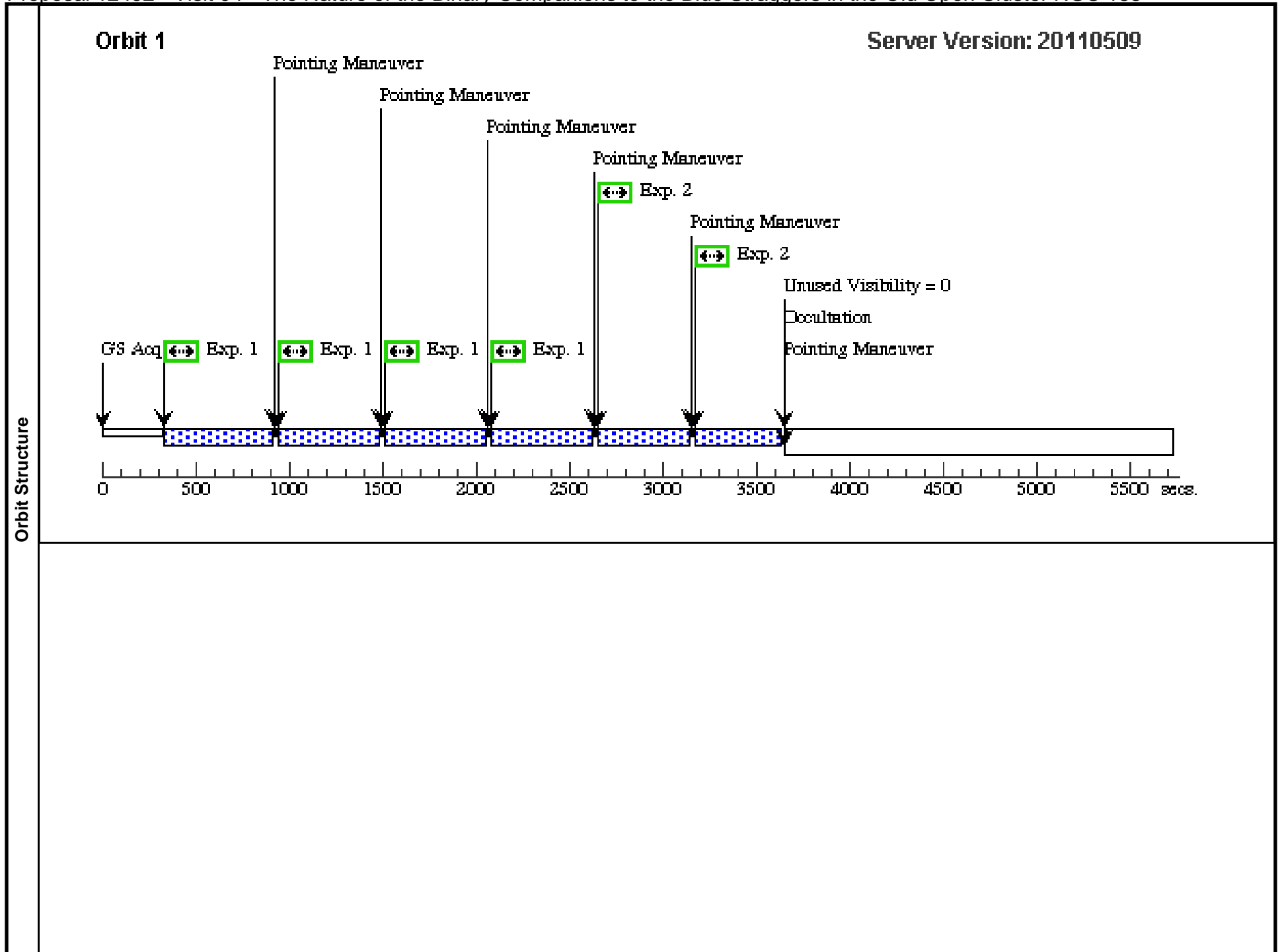
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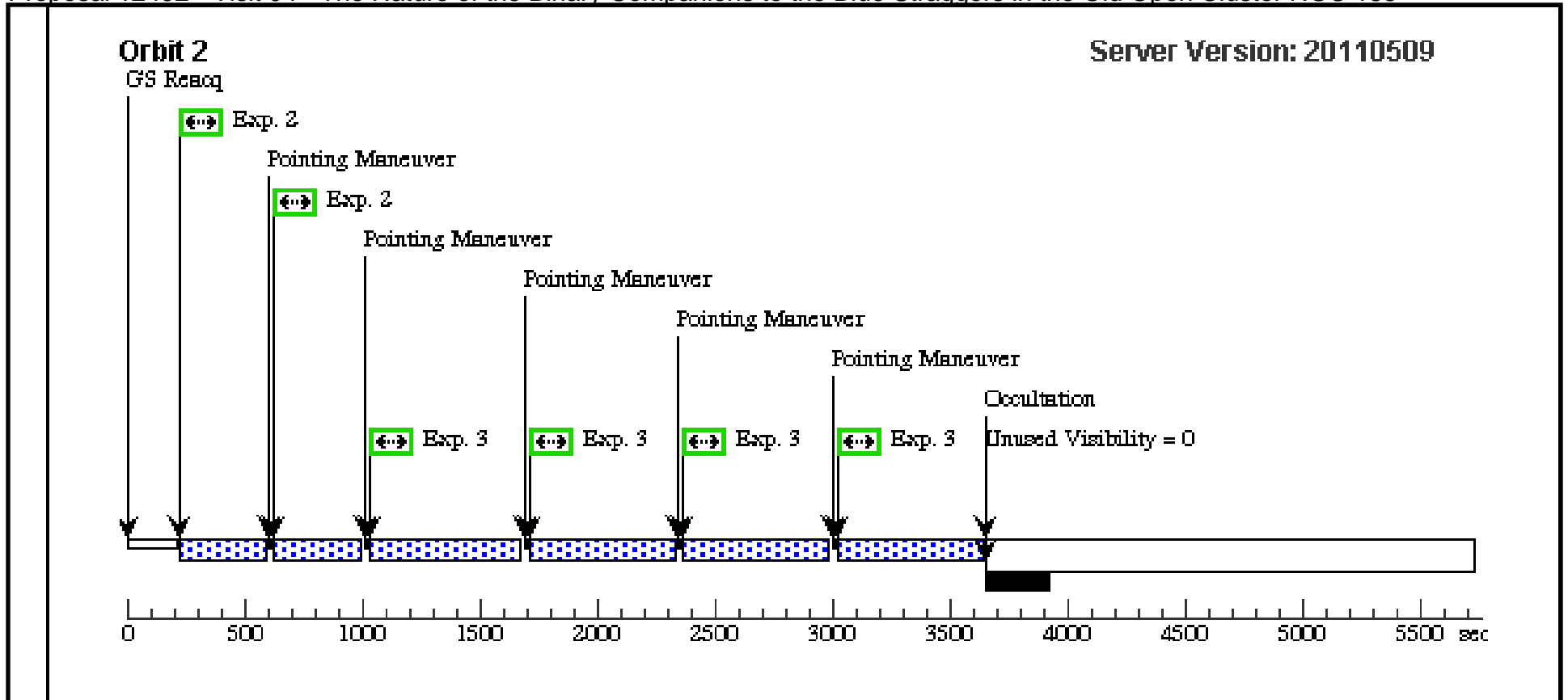
Visit	Proposal 12492, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4348					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	NGC188-004341+851317 Alt Name1: WOCS4348	RA: 00 43 41.4690 (10.9227875d) Dec: +85 13 17.28 (85.22147d) Equinox: J2000	Proper Motion RA: -3.14 mas/yr Proper Motion Dec: -0.28 mas/yr Epoch of Position: 2000.0	V=14.68+/-0.010 B-V=0.466+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 04 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs4348 -140LP (179703)	(4) NGC188-004341 +851317	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 04 (1)	510 Secs	
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								[==>(Pattern 2)]	
								[1]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.7 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.35e4 counts/s - SAFE Global GALEX rate: 2.66e2 counts/s - SAFE An unknown object in GSC2 appears as safe in GALEX</p> <p><i>Brightest GALEX object in field: GALEX J004342.5+851318, AIS, NUV mag=18.5, not detected in FUV SAFE in BOT, F-lambda=9.02e-16</i></p>									
2	WOCs4348 -165LP (181307)	(4) NGC188-004341 +851317	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 04 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	
								[==>437.0 Secs (Pattern 2)]	
								[1]	
								[2]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.7 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.23e3 counts/s - SAFE Global GALEX rate: 3.02e1 counts/s - SAFE An unknown object in GSC2 appears as safe in GALEX</p> <p><i>Brightest GALEX object in field: GALEX J004342.5+851318, AIS, NUV mag=18.5, not detected in FUV SAFE in BOT, F-lambda=9.02e-16</i></p>									
3	WOCs4348 -150LP (179708)	(4) NGC188-004341 +851317	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 04 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[2]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.7 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.18e4 counts/s - SAFE Global GALEX rate: 8.23e1 counts/s - SAFE An unknown object in GSC2 appears as safe in GALEX</p> <p><i>Brightest GALEX object in field: GALEX J004342.5+851318, AIS, NUV mag=18.5, not detected in FUV SAFE in BOT, F-lambda=9.02e-16</i></p>									

Exposures





Proposal 12492 - Visit 05 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

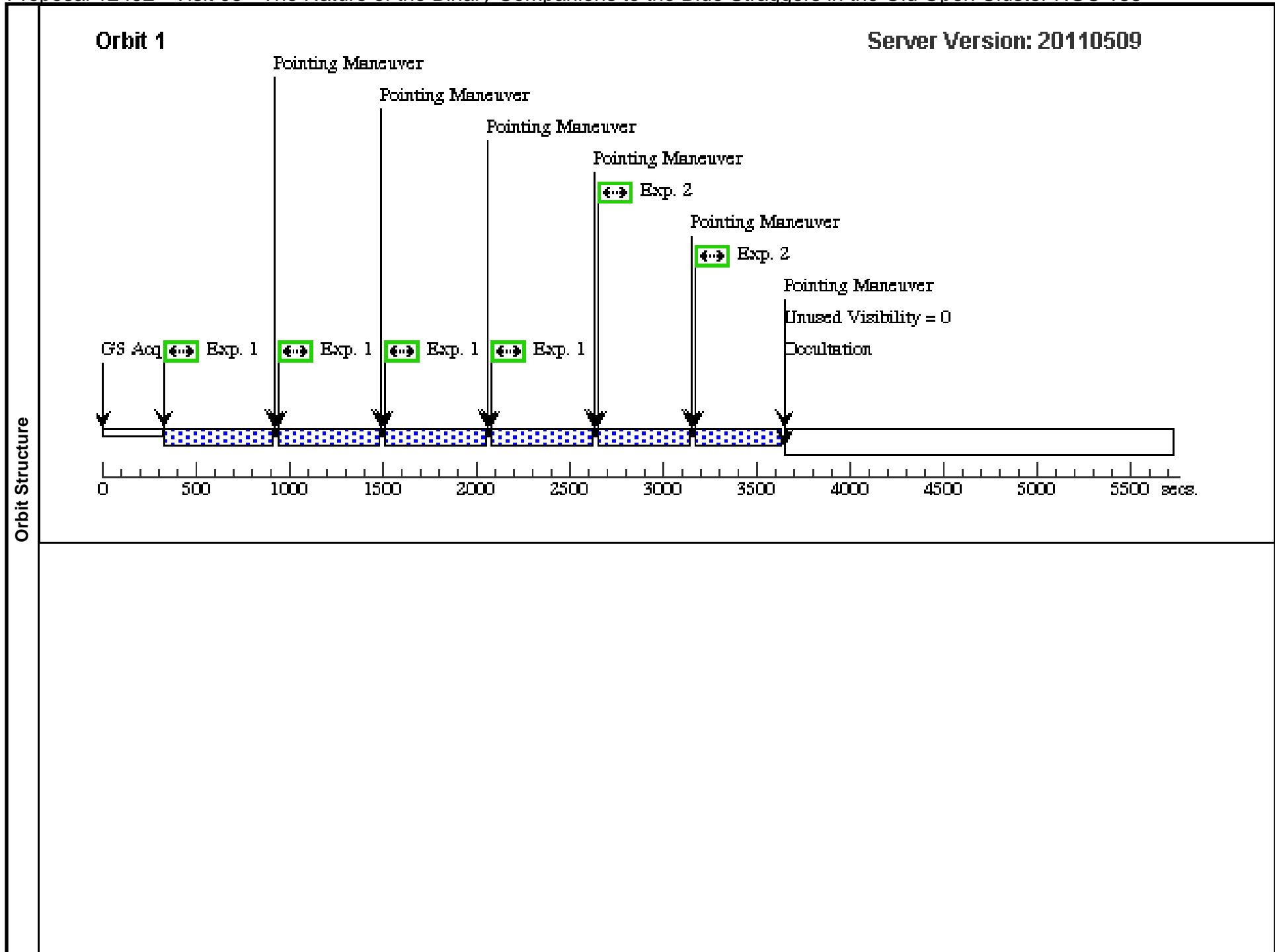
Wed Jun 29 02:09:29 GMT 2011

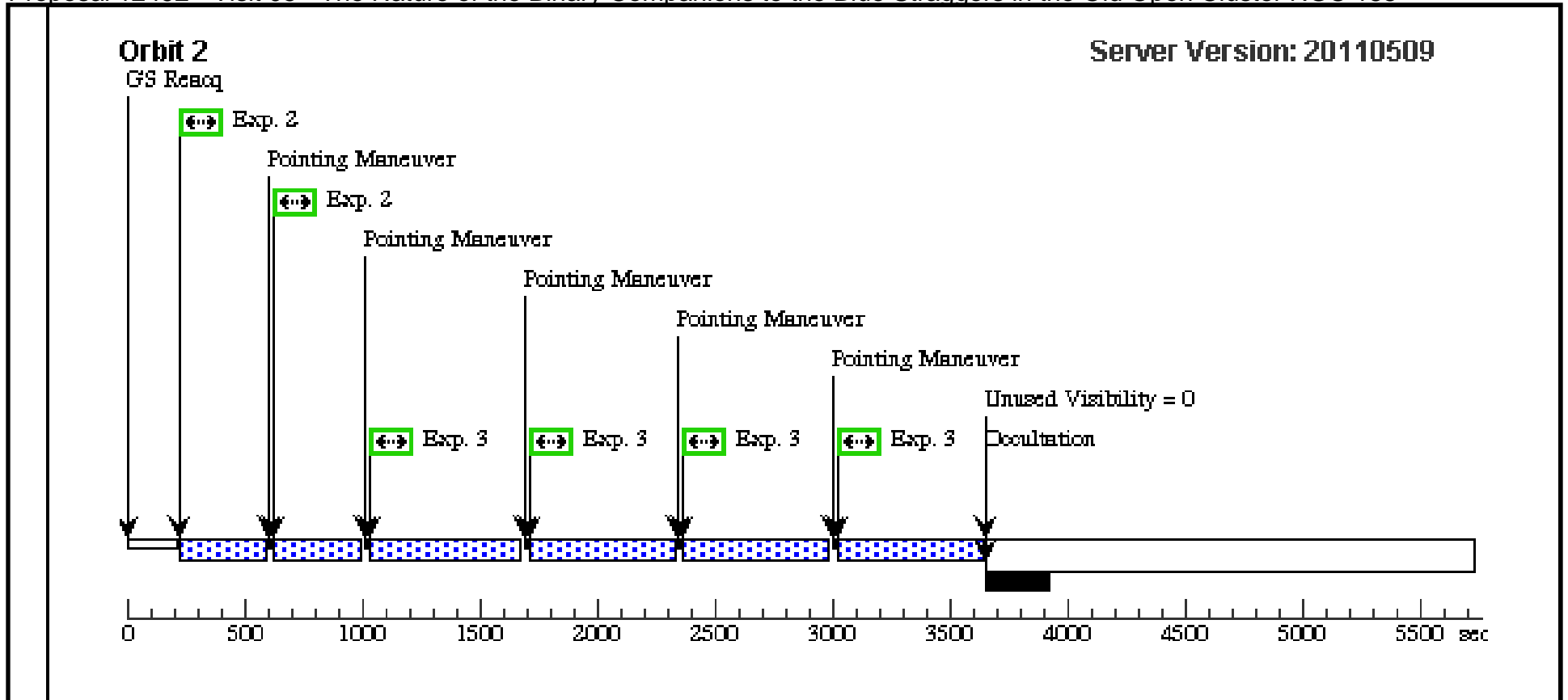
Visit	Proposal 12492, Visit 05 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4540					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	NGC188-004518+851920 Alt Name1: WOCS4540	RA: 00 45 18.2700 (11.3261250d) Dec: +85 19 19.85 (85.32218d) Equinox: J2000	Proper Motion RA: -1.89 mas/yr Proper Motion Dec: +0.49 mas/yr Epoch of Position: 2000.0	V=13.857+/-0.008 B-V=0.521+/-0.011, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 05 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs4540 -140LP (179710)	(5) NGC188-004518 +851920	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 05 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.83e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.41e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004518.1+851919, AIS, NUV mag=18.21, FUV mag=21.97</i> <i>SAFE in BOT, F-lambda=7.7e-17</i></p>									
2	WOCs4540 -165LP (181312)	(5) NGC188-004518 +851920	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 05 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 3.79e3 counts/s - SAFE</i> <i>Global GALEX rate: 1.35e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004518.1+851919, AIS, NUV mag=18.21, FUV mag=21.97</i> <i>SAFE in BOT, F-lambda=7.7e-17</i></p>									
3	WOCs4540 -150LP (179715)	(5) NGC188-004518 +851920	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 05 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.50e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.57e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004518.1+851919, AIS, NUV mag=18.21, FUV mag=21.97</i> <i>SAFE in BOT, F-lambda=7.7e-17</i></p>									

