



11739 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Cycle: 17, 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	(3) NGC-6388-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:20.0	yes
02	(3) NGC-6388-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:25.0	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) NGC-6388-OFF	ACS/WFC WFC3/IR	1	14-May-2010 21:06:34.0	yes
04	(2) NGC-6441-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:40.0	yes
05	(2) NGC-6441-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:44.0	yes
06	(2) NGC-6441-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:48.0	yes
07	(2) NGC-6441-OFF	ACS/WFC WFC3/UVIS	1	14-May-2010 21:06:52.0	yes
08	(2) NGC-6441-OFF	ACS/WFC WFC3/IR	1	14-May-2010 21:06:58.0	yes
09	(2) NGC-6441-OFF	ACS/WFC WFC3/IR	1	14-May-2010 21:07:05.0	yes

9 Total Orbits Used

ABSTRACT

Over the last few years HST observations have resulted in one of the most exciting and unexpected developments in stellar population studies: the discovery of multiple generations of stars in several globular clusters. The finding of multiple main sequences in the massive clusters NGC 2808 and Omega Centauri, and multiple subgiant branches in NGC 1851, M54, and NGC 6388 has challenged the long-held paradigm that globular clusters are simple stellar populations. Even more surprising, given the spectroscopic and photometric constraints, the only viable explanation for the main sequence splitting appears to be Helium enrichment, up to an astonishingly high $Y=0.4$.

The conditions under which certain globulars experience the formation of multiple stellar generations remain mysterious, and even more so the

helium-enrichment phenomenon. Such an enrichment has important implications for chemical-enrichment, star-formation, and stellar-evolution scenarios, in star clusters and likely elsewhere.

To properly constrain the multiple main sequence phenomenon, it is important to determine its extent among GCs: is it limited to Omega Cen and NGC2808, or is it more common? We propose deep WFC3 optical/IR imaging of NGC 6388 and 6441, the two globular clusters that are most likely to host multiple, helium-enriched populations. Our simulations of WFC3 performance suggest that we will be able to detect even the main sequence splittings caused by small He differences ($\Delta Y < 0.03$).