Exposures





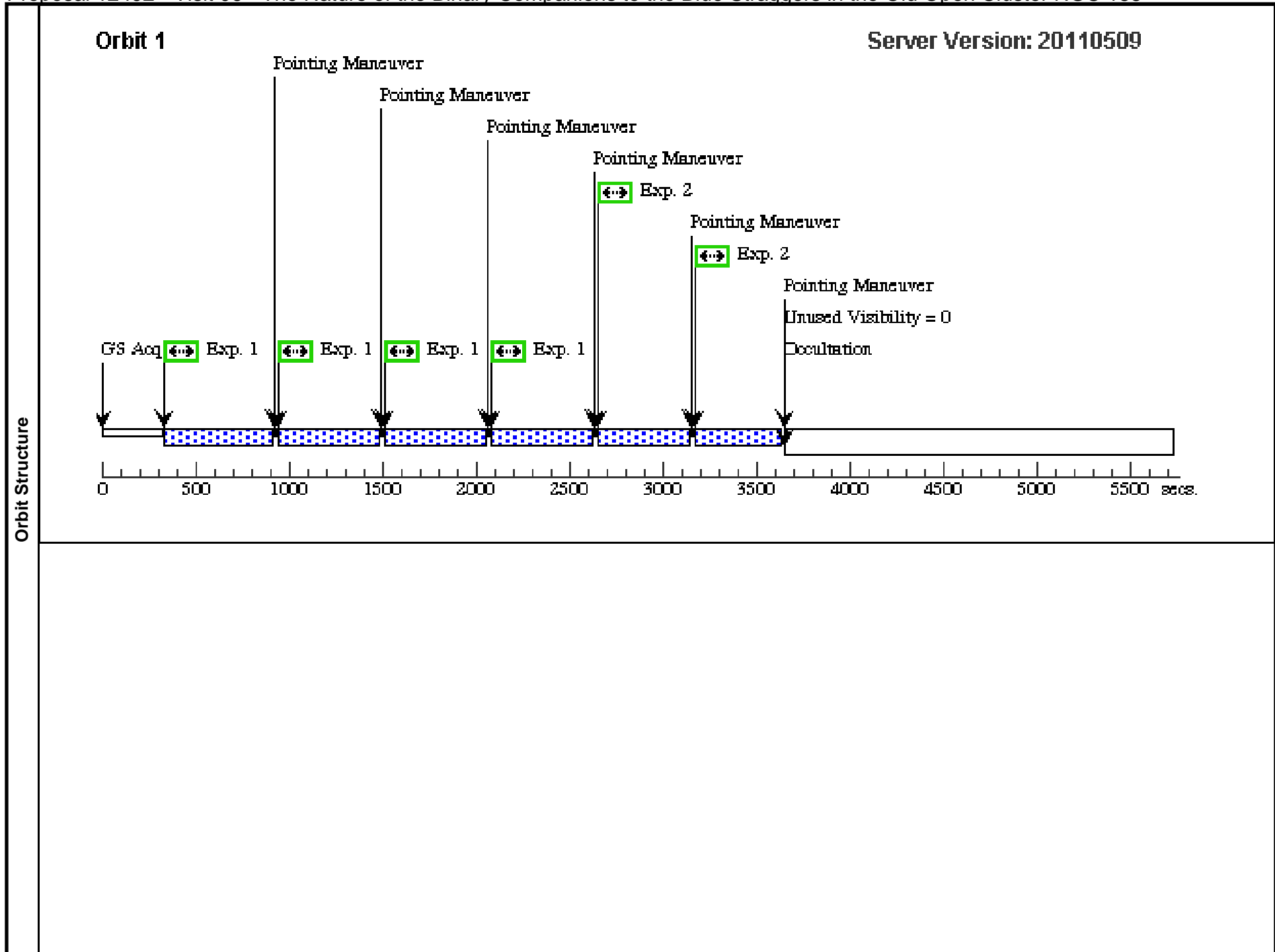
Proposal 12492 - Visit 06 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

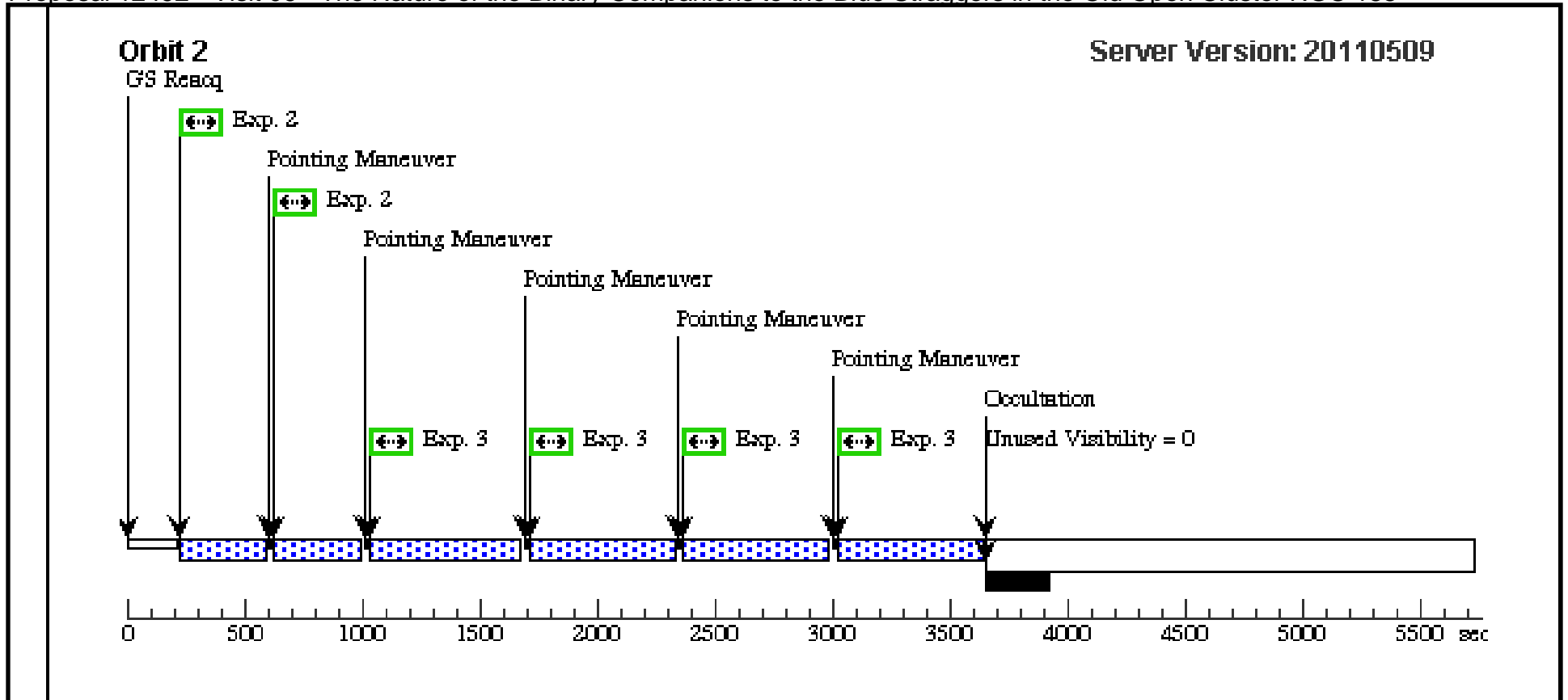
Wed Jun 29 02:09:30 GMT 2011

Visit	Proposal 12492, Visit 06 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4581					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	NGC188-004557+851730 Alt Name1: WOCS4581	RA: 00 45 56.6340 (11.4859750d) Dec: +85 17 29.66 (85.29157d) Equinox: J2000	Proper Motion RA: -2.50 mas/yr Proper Motion Dec: +0.20 mas/yr Epoch of Position: 2000.0	V=14.147+/-0.007 B-V=0.536+/-0.010, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 06 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WCS4581 -140LP (179719)	(6) NGC188-004557 +851730	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 i n Visit 06 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.1 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.18e4 counts/s - SAFE Global GALEX rate: 2.76e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004556.6+851729, AIS, NUV mag=18.52, not detected in FUV SAFE in BOT, F-lambda=8.83e-16</i></p>									
	2	WCS4581 -165LP (181313)	(6) NGC188-004557 +851730	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 i n Visit 06 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.1 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.86e3 counts/s - SAFE Global GALEX rate: 3.16e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004556.6+851729, AIS, NUV mag=18.52, not detected in FUV SAFE in BOT, F-lambda=8.83e-16</i></p>									
	3	WCS4581 -150LP (179726)	(6) NGC188-004557 +851730	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 i n Visit 06 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.1 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.07e4 counts/s - SAFE Global GALEX rate: 8.76e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004556.6+851729, AIS, NUV mag=18.52, not detected in FUV SAFE in BOT, F-lambda=8.83e-16</i></p>										





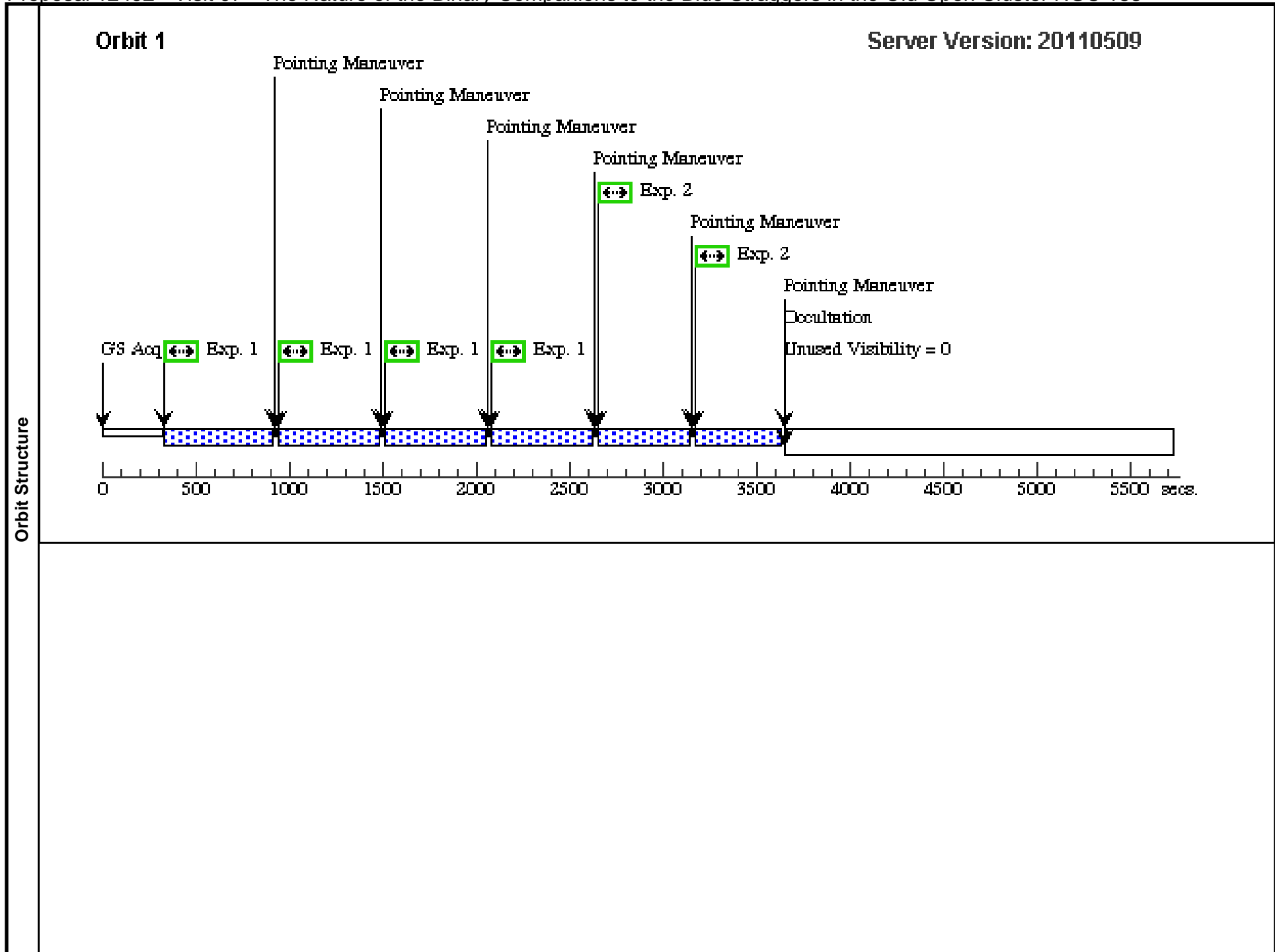
Proposal 12492 - Visit 07 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

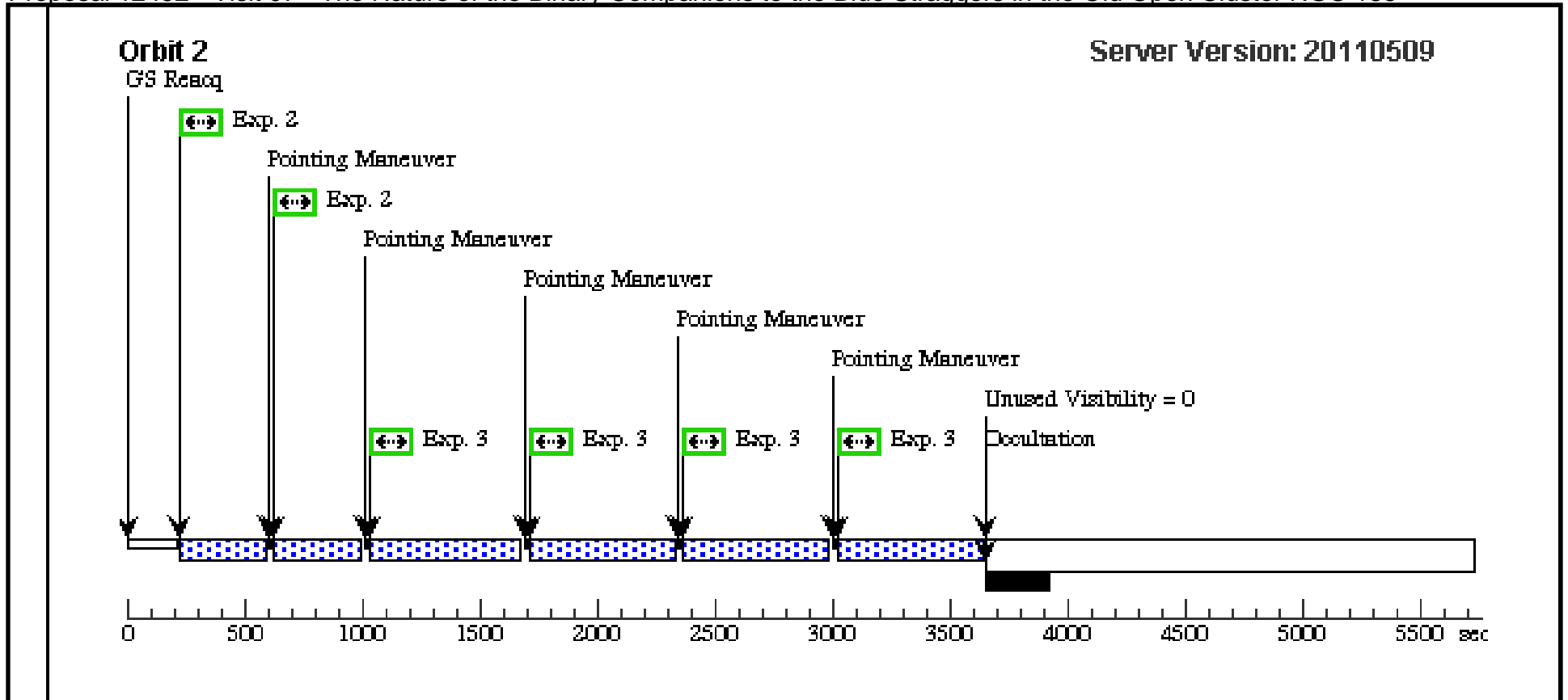
Wed Jun 29 02:09:30 GMT 2011

Visit	Proposal 12492, Visit 07 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4589					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	NGC188-004623+851713 Alt Name1: WOCS4589	RA: 00 46 22.9870 (11.5957792d) Dec: +85 17 13.46 (85.28707d) Equinox: J2000	Proper Motion RA: -2.54 mas/yr Proper Motion Dec: +0.16 mas/yr Epoch of Position: 2000.0	V=14.995+/-0.009 B-V=0.595+/-0.013, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 07 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WOCs4589 -140LP (179929)	(7) NGC188-004623 +851713	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 in Visit 07 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.99e4 counts/s - SAFE Global GALEX rate: 1.99e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004622.8+851713, AIS, NUV mag=19.85, not detected in FUV SAFE in BOT, F-lambda=2.6e-16</i></p>									
	2	WOCs4589 -165LP (181316)	(7) NGC188-004623 +851713	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 in Visit 07 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.29e1 counts/s - SAFE Global GALEX rate: 2.13e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004622.8+851713, AIS, NUV mag=19.85, not detected in FUV SAFE in BOT, F-lambda=2.6e-16</i></p>									
3	WOCs4589 -150LP (179933)	(7) NGC188-004623 +851713	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 in Visit 07 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]		
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.43e4 counts/s - SAFE Global GALEX rate: 4.67e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004622.8+851713, AIS, NUV mag=19.85, not detected in FUV SAFE in BOT, F-lambda=2.6e-16</i></p>										





Proposal 12492 - Visit 08 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

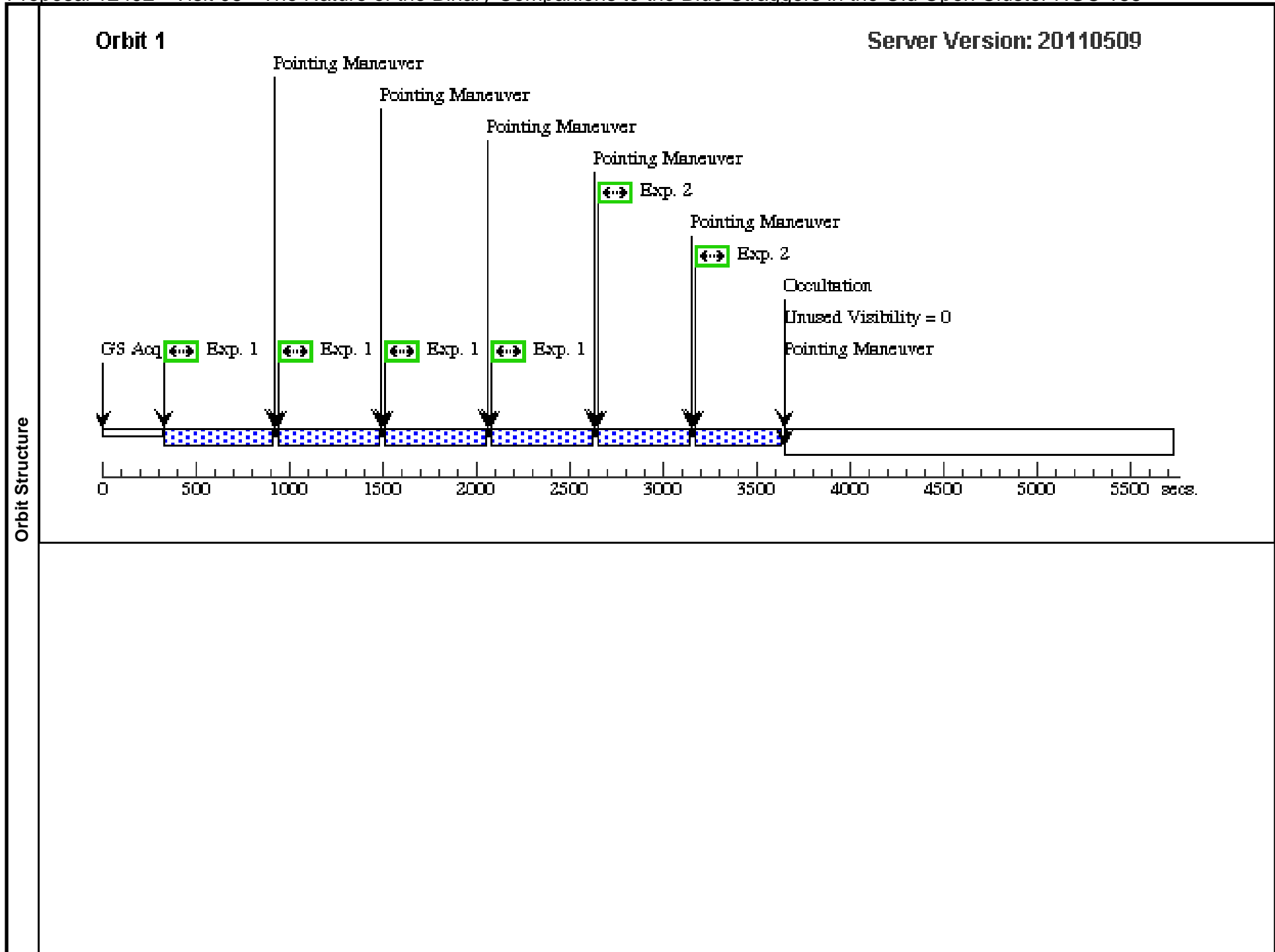
Wed Jun 29 02:09:31 GMT 2011

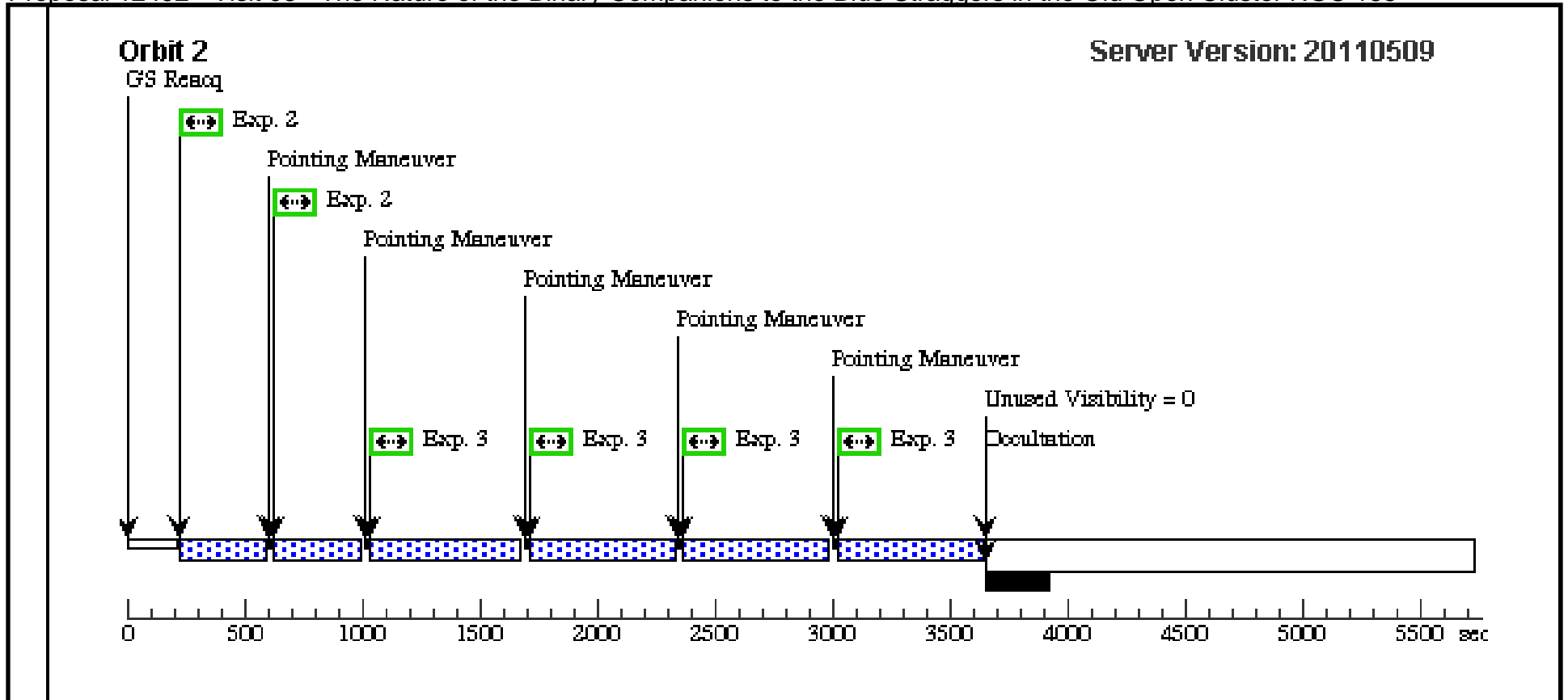
Visit	Proposal 12492, Visit 08 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4970					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(8)	NGC188-004713+851640 Alt Name1: WOCS4970	RA: 00 47 13.3210 (11.8055042d) Dec: +85 16 39.87 (85.27774d) Equinox: J2000	Proper Motion RA: -2.91 mas/yr Proper Motion Dec: +0.00 mas/yr Epoch of Position: 2000.0	V=14.524+/-0.008 B-V=0.622+/-0.011, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 08 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs4970 -140LP (179935)	(8) NGC188-004713 +851640	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 08 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.5 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</p> <p>BOT results: Global GSC2 rate: 4.95e4 counts/s - SAFE Global GALEX rate: 2.00e2 counts/s - SAFE</p> <p>Brightest GALEX object in field: GALEX J004713.1+851640, AIS, NUV mag=19.7, not detected in FUV SAFE in BOT, F-lambda=2.99e-16</p>									
2	WOCs4970 -165LP (181320)	(8) NGC188-004713 +851640	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 08 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.5 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</p> <p>BOT results: Global GSC2 rate: 4.00e3 counts/s - SAFE Global GALEX rate: 2.15e1 counts/s - SAFE</p> <p>Brightest GALEX object in field: GALEX J004713.1+851640, AIS, NUV mag=19.7, not detected in FUV SAFE in BOT, F-lambda=2.99e-16</p>									
3	WOCs4970 -150LP (179939)	(8) NGC188-004713 +851640	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 08 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.5 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</p> <p>BOT results: Global GSC2 rate: 2.29e4 counts/s - SAFE Global GALEX rate: 4.75e1 counts/s - SAFE</p> <p>Brightest GALEX object in field: GALEX J004713.1+851640, AIS, NUV mag=19.7, not detected in FUV SAFE in BOT, F-lambda=2.99e-16</p>									

Exposures





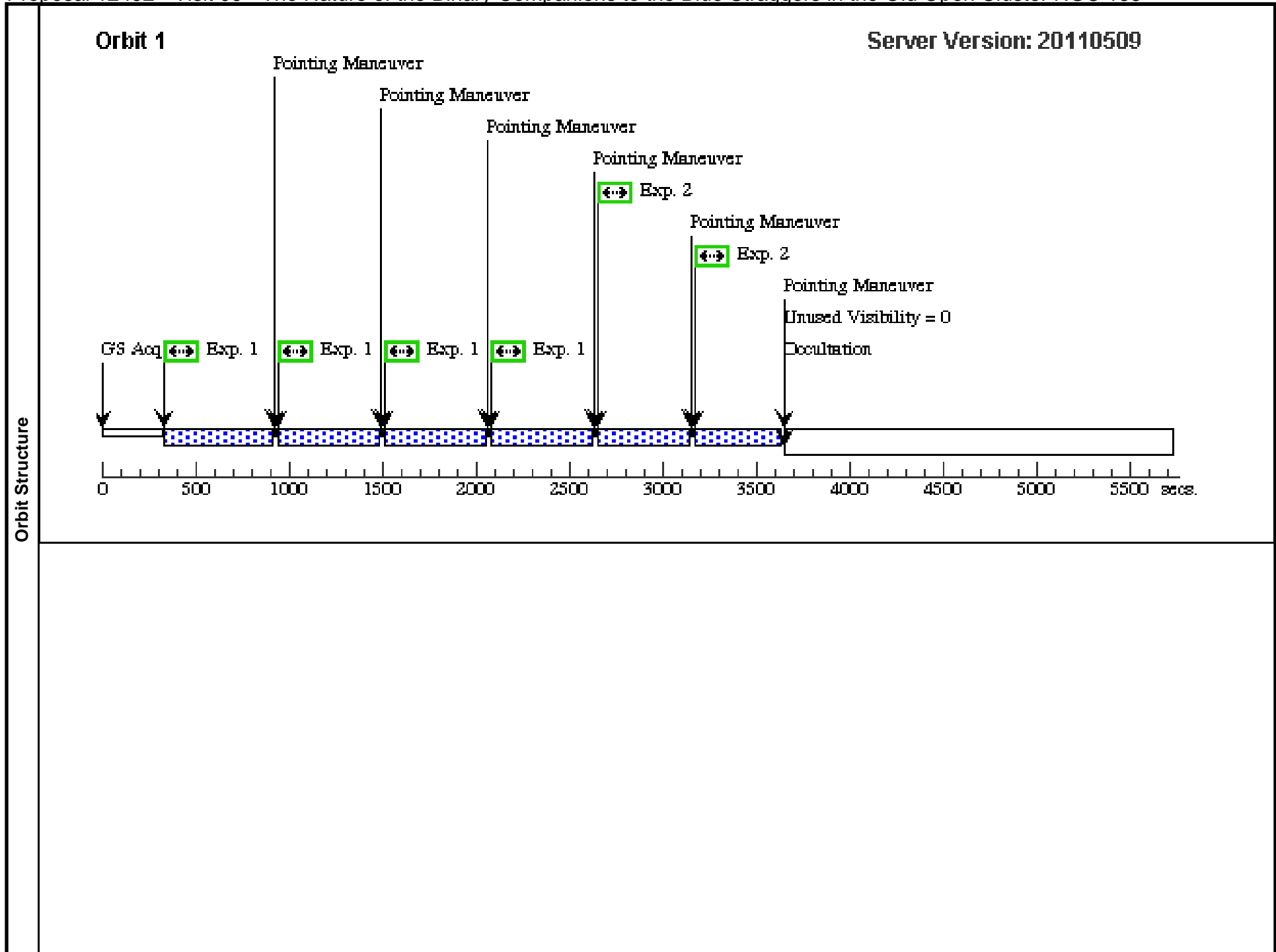
Proposal 12492 - Visit 09 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

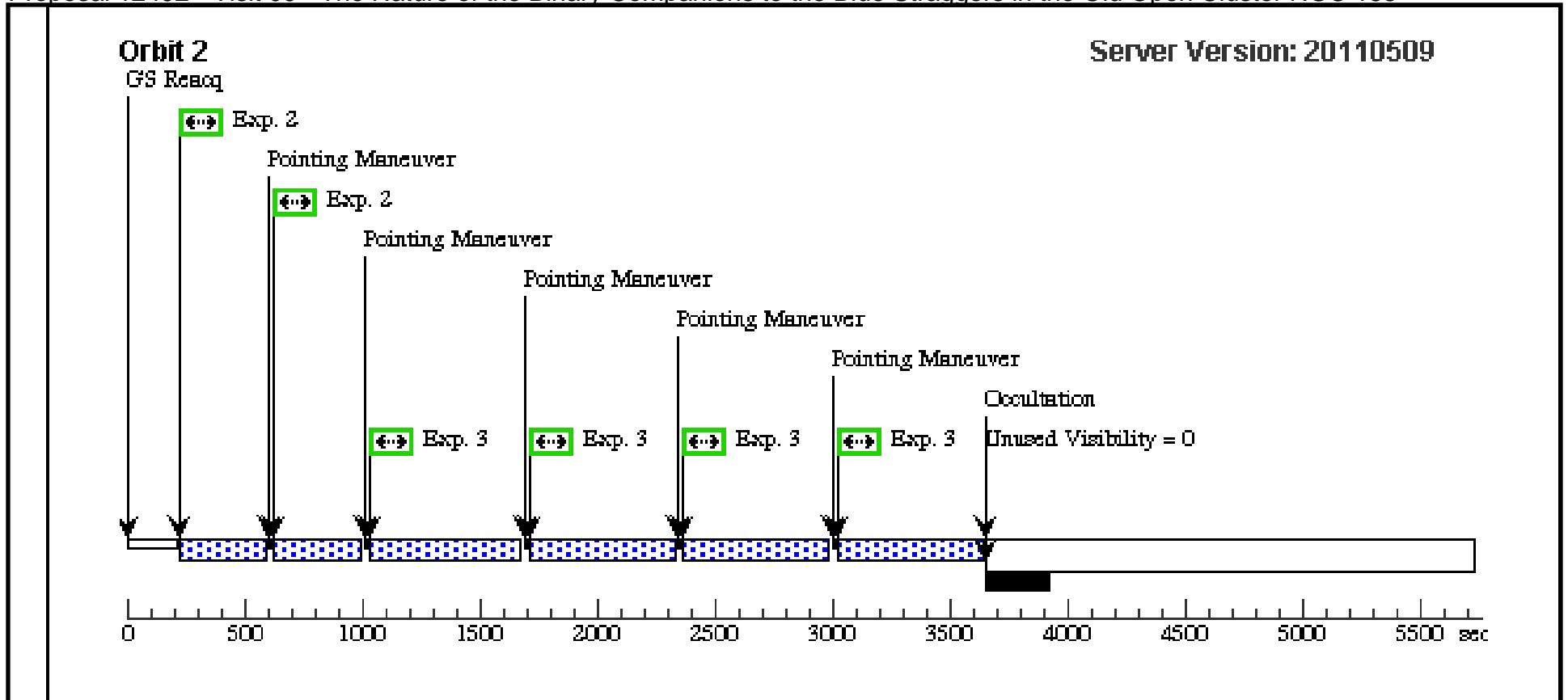
Wed Jun 29 02:09:32 GMT 2011

Visit	Proposal 12492, Visit 09 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5325					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	NGC188-004937+851639 Alt Name1: WOCS5325	RA: 00 49 36.8580 (12.4035750d) Dec: +85 16 38.85 (85.27746d) Equinox: J2000	Proper Motion RA: -2.68 mas/yr Proper Motion Dec: +0.40 mas/yr Epoch of Position: 2000.0	V=14.978+/-0.01 B-V=0.605+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 09 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WOC5325 -140LP (179941)	(9) NGC188-004937 +851639	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 in Visit 09 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.54e4 counts/s - SAFE Global GALEX rate: 1.89e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004936.7+851638, AIS, NUV mag=19.82, not detected in FUV SAFE in BOT, F-lambda=2.66e-16</i></p>									
	2	WOC5325 -165LP (181337)	(9) NGC188-004937 +851639	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 in Visit 09 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.29e1 counts/s - SAFE Global GALEX rate: 2.00e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004936.7+851638, AIS, NUV mag=19.82, not detected in FUV SAFE in BOT, F-lambda=2.66e-16</i></p>									
3	WOC5325 -150LP (179946)	(9) NGC188-004937 +851639	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 in Visit 09 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]		
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.9 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 8.15e3 counts/s - SAFE Global GALEX rate: 4.13e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004936.7+851638, AIS, NUV mag=19.82, not detected in FUV SAFE in BOT, F-lambda=2.66e-16</i></p>										