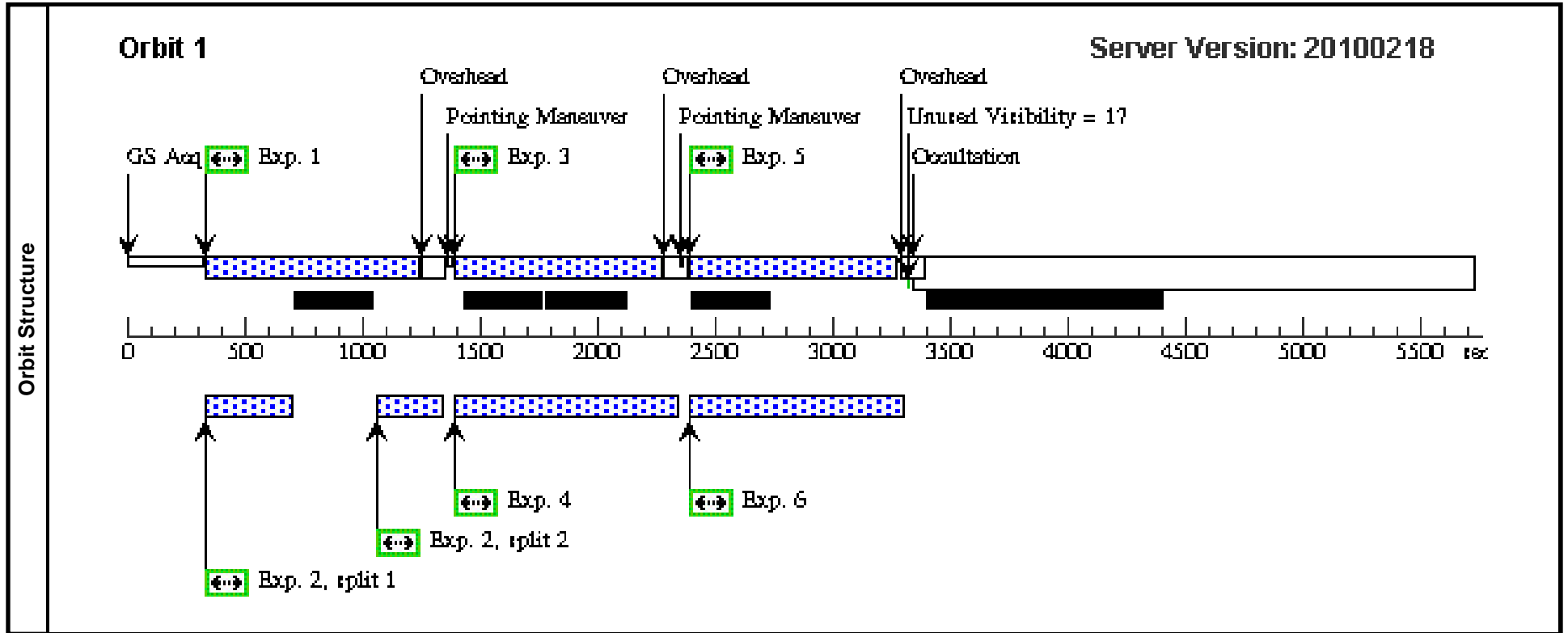
OBSERVING DESCRIPTION

UVIS and NIR WFC3 observations of two Bulge clusters.

Proposal 11739 - Visit 01 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:10 GMT 2010

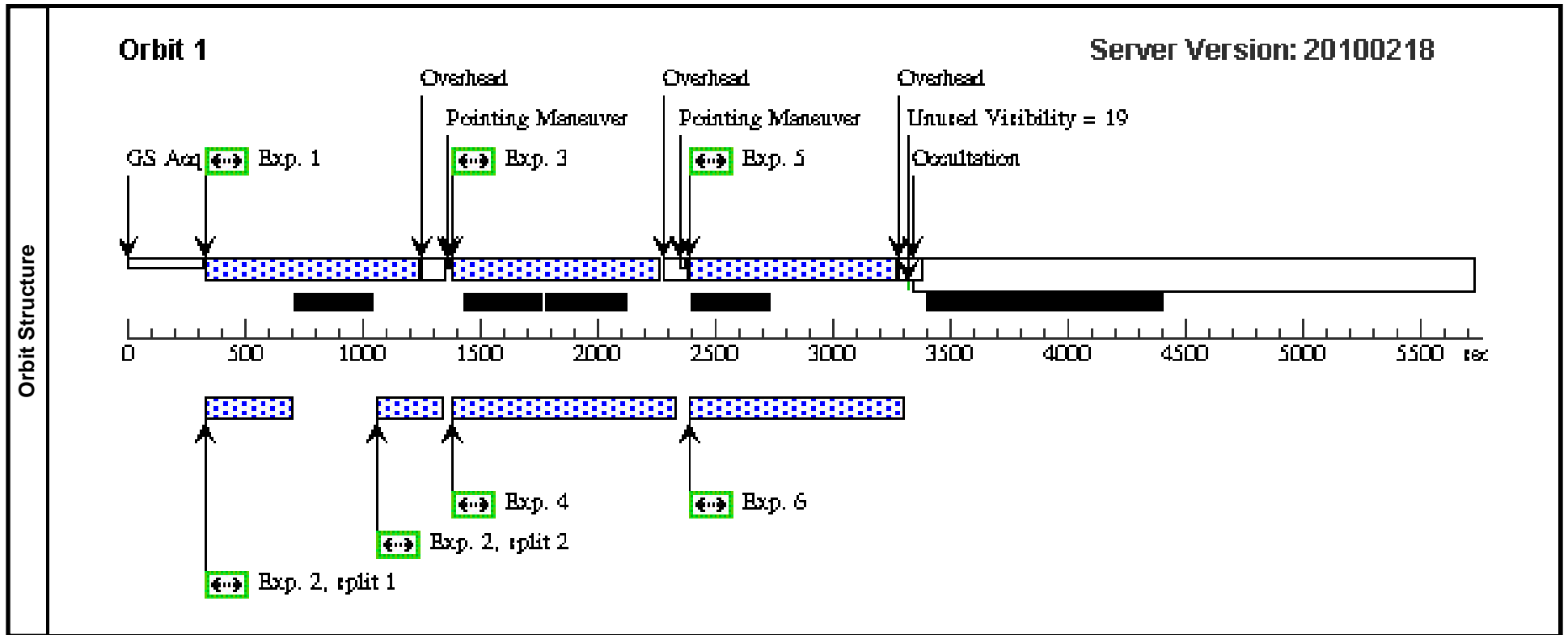
Visit	Proposal 11739, Visit 01, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 57.5D TO 60 D									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(3)	NGC-6388-OFF	RA: 17 36 29.0000 (264.1208333d) Dec: -44 45 20.00 (-44.75556d) Equinox: J2000			V=24+/-1	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -9,-9	Prime + Parallel Group 1-2	880 Secs [==>]	[1]	
	2	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs [==>(Split 1)] [==>(Split 2)]	[1]	
	3	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -6,0	Prime + Parallel Group 3-4	880 Secs [==>]	[1]	
	4	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	788 Secs [==>]	[1]	
	5	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -3,-6	Prime + Parallel Group 5-6	880 Secs [==>]	[1]	
	6	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	788 Secs [==>]	[1]	