Proposal 12492 - Visit 10 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

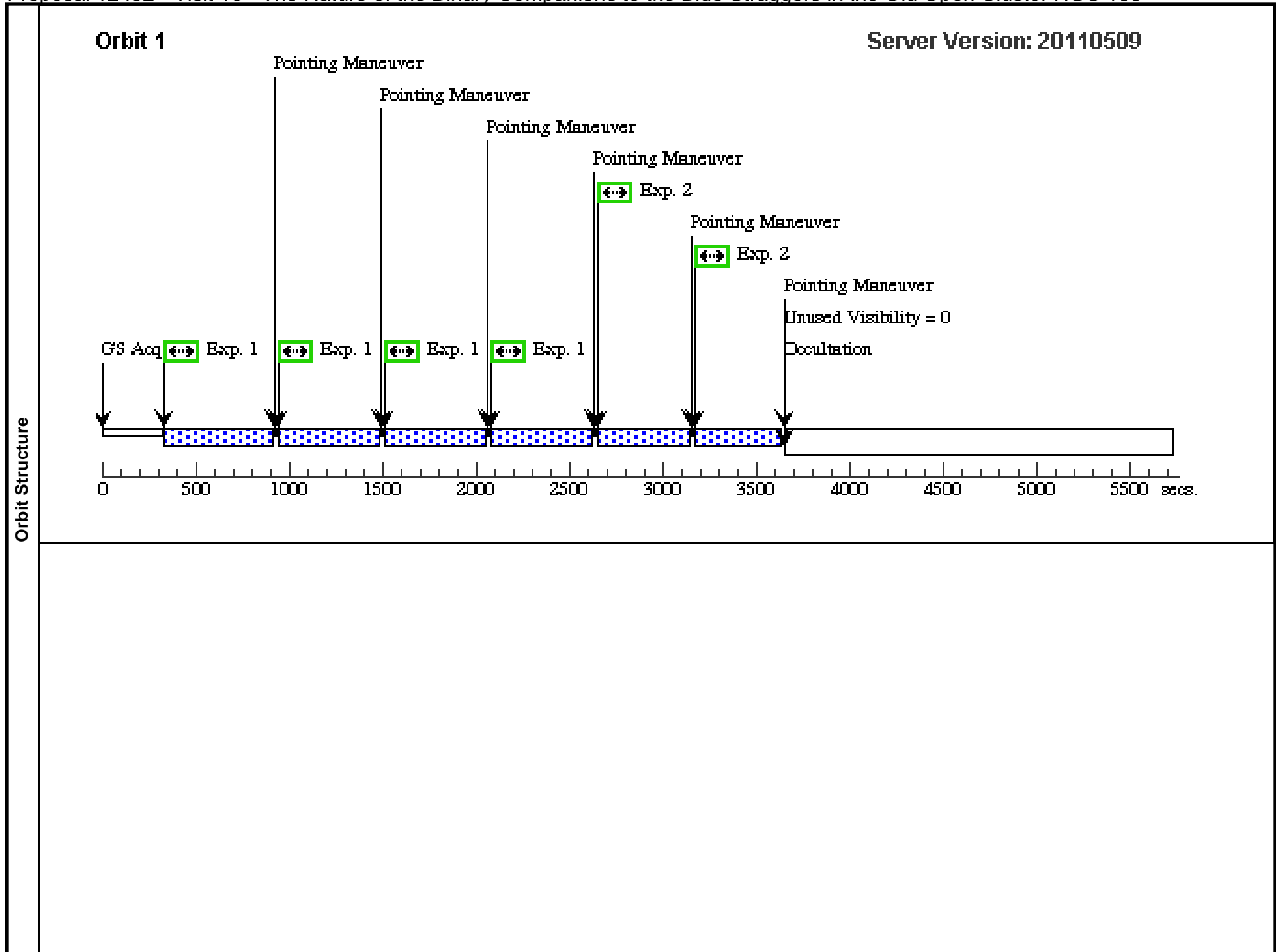
Wed Jun 29 02:09:32 GMT 2011

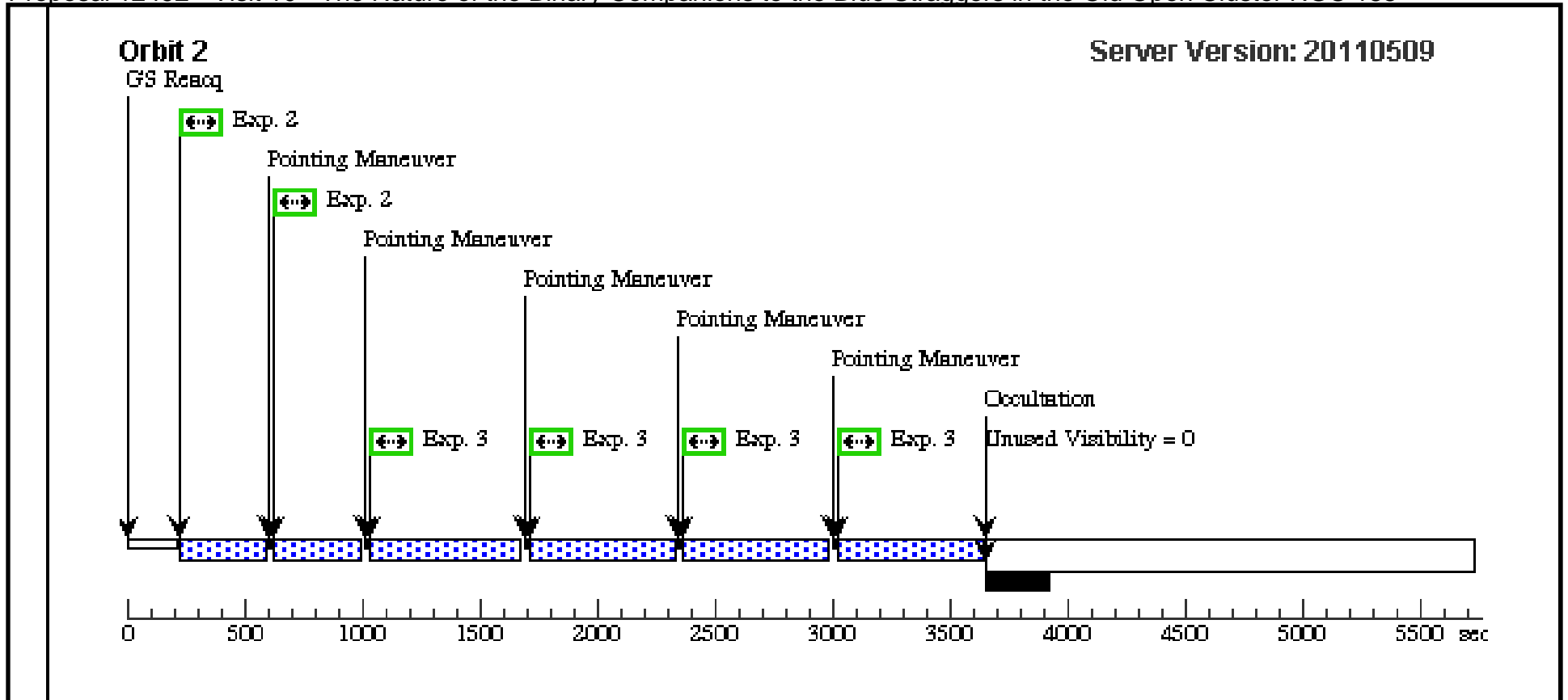
Visit	Proposal 12492, Visit 10 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5350					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(10)	NGC188-004903+851525 Alt Name1: WOCS5350	RA: 00 49 3.2580 (12.2635750d) Dec: +85 15 25.19 (85.25700d) Equinox: J2000	Proper Motion RA: -3.13 mas/yr Proper Motion Dec: -0.28 mas/yr Epoch of Position: 2000.0	V=13.453+/-0.009 B-V=0.495+/-0.013, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 10 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOC5350 -140LP (179948)	(10) NGC188-00490 3+851525	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 10 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.4 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 4.44e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.44e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004903.1+851524, AIS, NUV mag=17.67, FUV mag=22.01</i> <i>SAFE in BOT, F-lambda=7.41e-17</i></p>									
2	WOC5350 -165LP (181338)	(10) NGC188-00490 3+851525	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 10 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.4 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 5.56e3 counts/s - SAFE</i> <i>Global GALEX rate: 1.40e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004903.1+851524, AIS, NUV mag=17.67, FUV mag=22.01</i> <i>SAFE in BOT, F-lambda=7.41e-17</i></p>									
3	WOC5350 -150LP (179952)	(10) NGC188-00490 3+851525	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 10 (1)	595 Secs	
								[==>(Pattern 1)]	[2]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.4 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.20e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.78e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004903.1+851524, AIS, NUV mag=17.67, FUV mag=22.01</i> <i>SAFE in BOT, F-lambda=7.41e-17</i></p>									

Exposures





Proposal 12492 - Visit 11 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

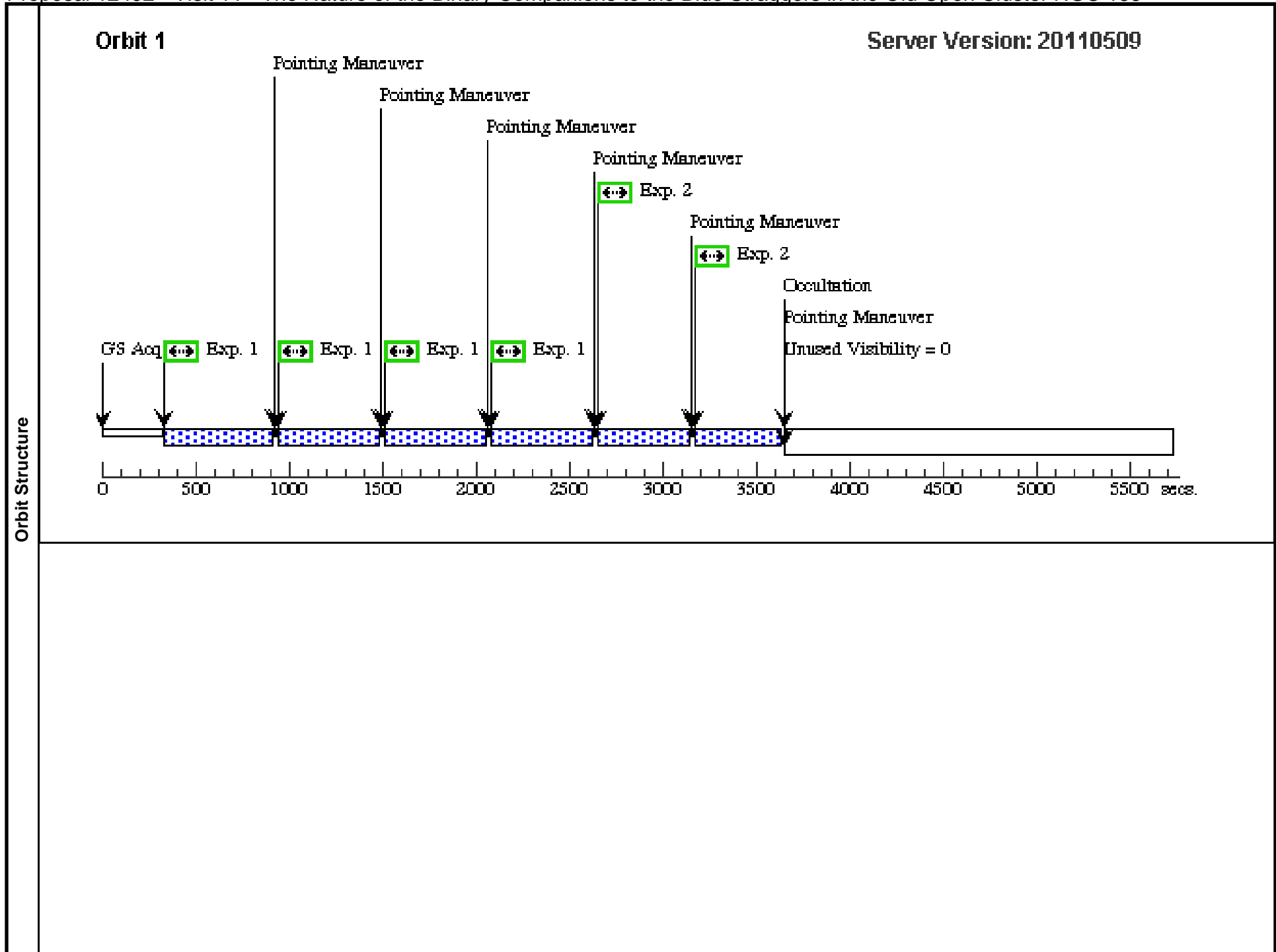
Wed Jun 29 02:09:33 GMT 2011

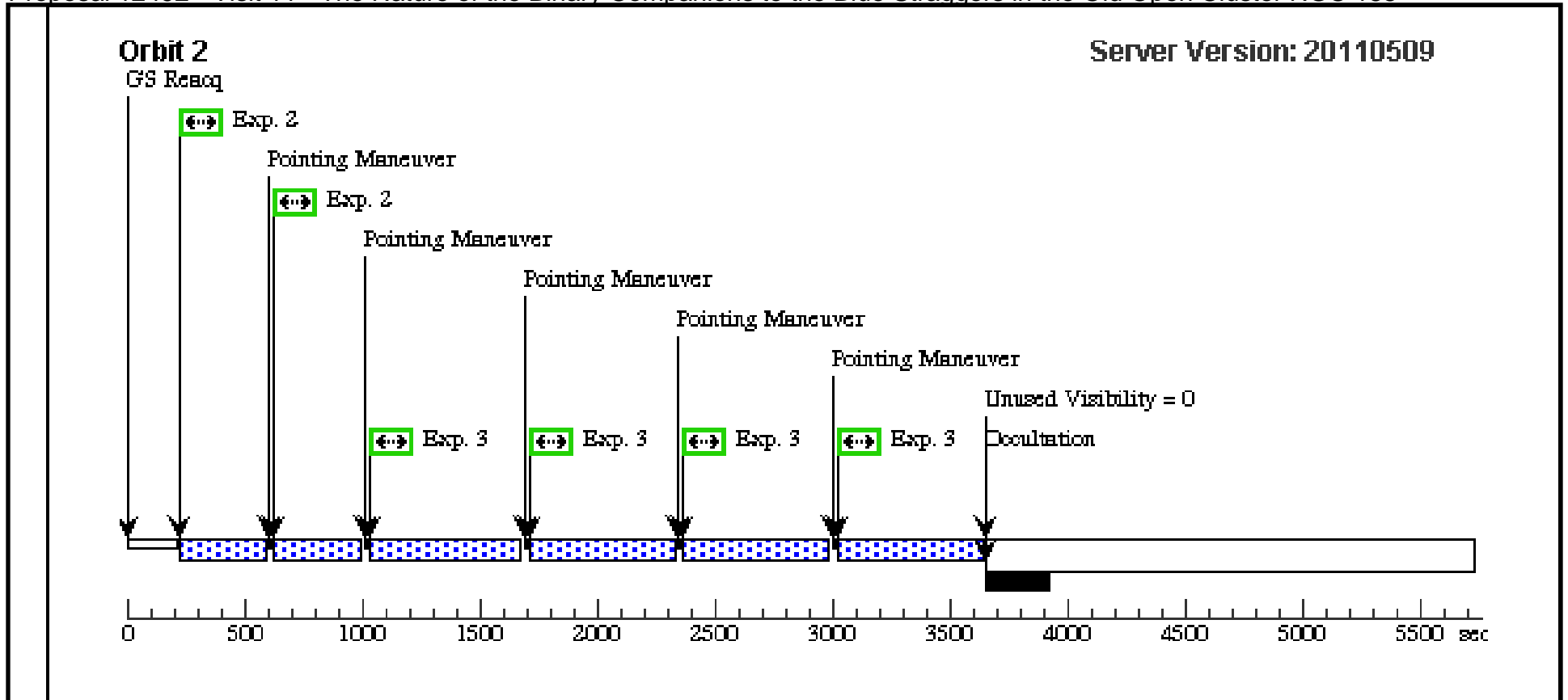
Visit	Proposal 12492, Visit 11 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5379					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(11)	NGC188-005011+851438 Alt Name1: WOCS5379	RA: 00 50 10.7920 (12.5449667d) Dec: +85 14 38.08 (85.24391d) Equinox: J2000	Proper Motion RA: -2.40 mas/yr Proper Motion Dec: +0.24 mas/yr Epoch of Position: 2000.0	V=15.372+/-0.01 B-V=0.570+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 11 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOC5379 -140LP (179979)	(11) NGC188-00501 1+851438	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 11 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.19e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.86e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005010.9+851437, AIS, NUV mag=19.89, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.49e-16</i></p>									
2	WOC5379 -165LP (181339)	(11) NGC188-00501 1+851438	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 11 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.29e1 counts/s - SAFE</i> <i>Global GALEX rate: 1.96e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005010.9+851437, AIS, NUV mag=19.89, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.49e-16</i></p>									
3	WOC5379 -150LP (179983)	(11) NGC188-00501 1+851438	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 11 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.16e4 counts/s - SAFE</i> <i>Global GALEX rate: 4.00e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005010.9+851437, AIS, NUV mag=19.89, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.49e-16</i></p>									

Exposures





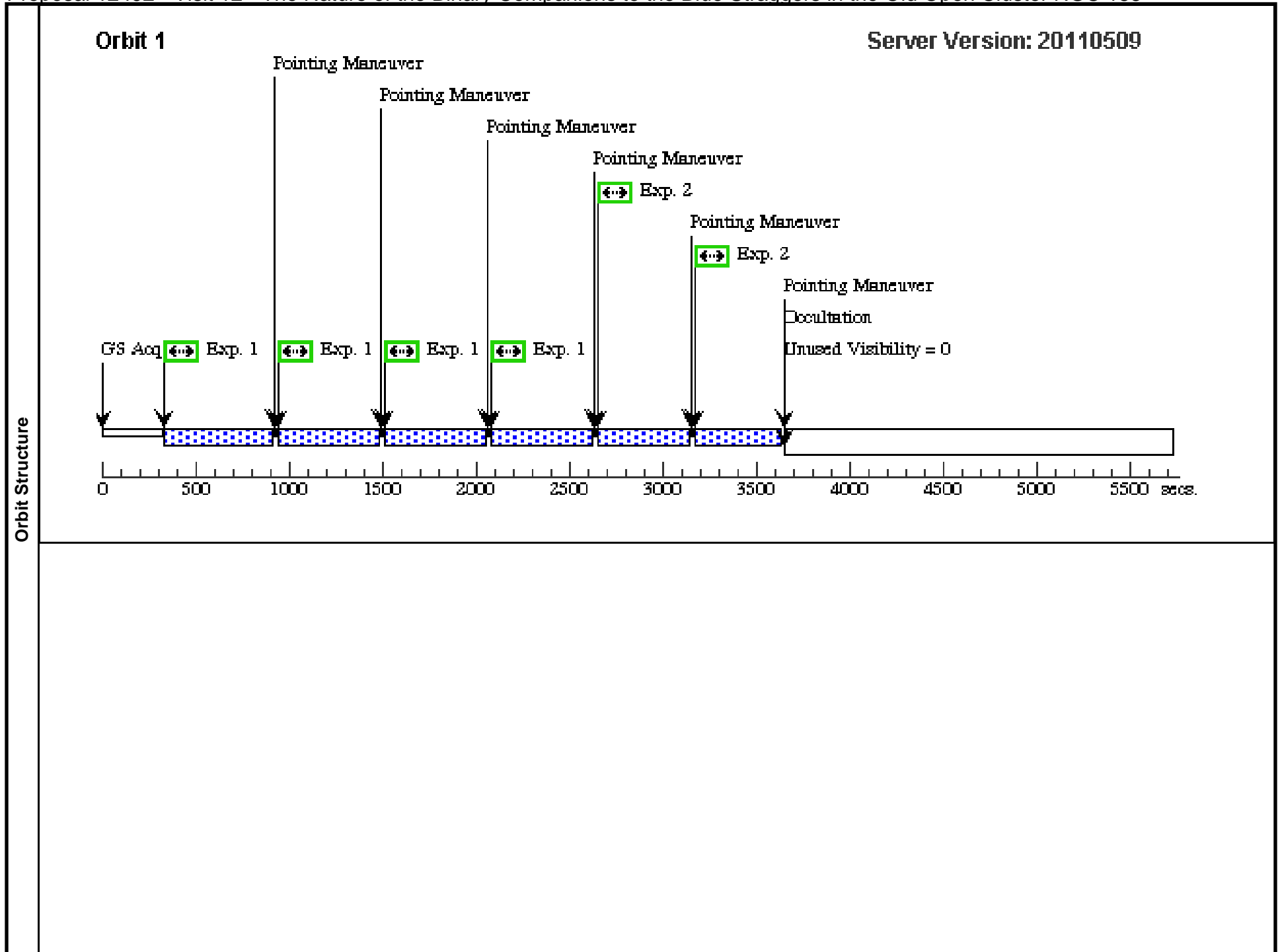
Proposal 12492 - Visit 12 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