Proposal 11739 - Visit 02 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:11 GMT 2010

Visit	Proposal 11739, Visit 02, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 01									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(3)	NGC-6388-OFF	RA: 17 36 29.0000 (264.1208333d) Dec: -44 45 20.00 (-44.75556d) Equinox: J2000			V=24+/-1	Reference Frame: ICRS			
	<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 0,3	Prime + Parallel Group 1-2	880 Secs [==>]	[1]	
	2	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs [==>(Split 1)] [==>(Split 2)]	[1]	
	3	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 3,-3	Prime + Parallel Group 3-4	880 Secs [==>]	[1]	
	4	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	788 Secs [==>]	[1]	
	5	(3) NGC-6388-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 6,6	Prime + Parallel Group 5-6	880 Secs [==>]	[1]	
	6	(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	788 Secs [==>]	[1]	

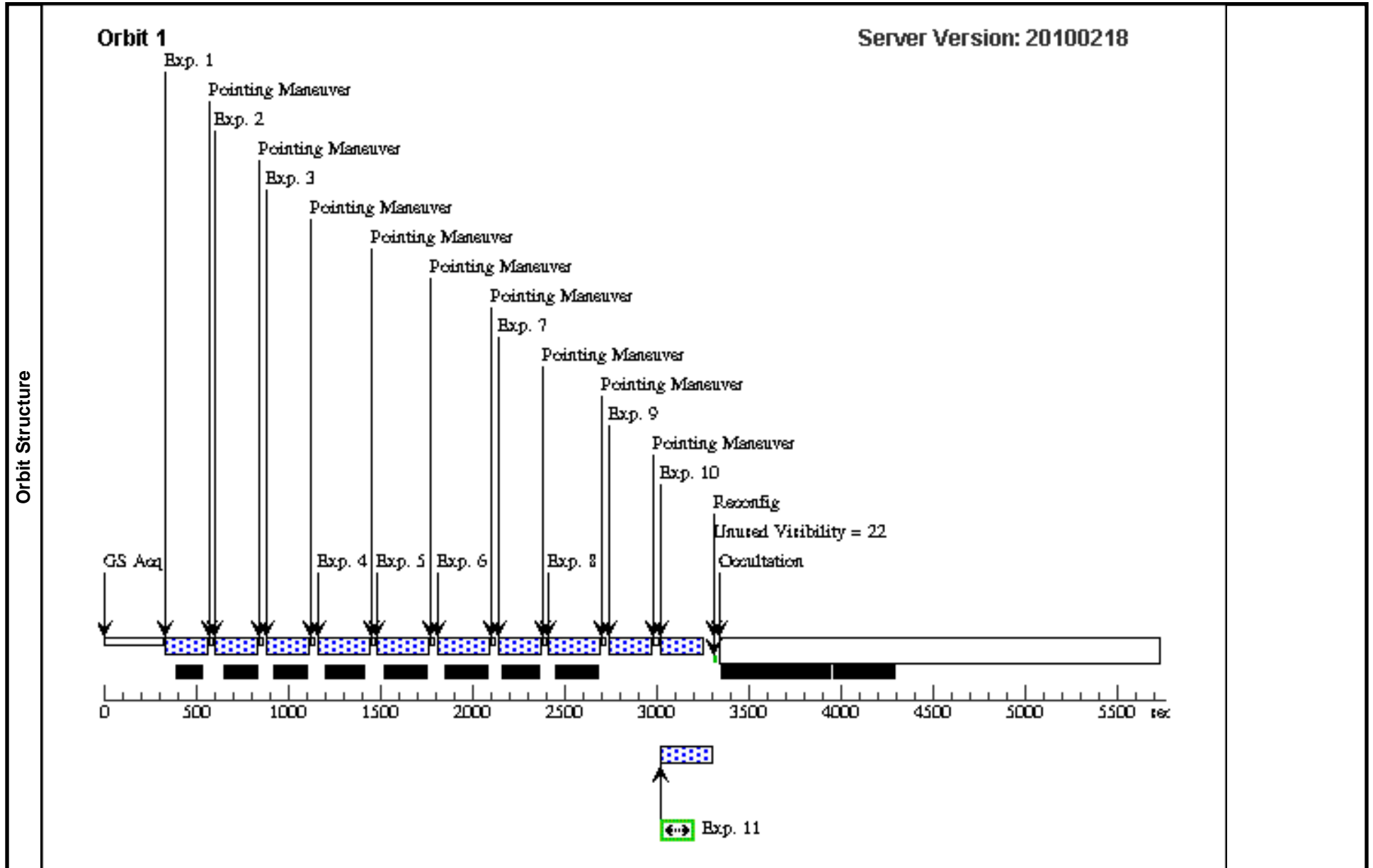


Proposal 11739 - Visit 03 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Visit	Proposal 11739, Visit 03, scheduling Sat May 15 01:07:11 GMT 2010 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 01					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(3)		NGC-6388-OFF	RA: 17 36 29.0000 (264.1208333d) Dec: -44 45 20.00 (-44.75556d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>						