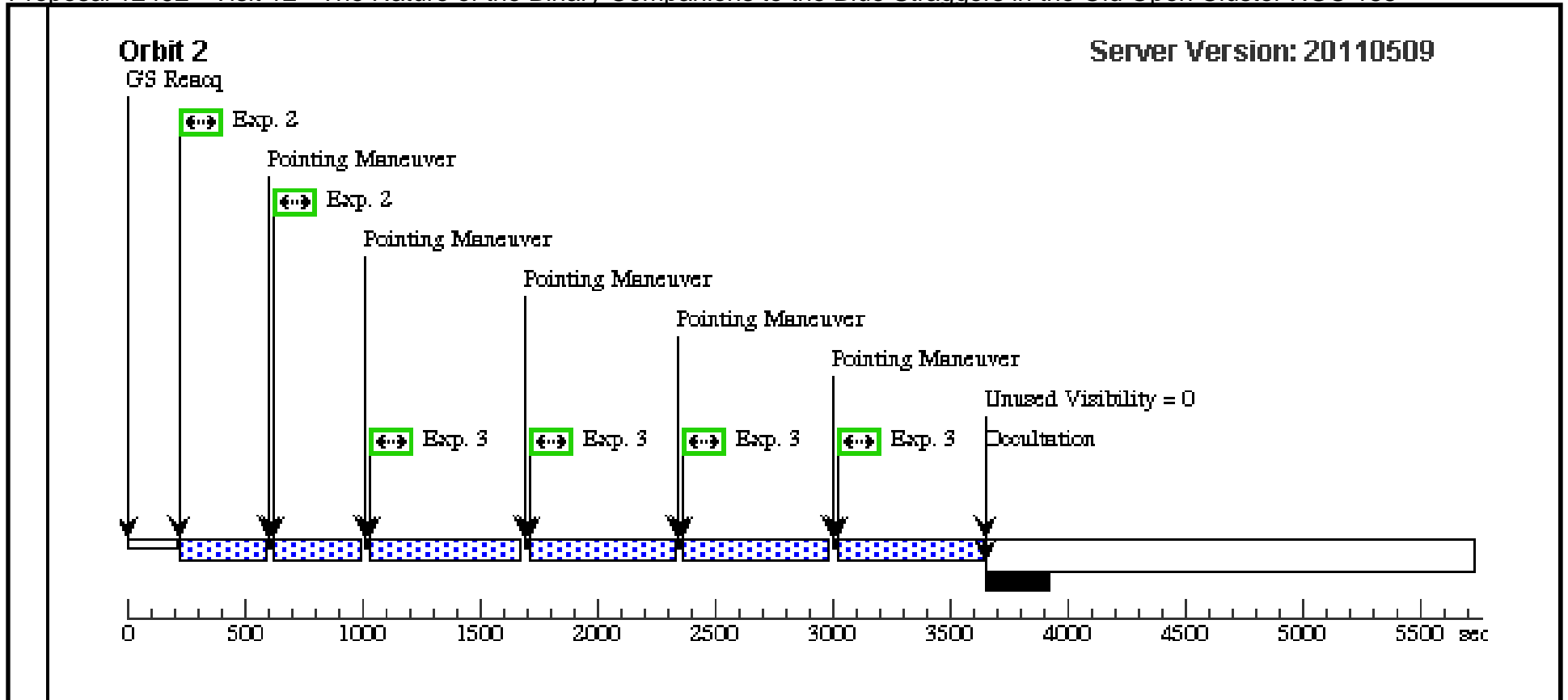
Wed Jun 29 02:09:33 GMT 2011

Visit	Proposal 12492, Visit 12 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5434					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	NGC188-004854+851237 Alt Name1: WOCS5434	RA: 00 48 54.4510 (12.2268792d) Dec: +85 12 36.71 (85.21020d) Equinox: J2000	Proper Motion RA: -2.87 mas/yr Proper Motion Dec: +0.43 mas/yr Epoch of Position: 2000.0	V=14.687+/-0.01 B-V=0.526+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 12 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WOC5434 -140LP (179998)	(12) NGC188-00485 4+851237	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 in Visit 12 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.48e4 counts/s - SAFE Global GALEX rate: 3.19e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004854.6+851235, AIS, NUV mag=19.0, not detected in FUV</i> SAFE in BOT, F-lambda=5.67e-16</p>									
	2	WOC5434 -165LP (181343)	(12) NGC188-00485 4+851237	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 in Visit 12 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.59e3 counts/s - SAFE Global GALEX rate: 3.74e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004854.6+851235, AIS, NUV mag=19.0, not detected in FUV</i> SAFE in BOT, F-lambda=5.67e-16</p>									
3	WOC5434 -150LP (180002)	(12) NGC188-00485 4+851237	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 in Visit 12 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]		
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.37e4 counts/s - SAFE Global GALEX rate: 1.11e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004854.6+851235, AIS, NUV mag=19.0, not detected in FUV</i> SAFE in BOT, F-lambda=5.67e-16</p>										





Proposal 12492 - Visit 13 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

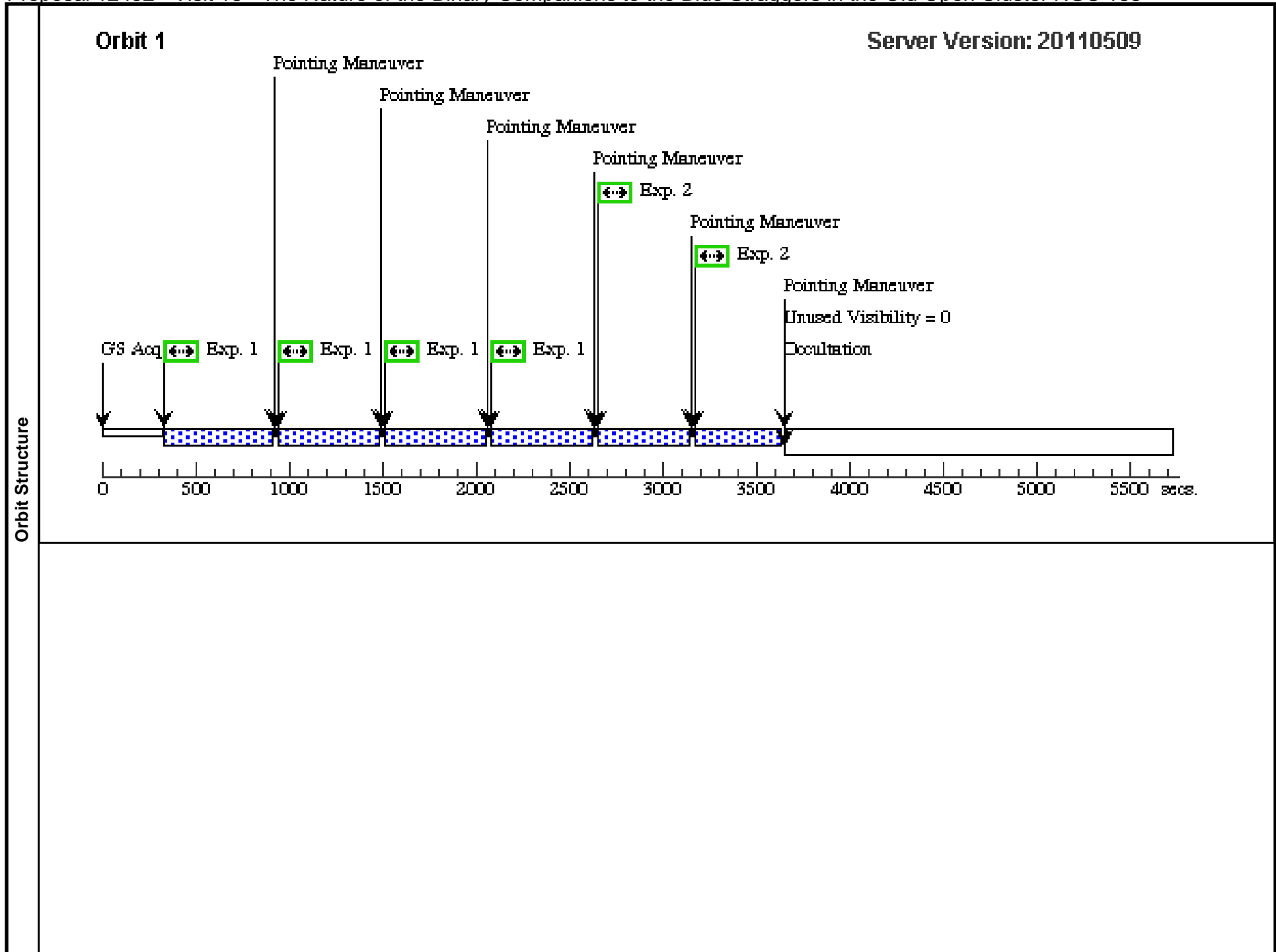
Wed Jun 29 02:09:34 GMT 2011

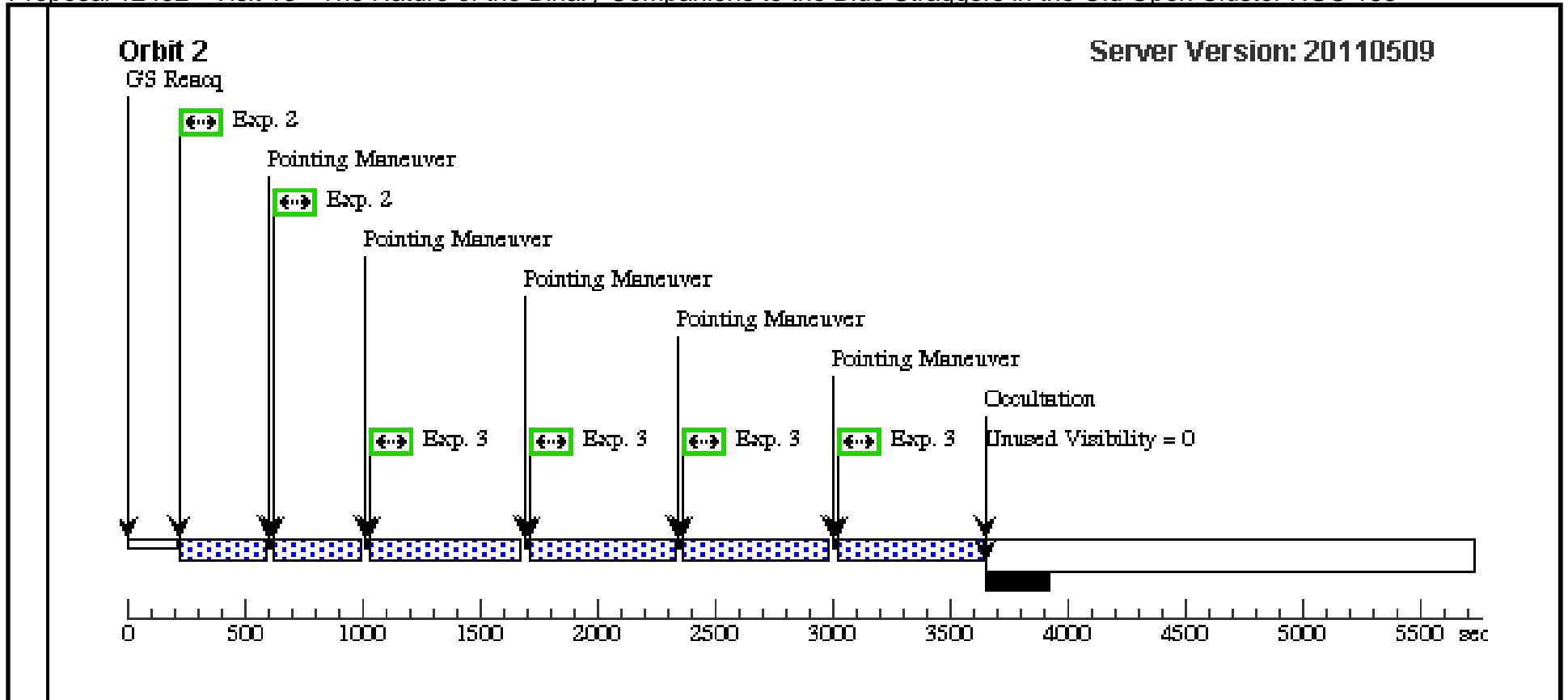
Visit	Proposal 12492, Visit 13 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5671					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(13)	NGC188-005226+851528 Alt Name1: WOCS5671	RA: 00 52 25.7840 (13.1074333d) Dec: +85 15 27.88 (85.25774d) Equinox: J2000	Proper Motion RA: -1.95 mas/yr Proper Motion Dec: +0.35 mas/yr Epoch of Position: 2000.0	V=13.600+/-0.01 B-V=0.659+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 13 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOC5671 -140LP (180004)	(13) NGC188-00522 6+851528	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 13 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 4.42e4 counts/s - SAFE</i> <i>Global GALEX rate: 2.22e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005225.6+851528, AIS, NUV mag=18.82, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.69e-16</i></p>									
2	WOC5671 -165LP (181346)	(13) NGC188-00522 6+851528	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 13 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 4.59e3 counts/s - SAFE</i> <i>Global GALEX rate: 2.44e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005225.6+851528, AIS, NUV mag=18.82, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.69e-16</i></p>									
3	WOC5671 -150LP (180008)	(13) NGC188-00522 6+851528	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 13 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.6 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.34e4 counts/s - SAFE</i> <i>Global GALEX rate: 5.89e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005225.6+851528, AIS, NUV mag=18.82, not detected in FUV</i> <i>SAFE in BOT, F-lambda=6.69e-16</i></p>									

Exposures





Proposal 12492 - Visit 14 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

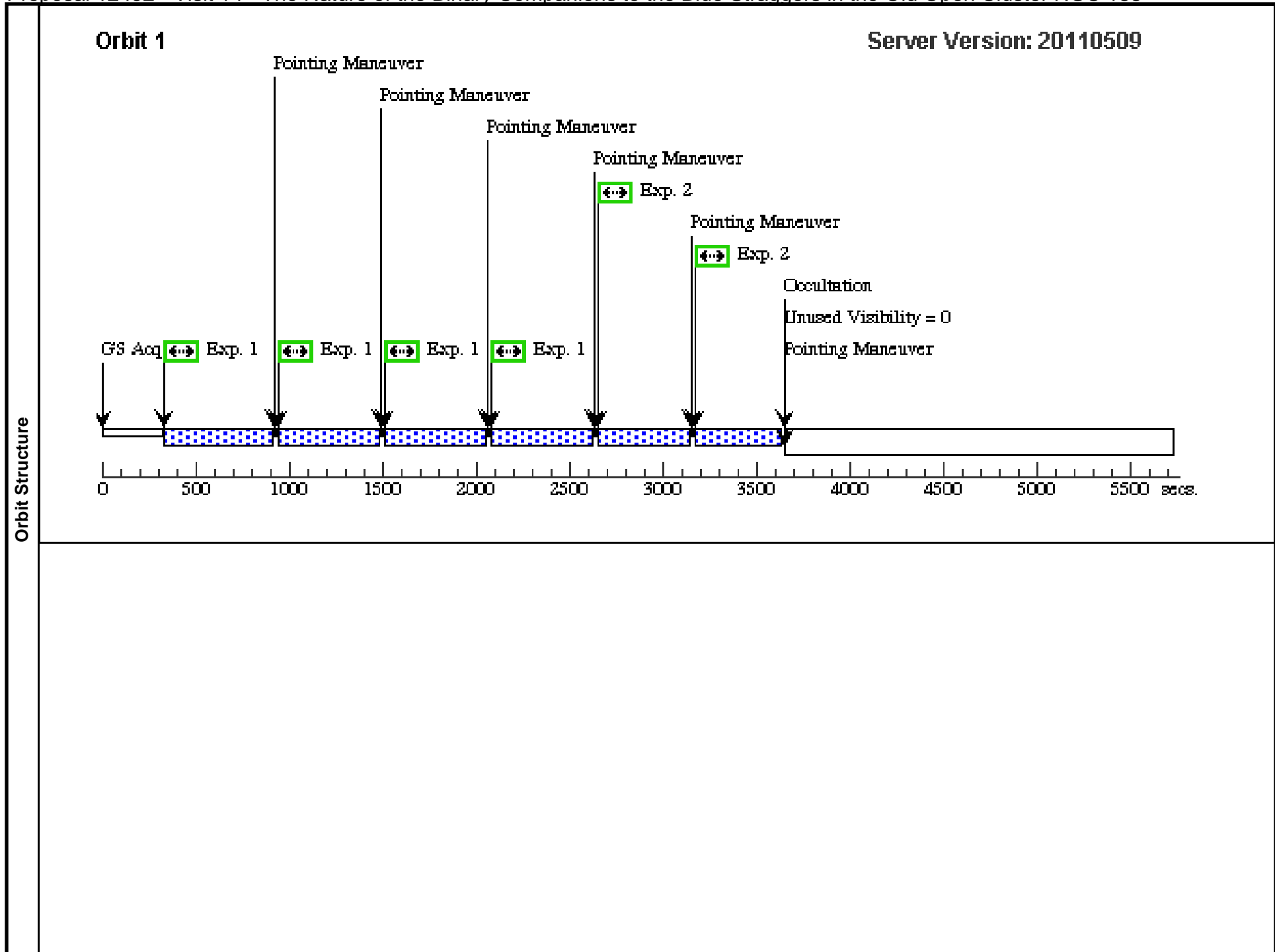
Wed Jun 29 02:09:34 GMT 2011

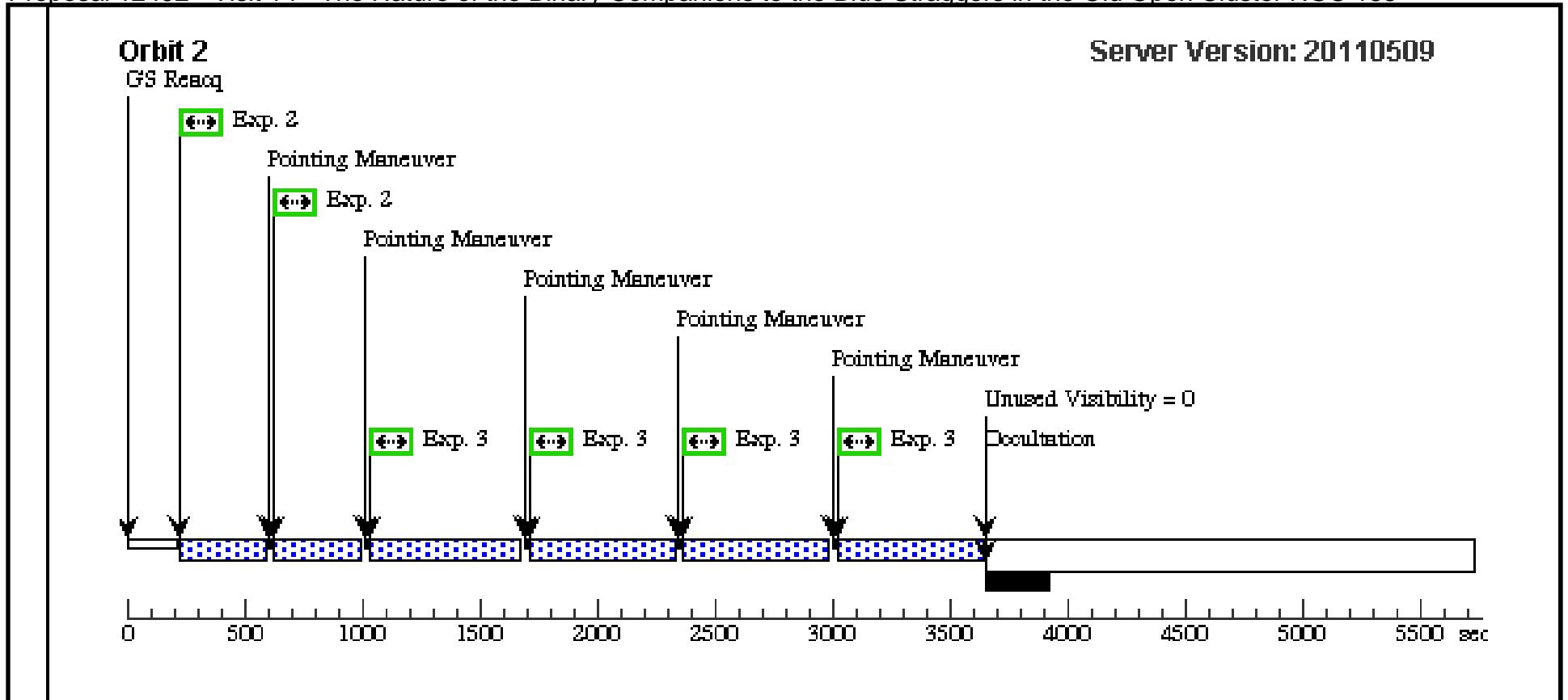
Visit	Proposal 12492, Visit 14 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 8104					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(14)	NGC188-004015+850348 Alt Name1: WOCS8104	RA: 00 40 15.4500 (10.0643750d) Dec: +85 03 48.49 (85.06347d) Equinox: J2000	Proper Motion RA: -3.49 mas/yr Proper Motion Dec: +0.00 mas/yr Epoch of Position: 2000.0	V=15.842+/-0.01 B-V=0.616+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 14 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCSS8104 -140LP (181351)	(14) NGC188-00401 5+850348	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 14 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 8.83e3 counts/s - SAFE</i> <i>Global GALEX rate: 2.32e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004011.7+850417, AIS, NUV mag=18.77, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.78e-16</i></p>									
2	WOCSS8104 -165LP (181359)	(14) NGC188-00401 5+850348	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 14 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.29e1 counts/s - SAFE</i> <i>Global GALEX rate: 2.58e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004011.7+850417, AIS, NUV mag=18.77, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.78e-16</i></p>									
3	WOCSS8104 -150LP (181361)	(14) NGC188-00401 5+850348	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 14 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 4.64e3 counts/s - SAFE</i> <i>Global GALEX rate: 6.46e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004011.7+850417, AIS, NUV mag=18.77, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.78e-16</i></p>									