Proposal 11739 - Visit 03 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

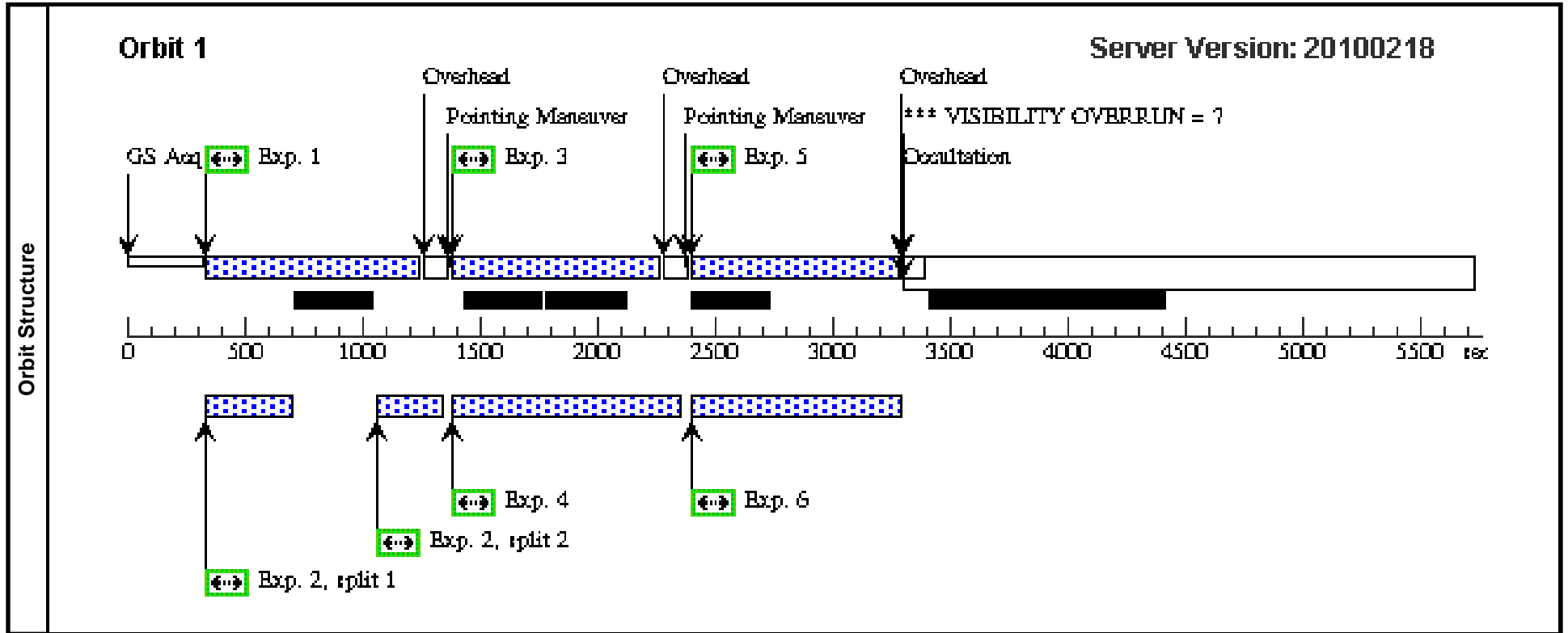
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Exposures	1		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -20,-20		[==>]	[1]
	2		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -15,-5		[==>]	[1]
	3		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -10,10		[==>]	[1]
	4		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG -5,-15		[==>]	[1]
	5		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 0,0		[==>]	[1]
	6		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 5,15		[==>]	[1]
	7		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 10,-10		[==>]	[1]
	8		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 15,5		[==>]	[1]
	9		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 20,20		[==>]	[1]
	10		(3) NGC-6388-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -20,20	Prime + Parallel Group 10-11	[==>]	[1]
	11		(3) NGC-6388-OFF	ACS/WFC, ACCUM, WFCENTER	F814W			Prime + Parallel Group 10-11	67 Secs [==>]	[1]



Proposal 11739 - Visit 03 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:12 GMT 2010

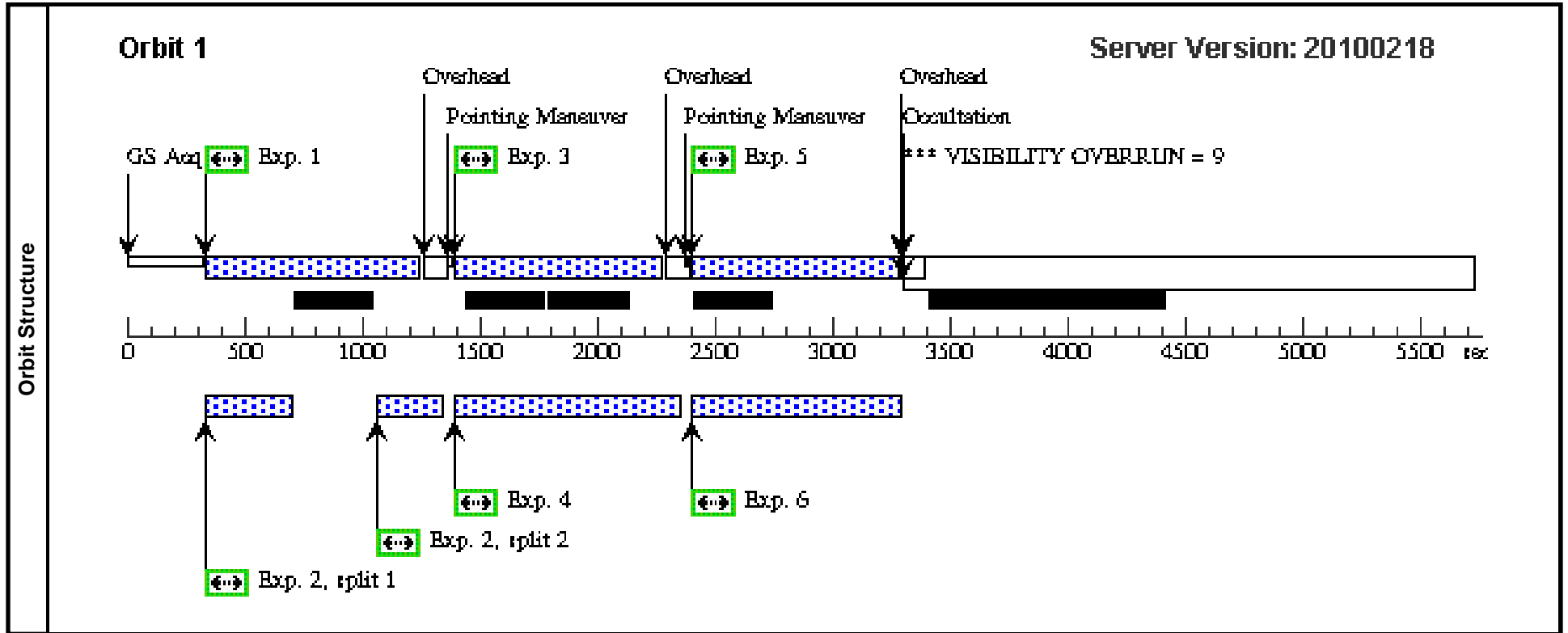
Visit	Proposal 11739, Visit 04, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 300D TO 338 D									
	(Visit 04) Warning (Orbit Planner): VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -12,-12	Prime + Parallel Group 1-2	885 Secs	[1]	
	2	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs	[1]	
	3	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -10,-6	Prime + Parallel Group 3-4	884 Secs	[1]	
	4	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	805 Secs	[1]	
	5	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -8,0	Prime + Parallel Group 5-6	885 Secs	[1]	
	6	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	770 Secs	[1]	



Proposal 11739 - Visit 05 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:12 GMT 2010