Exposures





Proposal 12492 - Visit 15 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

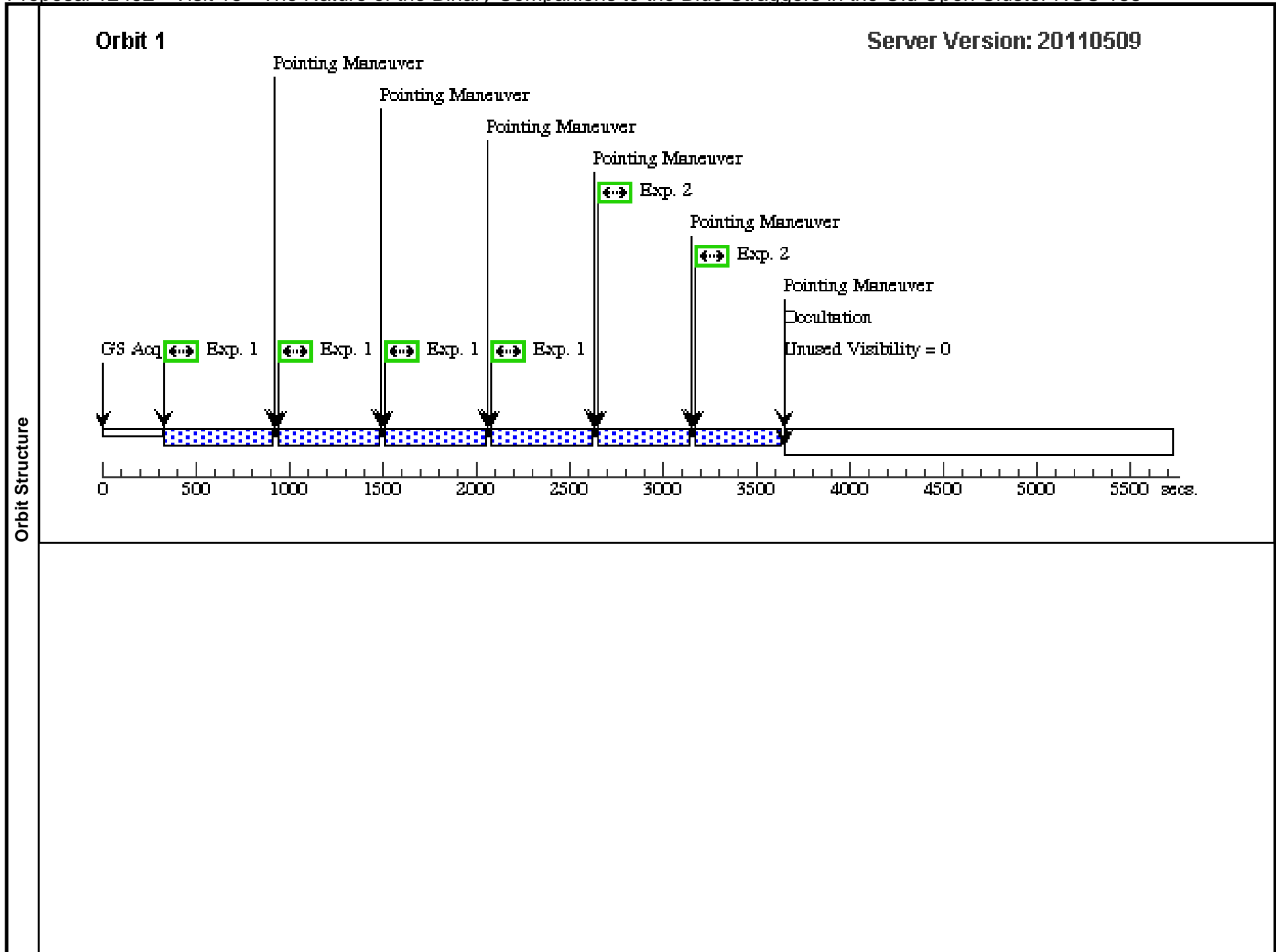
Wed Jun 29 02:09:34 GMT 2011

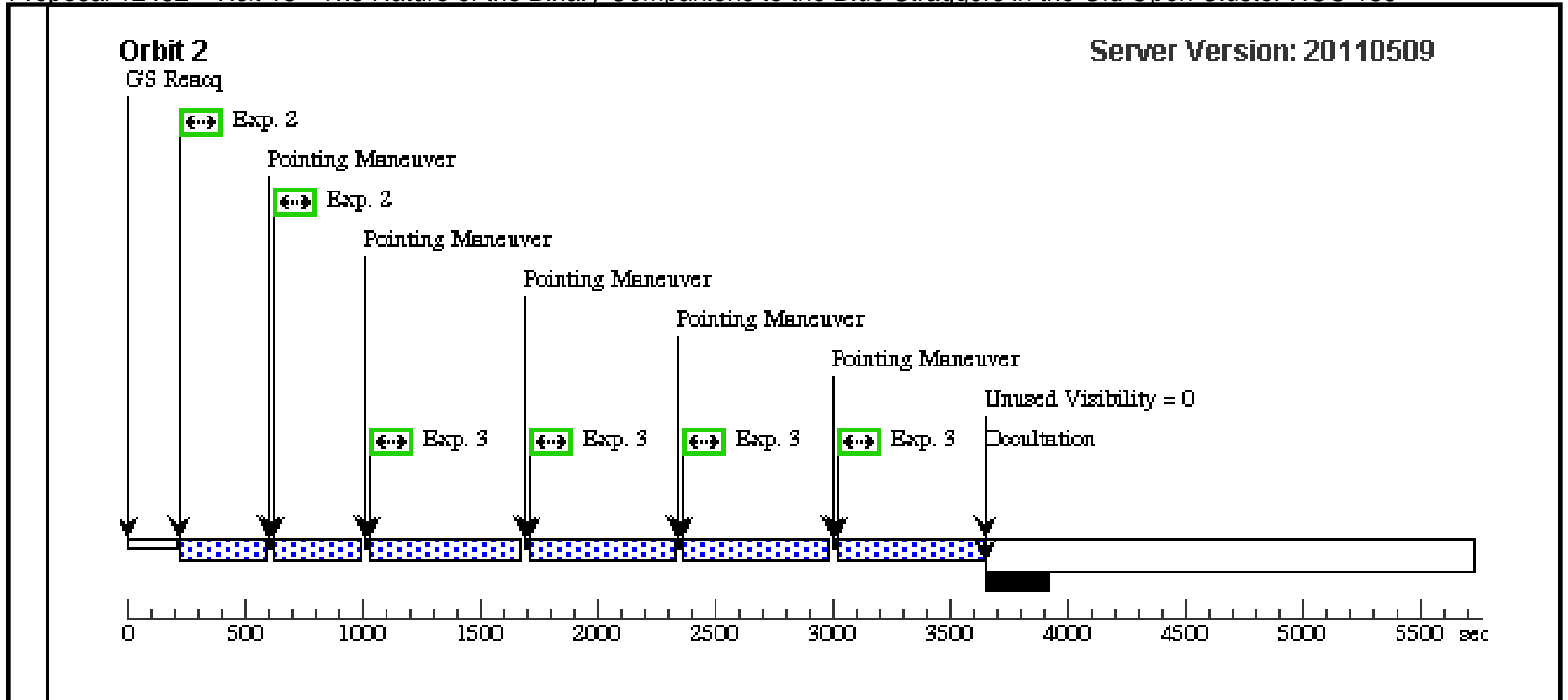
Visit	Proposal 12492, Visit 15 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 1366					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(15)	NGC188-005115+854402 Alt Name1: WOCS1366	RA: 00 51 15.0570 (12.8127375d) Dec: +85 44 2.02 (85.73389d) Equinox: J2000	Proper Motion RA: -3.49 mas/yr Proper Motion Dec: +1.06 mas/yr Epoch of Position: 2000.0	V=15.851+/-0.018 B-V=0.620+/-0.025, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 15 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WCS1366 -140LP (181367)	(15) NGC188-00511 5+854402	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 15 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 4.53e3 counts/s - SAFE</i> <i>Global GALEX rate: 1.74e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005116.3+854403, AIS, NUV mag=20.44, not detected in FUV</i> <i>SAFE in BOT, F-lambda=1.51e-16</i></p>									
2	WCS1366 -165LP (181369)	(15) NGC188-00511 5+854402	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 15 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.28e1 counts/s - SAFE</i> <i>Global GALEX rate: 1.81e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005116.3+854403, AIS, NUV mag=20.44, not detected in FUV</i> <i>SAFE in BOT, F-lambda=1.51e-16</i></p>									
3	WCS1366 -150LP (181370)	(15) NGC188-00511 5+854402	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 15 (1)	595 Secs	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	[2]
								[==>(Pattern 4)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.8 blue straggler approximated using a Castelli-Kurucz spectrum with T=5,750 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.35e3 counts/s - SAFE</i> <i>Global GALEX rate: 3.61e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J005116.3+854403, AIS, NUV mag=20.44, not detected in FUV</i> <i>SAFE in BOT, F-lambda=1.51e-16</i></p>									

Exposures





Proposal 12492 - Visit 16 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

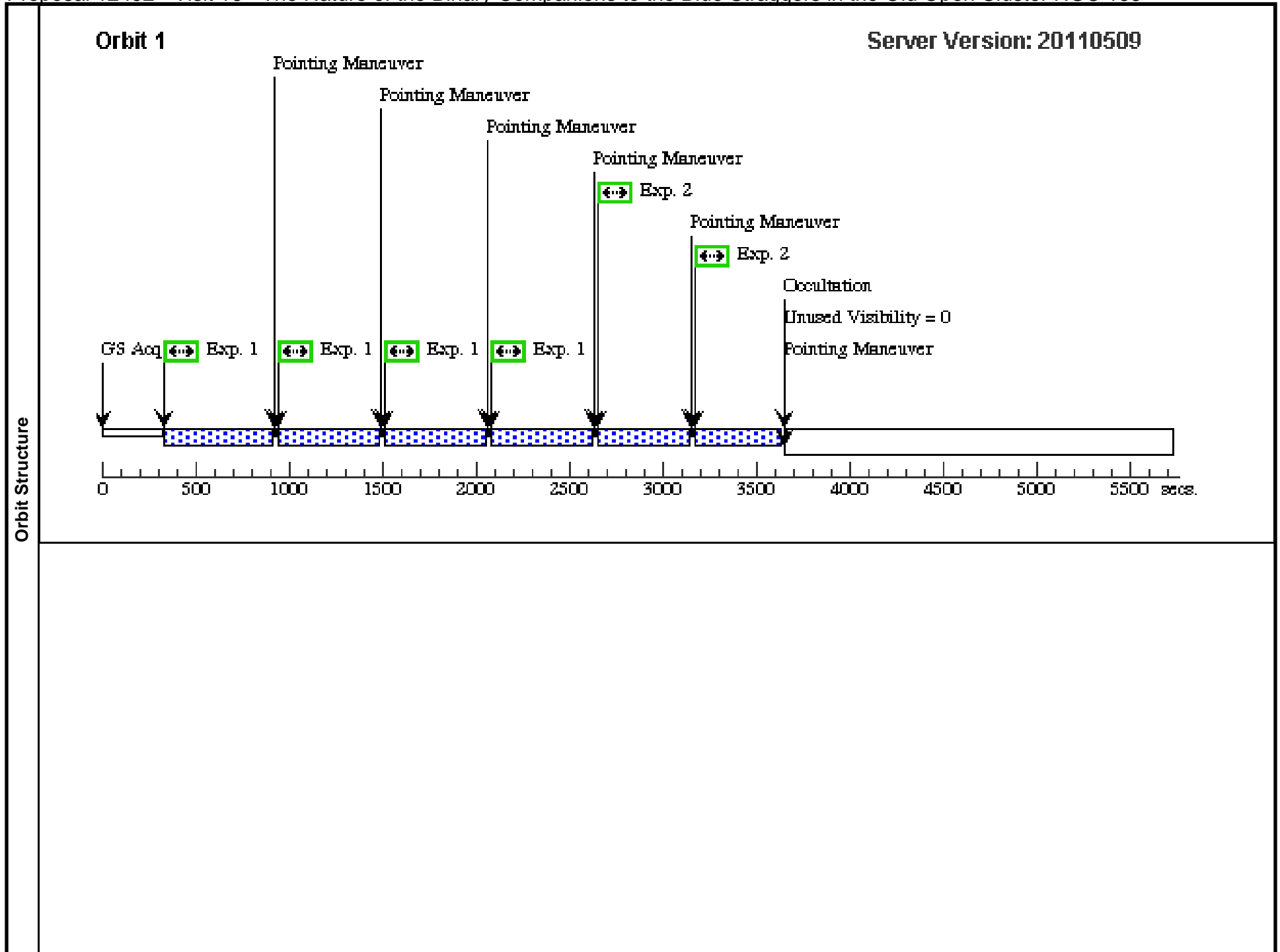
Wed Jun 29 02:09:35 GMT 2011

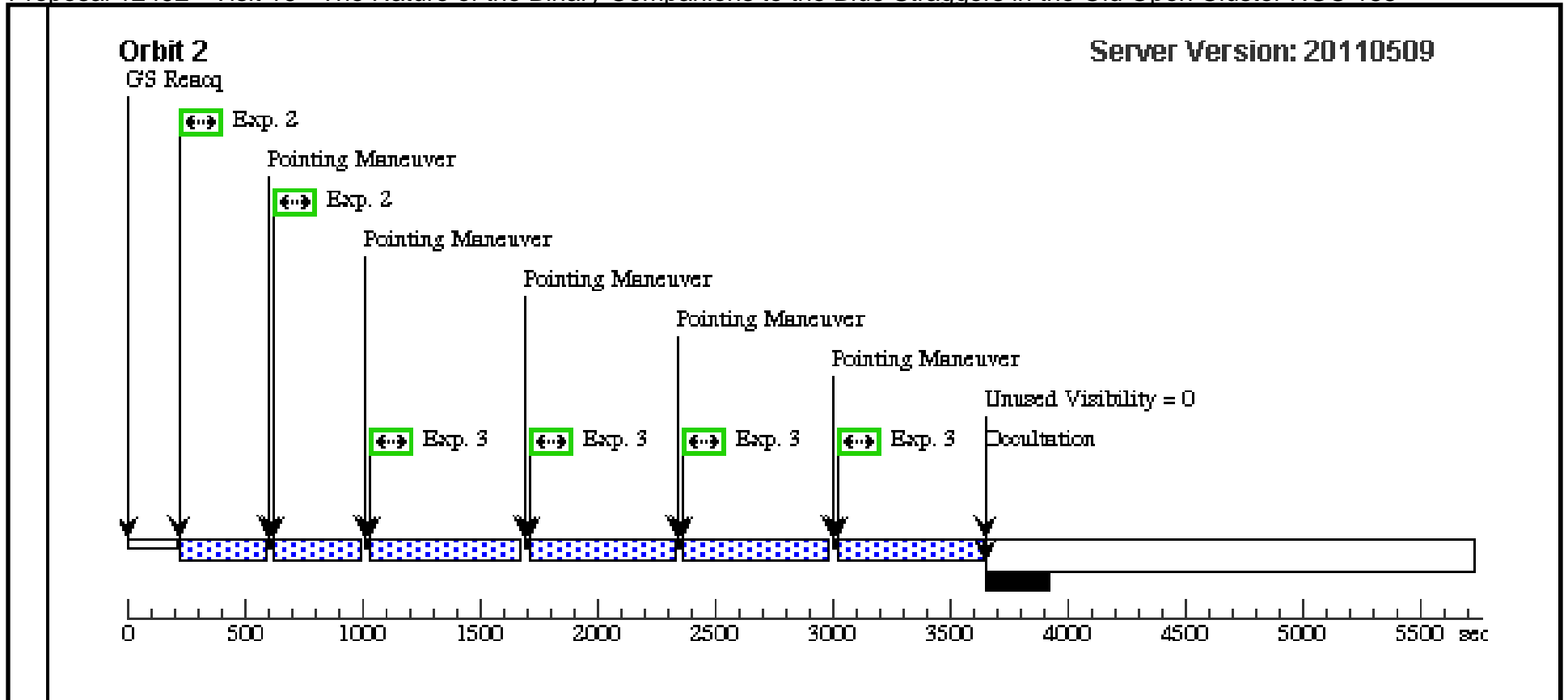
Visit	Proposal 12492, Visit 16 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 1947					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(16)	NGC188-005817+854018 Alt Name1: WOCS1947	RA: 00 58 16.6530 (14.5693875d) Dec: +85 40 18.31 (85.67175d) Equinox: J2000	Proper Motion RA: -5.33 mas/yr Proper Motion Dec: -1.13 mas/yr Epoch of Position: 2000.0	V=13.036+/-0.029 B-V=0.599+/-0.041, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 16 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WCS1947 -140LP (181372)	(16) NGC188-00581 7+854018	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 16 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 9.02e4 counts/s - SAFE Global GALEX rate: 1.39e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005816.4+854017, AIS, NUV mag=21.96, not detected in FUV SAFE in BOT, F-lambda=3.73e-17</i></p>									
2	WCS1947 -165LP (181375)	(16) NGC188-00581 7+854018	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 16 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.20e4 counts/s - SAFE Global GALEX rate: 1.34e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005816.4+854017, AIS, NUV mag=21.96, not detected in FUV SAFE in BOT, F-lambda=3.73e-17</i></p>									
3	WCS1947 -150LP (181376)	(16) NGC188-00581 7+854018	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 16 (1)	595 Secs	
								[==>(Pattern 1)]	[2]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,000 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.79e4 counts/s - SAFE Global GALEX rate: 1.51e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J005816.4+854017, AIS, NUV mag=21.96, not detected in FUV SAFE in BOT, F-lambda=3.73e-17</i></p>									