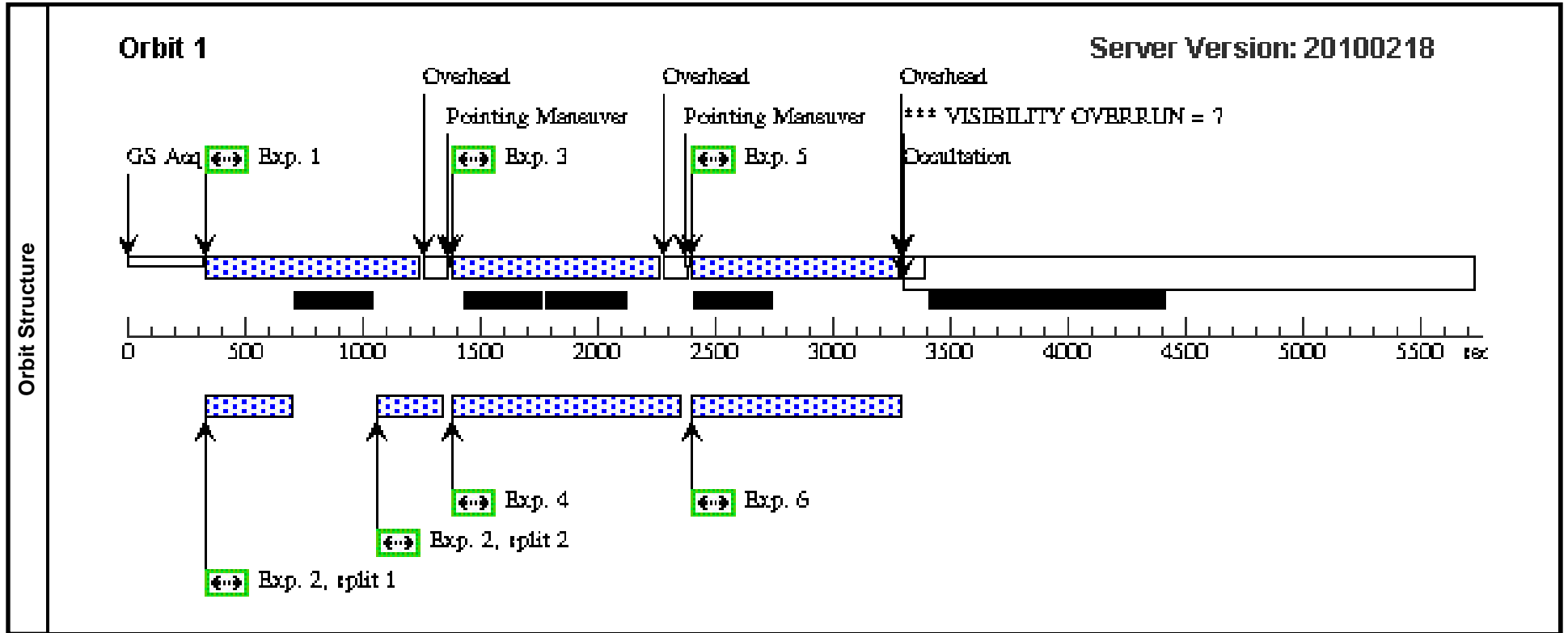
Visit	Proposal 11739, Visit 05, pi Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 04; AFTER 29-MAY-2011:15:25:41									
	(Visit 05) Warning (Orbit Planner): VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -6,6	Prime + Parallel Group 1-2	885 Secs	[1]	
	2	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs	[1]	
	3	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -4,-10	Prime + Parallel Group 3-4	885 Secs	[1]	
	4	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	800 Secs	[1]	
	5	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG -2,-4	Prime + Parallel Group 5-6	880 Secs	[1]	
	6	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	765 Secs	[1]	



Proposal 11739 - Visit 06 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:13 GMT 2010

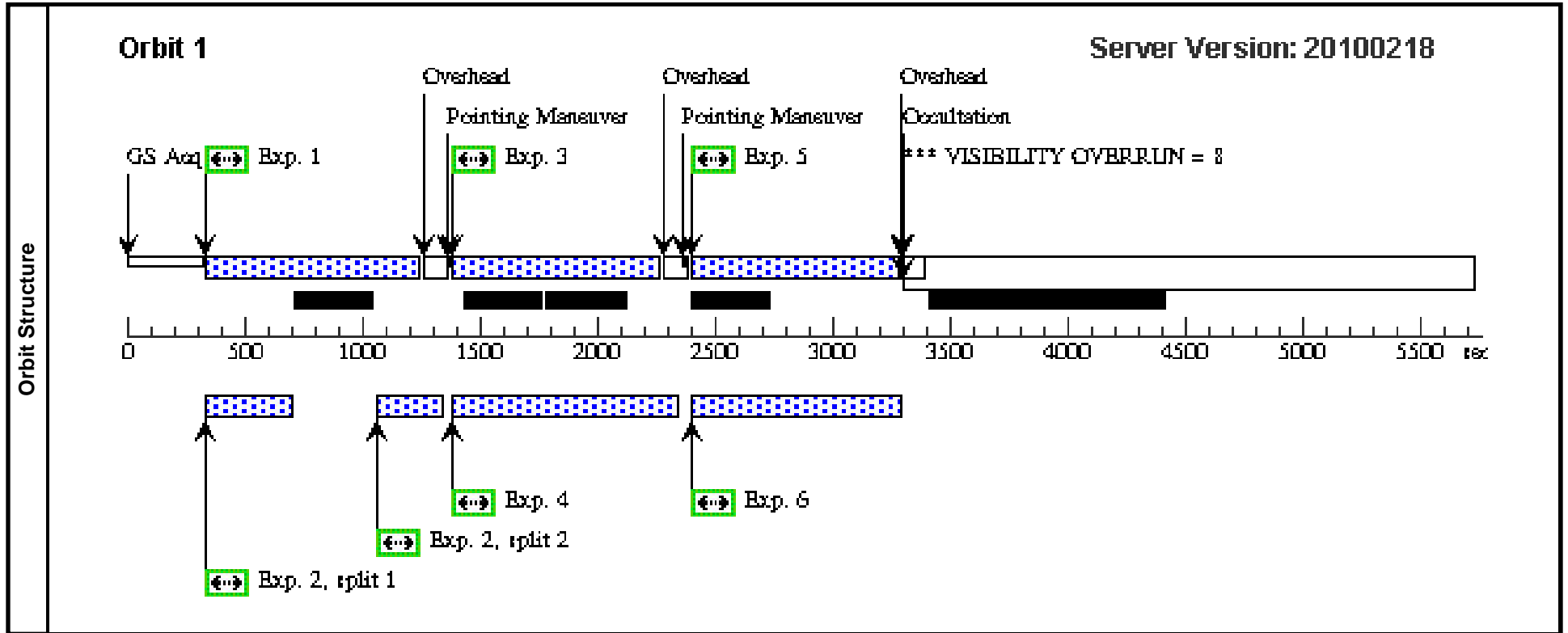
Visit	Proposal 11739, Visit 06, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 296D TO 338 D									
	(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 0,2	Prime + Parallel Group 1-2	885 Secs [==>]	[1]	
	2	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs [==>(Split 1)] [==>(Split 2)]	[1]	
	3	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 2,8	Prime + Parallel Group 3-4	884 Secs [==>]	[1]	
	4	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	805 Secs [==>]	[1]	
	5	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 4,-8	Prime + Parallel Group 5-6	880 Secs [==>]	[1]	
	6	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	765 Secs [==>]	[1]	



Proposal 11739 - Visit 07 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Sat May 15 01:07:13 GMT 2010

Visit	Proposal 11739, Visit 07, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 06									
	(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 6,-2	Prime + Parallel Group 1-2	885 Secs	[1]	
	2	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=2		Prime + Parallel Group 1-2	311 Secs	[1]	
	3	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 8,4	Prime + Parallel Group 3-4	885 Secs	[1]	
	4	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4	800 Secs	[1]	
	5	(2) NGC-6441-OFF	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 10,10	Prime + Parallel Group 5-6	885 Secs	[1]	
	6	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6	770 Secs	[1]	