Exposures





Proposal 12492 - Visit 17 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

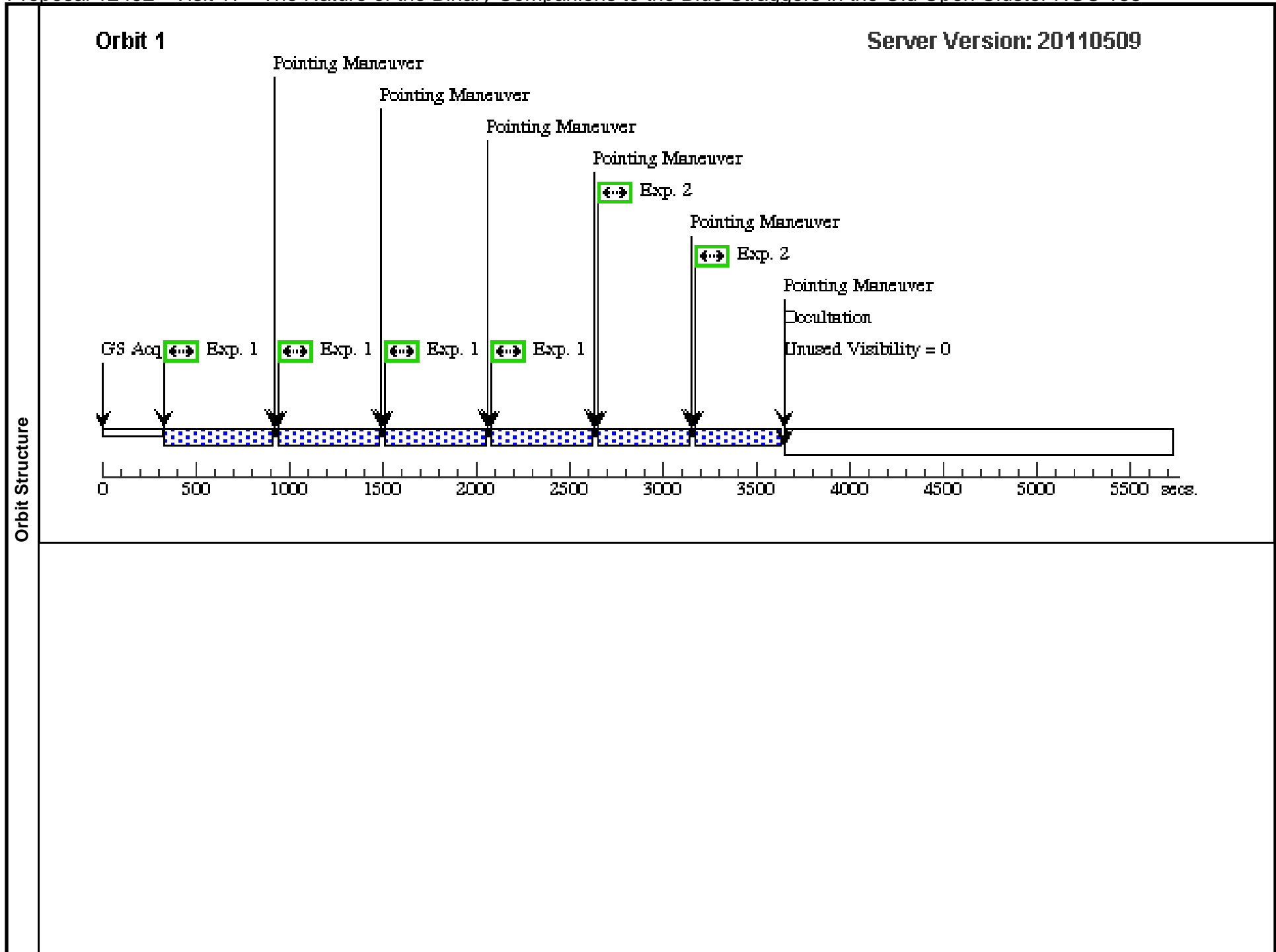
Wed Jun 29 02:09:35 GMT 2011

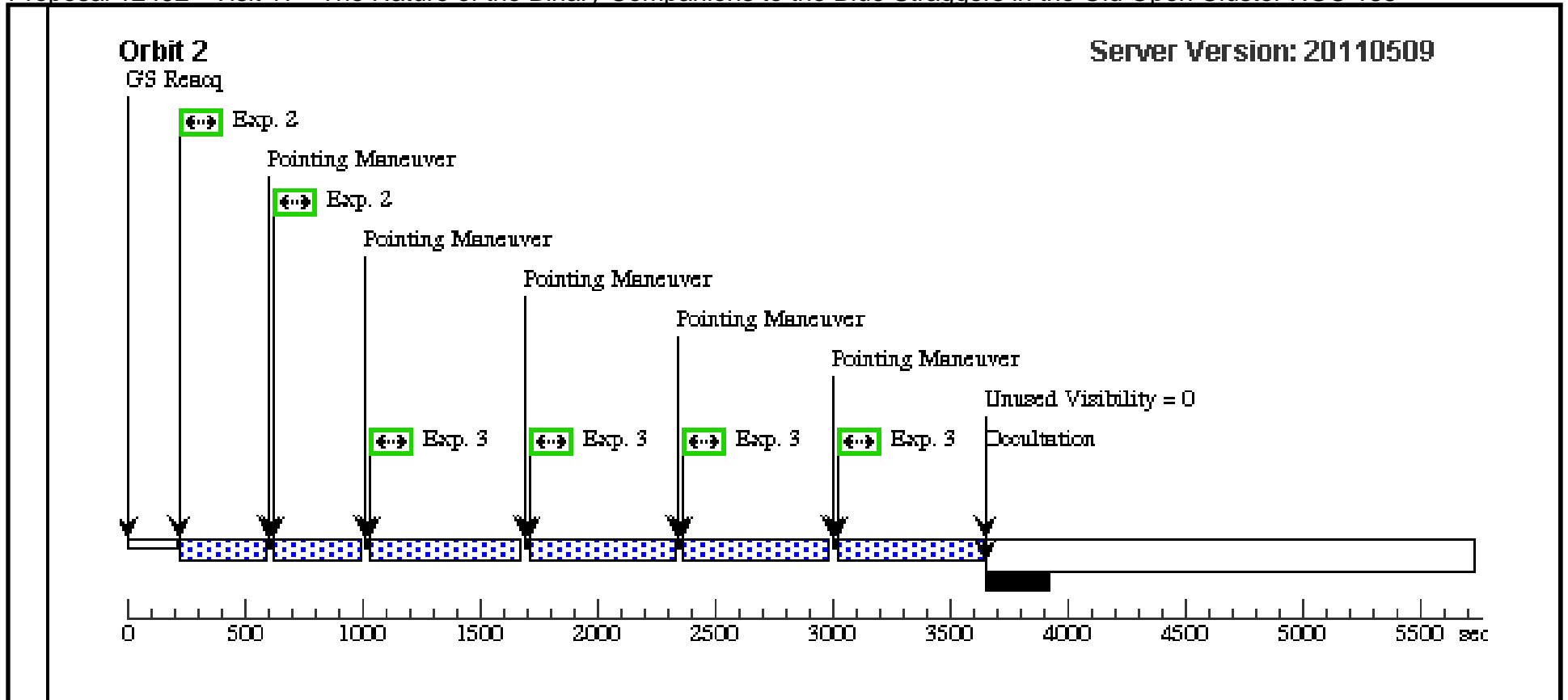
Visit	Proposal 12492, Visit 17 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4290					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(17)	NGC188-004207+851647 Alt Name1: WOCS4290	RA: 00 42 6.5290 (10.5272042d) Dec: +85 16 47.25 (85.27979d) Equinox: J2000	Proper Motion RA: -2.57 mas/yr Proper Motion Dec: +0.42 mas/yr Epoch of Position: 2000.0	V=14.174+/-0.008 B-V=0.584+/-0.011, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 17 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOCs4290 -140LP (181377)	(17) NGC188-00420 7+851647	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 17 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.2 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.02e5 counts/s - SAFE</i> <i>Global GALEX rate: 2.04e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004206.5+851647, AIS, NUV mag=19.07, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.31e-16</i></p>									
2	WOCs4290 -165LP (181379)	(17) NGC188-00420 7+851647	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 17 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.2 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.35e4 counts/s - SAFE</i> <i>Global GALEX rate: 2.20e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004206.5+851647, AIS, NUV mag=19.07, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.31e-16</i></p>									
3	WOCs4290 -150LP (181380)	(17) NGC188-00420 7+851647	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 17 (1)	595 Secs	
								[==>(Pattern 1)]	[2]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.2 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 5.39e4 counts/s - SAFE</i> <i>Global GALEX rate: 4.94e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004206.5+851647, AIS, NUV mag=19.07, not detected in FUV</i> <i>SAFE in BOT, F-lambda=5.31e-16</i></p>									

Exposures





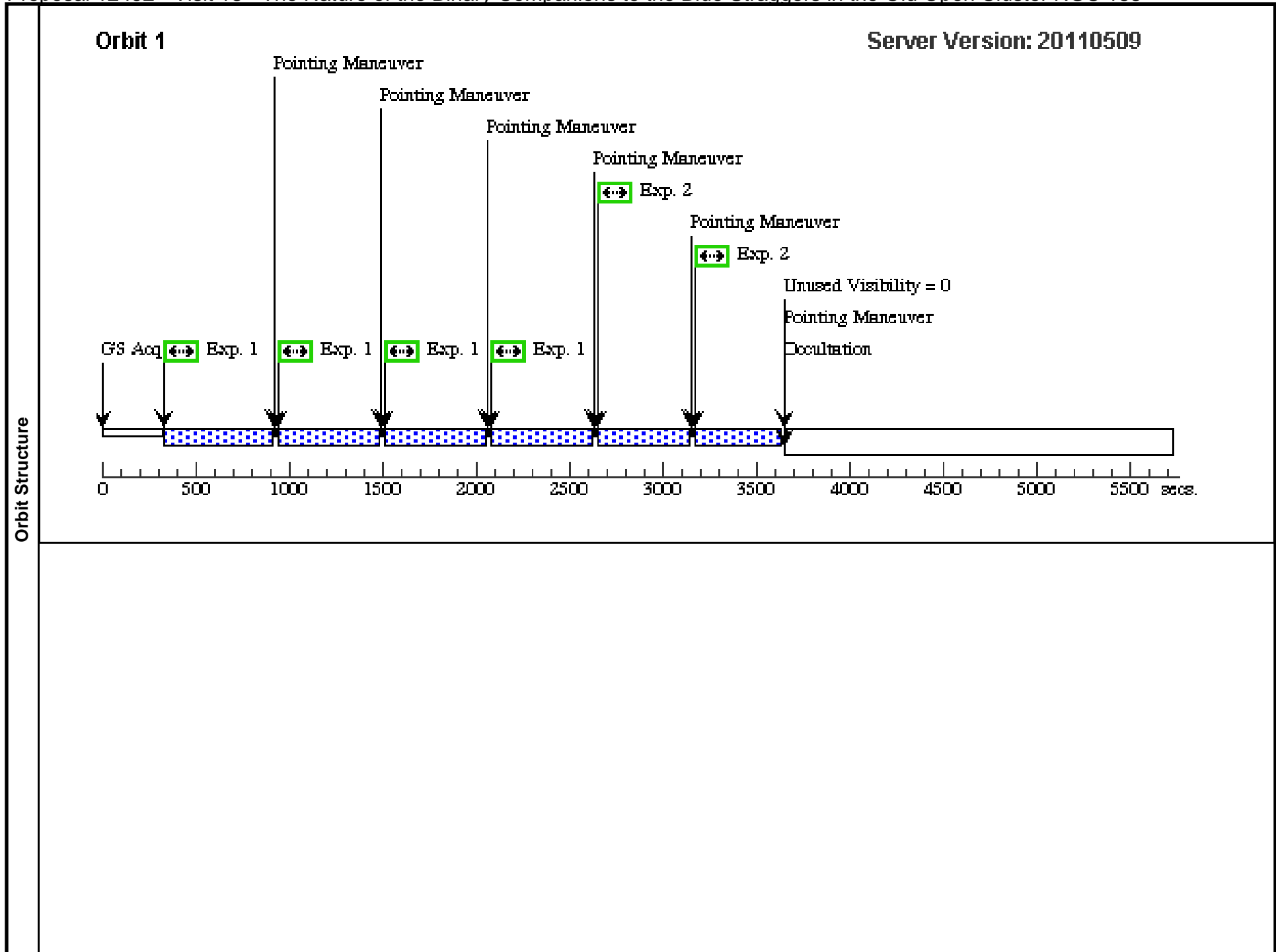
Proposal 12492 - Visit 18 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

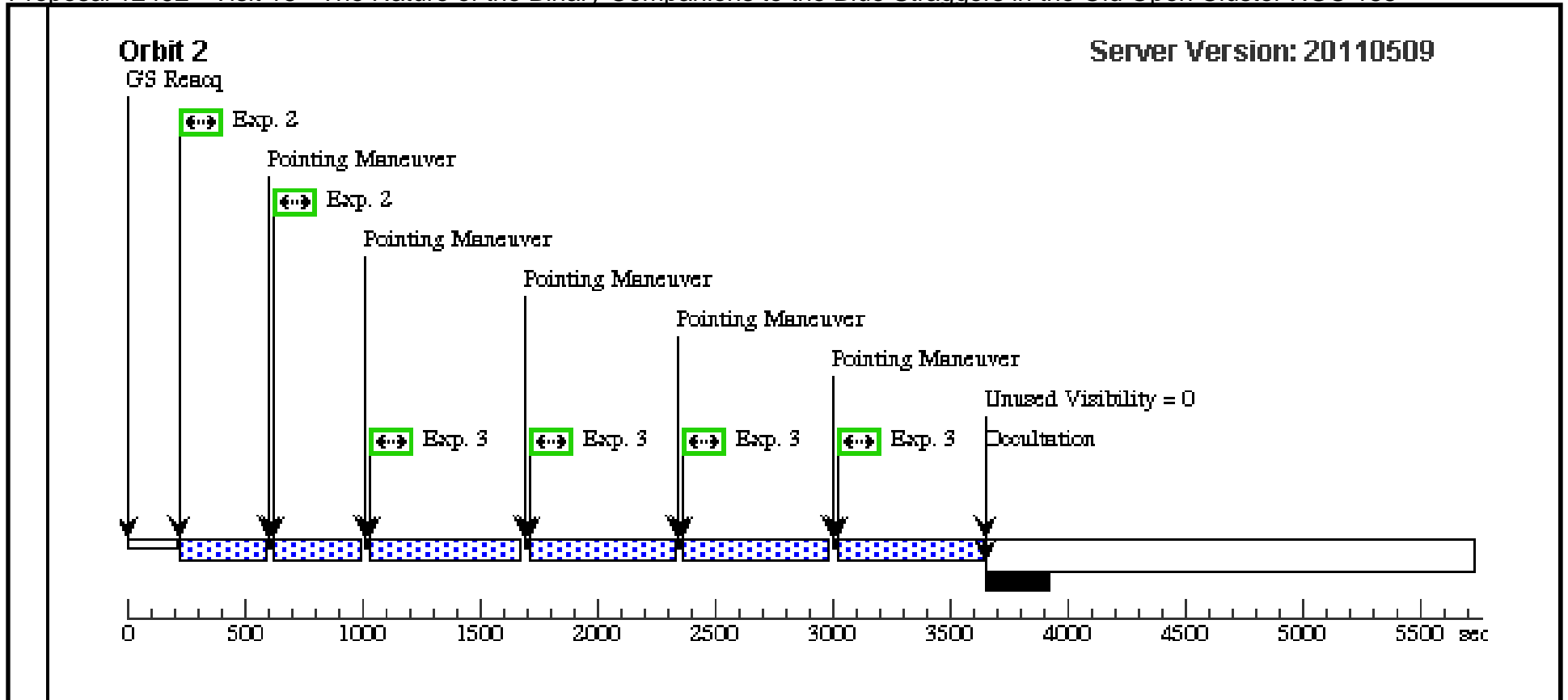
Wed Jun 29 02:09:36 GMT 2011

Visit	Proposal 12492, Visit 18 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4306					
Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(18)	NGC188-004221+851539 Alt Name1: WOCS4306	RA: 00 42 20.5900 (10.5857917d) Dec: +85 15 39.47 (85.26096d) Equinox: J2000	Proper Motion RA: -2.49 mas/yr Proper Motion Dec: +0.15 mas/yr Epoch of Position: 2000.0	V=13.347+/-0.006 B-V=0.534+/-0.008, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 18 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WOCs4306 -140LP (181381)	(18) NGC188-00422 1+851539	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 i n Visit 18 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 4.35e4 counts/s - SAFE Global GALEX rate: 4.79e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004221.3+851539, AIS, NUV mag=17.89, not detected in FUV SAFE in BOT, F-lambda=1.58e-15</i></p>									
	2	WOCs4306 -165LP (181382)	(18) NGC188-00422 1+851539	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 i n Visit 18 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 5.82e3 counts/s - SAFE Global GALEX rate: 5.88e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004221.3+851539, AIS, NUV mag=17.89, not detected in FUV SAFE in BOT, F-lambda=1.58e-15</i></p>									
3	WOCs4306 -150LP (181383)	(18) NGC188-00422 1+851539	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 i n Visit 18 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]		
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=13.3 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 2.31e4 counts/s - SAFE Global GALEX rate: 1.96e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004221.3+851539, AIS, NUV mag=17.89, not detected in FUV SAFE in BOT, F-lambda=1.58e-15</i></p>										