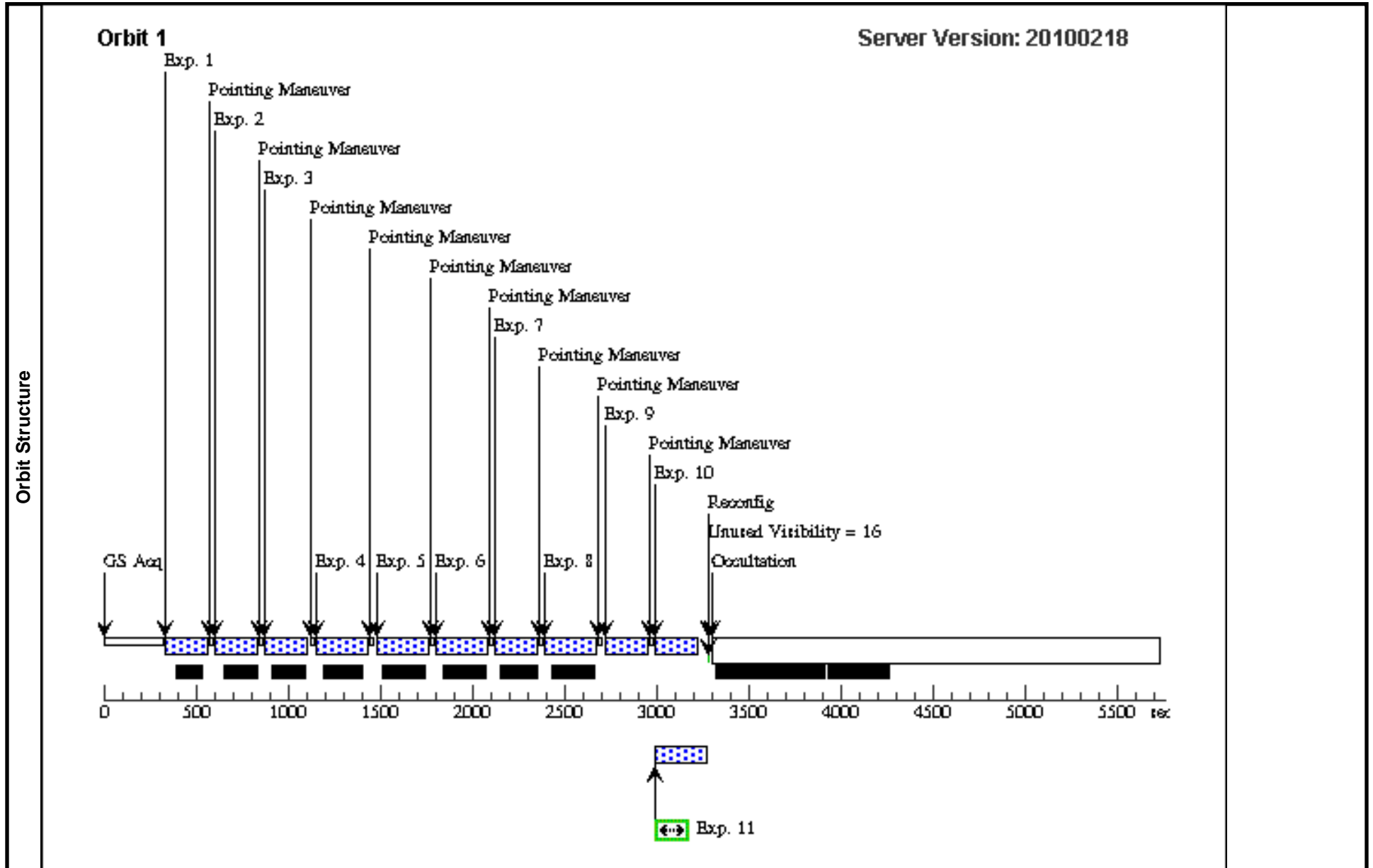


Proposal 11739 - Visit 08 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Visit	Proposal 11739, Visit 08, completed Sat May 15 01:07:14 GMT 2010 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 04					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(2)		NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS
Comments: This object was generated by the targetselector and retrieved from the NED database.						

Proposal 11739 - Visit 08 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -30,-30			[==>]	[1]
	2	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -27,-18			[==>]	[1]
	3	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -24,-6			[==>]	[1]
	4	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG -21,6			[==>]	[1]
	5	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG -18,-18			[==>]	[1]
	6	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG -15,-27			[==>]	[1]
	7	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -12,-15			[==>]	[1]
	8	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG -9,-3			[==>]	[1]
	9	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -6,9			[==>]	[1]
	10	(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG -3,21	Prime + Parallel Group 10-11		[==>]	[1]
11	(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W			Prime + Parallel Group 10-11		67 Secs [==>]	[1]	



Proposal 11739 - Visit 08 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

Visit	Proposal 11739, Visit 09, completed Sat May 15 01:07:15 GMT 2010 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 04					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(2)		NGC-6441-OFF	RA: 17 50 20.0000 (267.5833333d) Dec: -37 02 23.00 (-37.03972d) Equinox: J2000		V=24+/-1	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>						

Proposal 11739 - Visit 09 - Multiple Stellar Generations in the Unique Globular Clusters NGC 6388 and NGC 6441

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 0,-24		[==>]	[1]
	2		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 3,-12		[==>]	[1]
	3		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 6,0		[==>]	[1]
	4		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 9,12		[==>]	[1]
	5		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 12,24		[==>]	[1]
	6		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 15,-21		[==>]	[1]
	7		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 18,-9		[==>]	[1]
	8		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=STEP5 0	POS TARG 21,3		[==>]	[1]
	9		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 24,15		[==>]	[1]
	10		(2) NGC-6441-OFF	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=STEP5 0	POS TARG 27,27	Prime + Parallel Group 10-11	[==>]	[1]
	11		(2) NGC-6441-OFF	ACS/WFC, ACCUM, WFCENTER	F814W			Prime + Parallel Group 10-11	67 Secs [==>]	[1]