Proposal 12492 - Visit 19 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

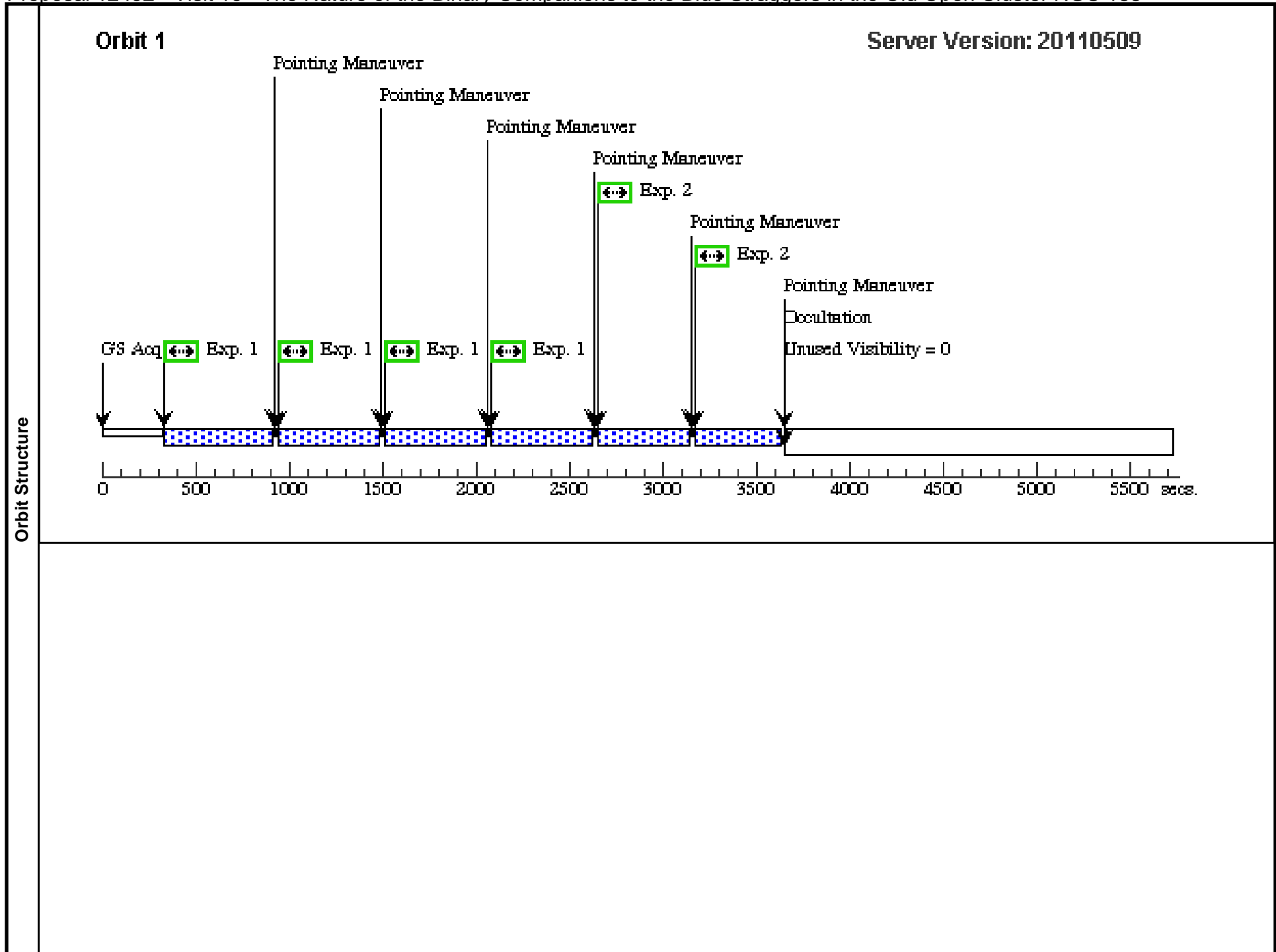
Wed Jun 29 02:09:36 GMT 2011

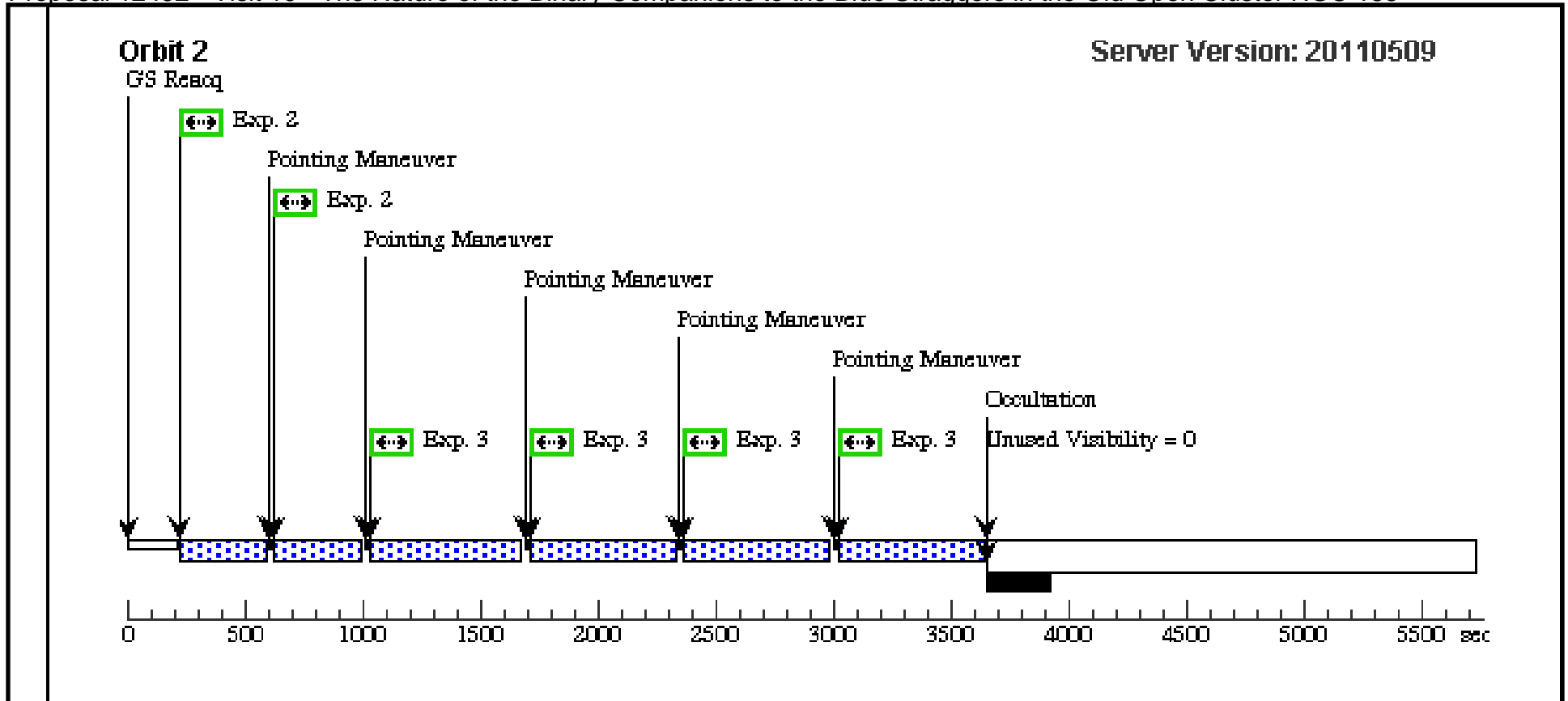
Visit	Proposal 12492, Visit 19 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 5020					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(19)	NGC188-004751+851509 Alt Name1: WOCS5020	RA: 00 47 51.4570 (11.9644042d) Dec: +85 15 9.09 (85.25252d) Equinox: J2000	Proper Motion RA: -3.11 mas/yr Proper Motion Dec: +0.74 mas/yr Epoch of Position: 2000.0	V=14.000+/-0.008 B-V=0.502+/-0.011, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

Proposal 12492 - Visit 19 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	WOC5020 -140LP (181384)	(19) NGC188-00475 1+851509	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 i n Visit 19 (1)	510 Secs	
								[==>(Pattern 1)]	[1]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 2.52e4 counts/s - SAFE</i> <i>Global GALEX rate: 3.8e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004753.2+851504, AIS, NUV mag=17.62, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.02e-15</i></p>									
2	WOC5020 -165LP (181385)	(19) NGC188-00475 1+851509	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 i n Visit 19 (1)	345 Secs	
								[==>437.0 Secs (Pattern 1)]	[1]
								[==>437.0 Secs (Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.29e1 counts/s - SAFE</i> <i>Global GALEX rate: 4.56e1 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004753.2+851504, AIS, NUV mag=17.62, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.02e-15</i></p>									
3	WOC5020 -150LP (181386)	(19) NGC188-00475 1+851509	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 3-3 i n Visit 19 (1)	595 Secs	
								[==>(Pattern 1)]	[2]
								[==>(Pattern 2)]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=14.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> <i>Global GSC2 rate: 1.15e4 counts/s - SAFE</i> <i>Global GALEX rate: 1.51e2 counts/s - SAFE</i></p> <p><i>Brightest GALEX object in field: GALEX J004753.2+851504, AIS, NUV mag=17.62, not detected in FUV</i> <i>SAFE in BOT, F-lambda=2.02e-15</i></p>									

Exposures





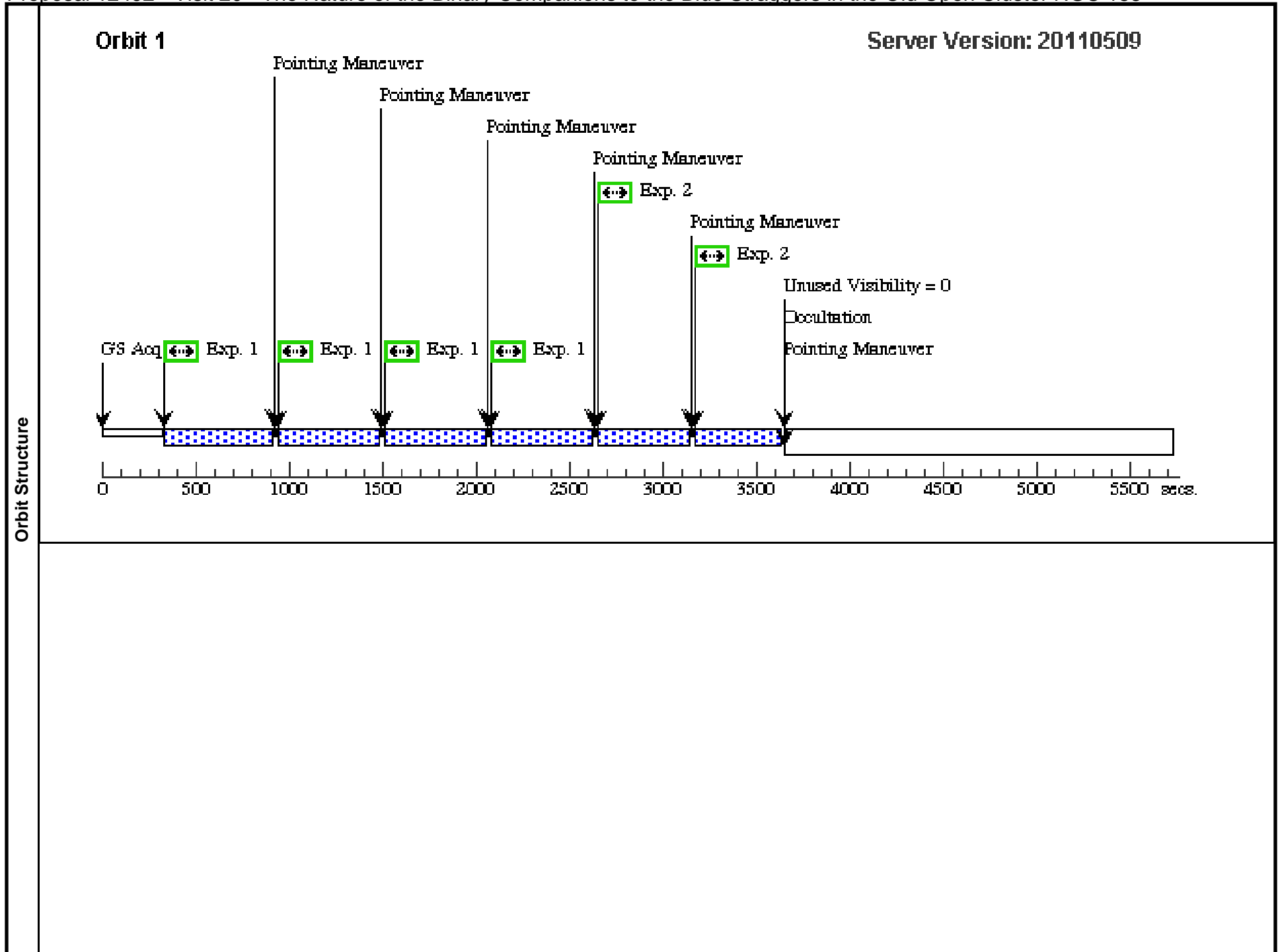
Proposal 12492 - Visit 20 - The Nature of the Binary Companions to the Blue Stragglers in the Old Open Cluster NGC 188

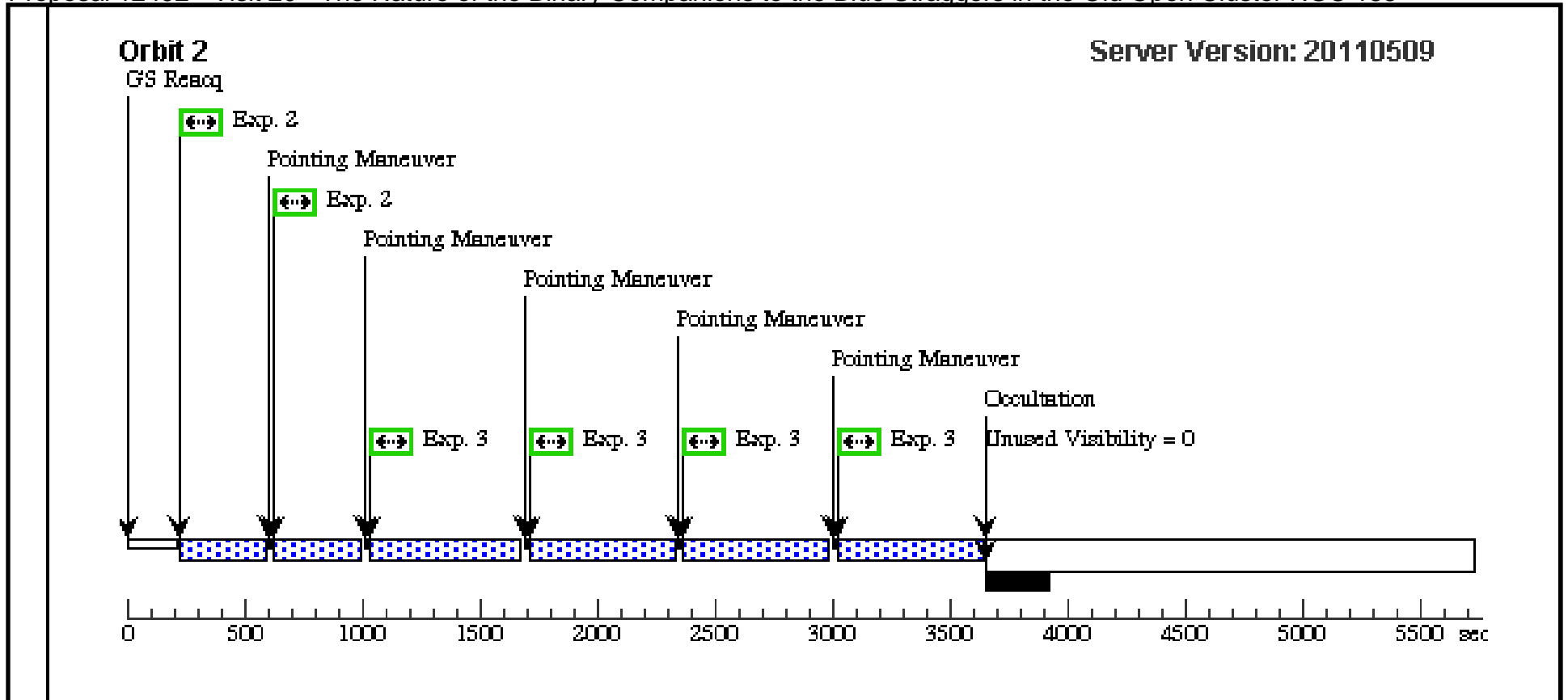
Wed Jun 29 02:09:37 GMT 2011

Visit	Proposal 12492, Visit 20 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/SBC Special Requirements: (none) Comments: WOCS 4230					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(20)	NGC188-004324+852033 Alt Name1: WOCS4230	RA: 00 43 23.8070 (10.8491958d) Dec: +85 20 32.64 (85.34240d) Equinox: J2000	Proper Motion RA: -2.16 mas/yr Proper Motion Dec: +0.72 mas/yr Epoch of Position: 2000.0	V=15.080+/-0.01 B-V=0.534+/-0.014, E(B-V)=0.09+/-0.02	Reference Frame: ICRS

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#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WOCs4230 -140LP (181387)	(20) NGC188-00432 4+852033	ACS/SBC, ACCUM, SBC	F140LP		Pattern 1, Exps 1-1 i n Visit 20 (1)	510 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]	
	<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.41e4 counts/s - SAFE Global GALEX rate: 1.78e2 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004323.6+852032, AIS, NUV mag=19.49, not detected in FUV SAFE in BOT, F-lambda=3.62e-16</i></p>									
	2	WOCs4230 -165LP (181388)	(20) NGC188-00432 4+852033	ACS/SBC, ACCUM, SBC	F165LP		Pattern 1, Exps 2-2 i n Visit 20 (1)	345 Secs [=>437.0 Secs (Pattern 1)] [=>437.0 Secs (Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 1.29e1 counts/s - SAFE Global GALEX rate: 1.86e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004323.6+852032, AIS, NUV mag=19.49, not detected in FUV SAFE in BOT, F-lambda=3.62e-16</i></p>										
	3	WOCs4230 -150LP (181390)	(20) NGC188-00432 4+852033	ACS/SBC, ACCUM, SBC	F150LP		Pattern 1, Exps 3-3 i n Visit 20 (1)	595 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]	
<p><i>Comments: ETC Run calculated using composite spectrum of 100 Myr white dwarf (T=55,000 K) and a V=15.0 blue straggler approximated using a Castelli-Kurucz spectrum with T=6,250 K. 100 Myr is the youngest white dwarf expected from N-body modeling.</i></p> <p><i>BOT results:</i> Global GSC2 rate: 6.11e3 counts/s - SAFE Global GALEX rate: 3.58e1 counts/s - SAFE</p> <p><i>Brightest GALEX object in field: GALEX J004323.6+852032, AIS, NUV mag=19.49, not detected in FUV SAFE in BOT, F-lambda=3.62e-16</i></p>										





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Visit	Proposal 12492, Visit 21 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none) <i>Comments: Near-UV Imaging of WOCS 1947 and WOCS 8104</i>									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
(2)		Pattern Type=WFC3-UVIS-DITHER- LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false			(1), (2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous		
	(14)	NGC188-004015+850348	RA: 00 40 15.4500 (10.0643750d)		Proper Motion RA: -3.49 mas/yr		V=15.842+/-0.01	Reference Frame: ICRS		
		Alt Name1: WOCS8104	Dec: +85 03 48.49 (85.06347d)		Proper Motion Dec: +0.00 mas/yr		B-V=0.616+/-0.014,			
			Equinox: J2000		Epoch of Position: 2000.0		E(B-V)=0.09+/-0.02			
	(16)	NGC188-005817+854018	RA: 00 58 16.6530 (14.5693875d)		Proper Motion RA: -5.33 mas/yr		V=13.036+/-0.029	Reference Frame: ICRS		
		Alt Name1: WOCS1947	Dec: +85 40 18.31 (85.67175d)		Proper Motion Dec: -1.13 mas/yr		B-V=0.599+/-0.041,			
			Equinox: J2000		Epoch of Position: 2000.0		E(B-V)=0.09+/-0.02			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	WOCS8104 -218W	(14) NGC188-00401 5+850348	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F218W			Pattern 2, Exps 1-1 i n Visit 21 (2)	223 Secs	
									[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
2	WOCS1947 -218W	(16) NGC188-00581 7+854018	WFC3/UVIS, ACCUM, UVIS2-2K2C-SUB	F218W			Pattern 2, Exps 2-2 i n Visit 21 (2)	415 Secs		
								[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]	

