14398 - ACS External CTE Monitor

Cycle: 23, Proposal Category: CAL/ACS

(Availability Mode: RESTRICTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) NGC104	ACS/WFC	3	29-Jul-2016 13:32:43.0	yes
02	(1) NGC104	ACS/WFC	2	29-Jul-2016 13:32:45.0	yes
03	(1) NGC104	ACS/WFC	2	29-Jul-2016 13:32:47.0	yes
04	(2) NGC104-F502N	ACS/WFC	1	29-Jul-2016 13:32:47.0	yes

8 Total Orbits Used

ABSTRACT

This program will obtain a direct calibration of photometric losses due to imperfect CTE by imaging stars in 47 Tuc.

OBSERVING DESCRIPTION

For each pointing we will obtain 2 CR-SPLITs to allow cosmic ray rejection and provide a set of clean stars for the analysis of CTE effects on photometry. More specifically, since the CTE also depends on the background level, we will obtain 5 different background levels, using the F502N and F606W filters and different exposure times, from 30s to 400s per exposure. In this way, we will obtain background levels ranging from ~0 to ~50 e-/pixel. Thus the total number of exposures is 5 (bkg levels) x2 (CR-SPLIT) x 3 (positions on the sky) = 30. Since it is crucial to obtain an almost

constant sky level, we will request low sky. Four to five images can be done each orbit so the total orbit request is 8 orbit. One field located closer to the nucleus of the cluster (~2' off-center) will also be imaged with the same technique. A series of short (30s) exposures with be taken with F502N in order to obtain a larger number of stars in the field of view. This will allow us to better characterize the effects of CTE for extremely low background values.

Proposal 14398 - Visit 01 - ACS External CTE Monitor

Visit

Proposal 14398, Visit 01, scheduling Fri Jul 29 17:32:48 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SEQ 01,02,03,04 WITHIN 2 D

Comments: USE SINGLE GUIDE STAR IF NECESSARY.VISIT SHOULD USE CONTIGUOUS ORBITS DO NO BREAK ORBITS

Diagnostics

(Visit 01) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING

(Visit 01) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Visit 01) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING

(Visit 01) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Visit 01) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING

(Visit 01) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Visit 01) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC104	RA: 00 22 38.2500 (5.6593750d)	Proper Motion RA: 0 sec of time/yr	V=17.5+/-0.1	Reference Frame: ICRS
		Dec: -72 03 54.00 (-72.06500d)	Proper Motion Dec: 0 arcsec/yr		
		Equinox: J2000	Parallax: 0"		

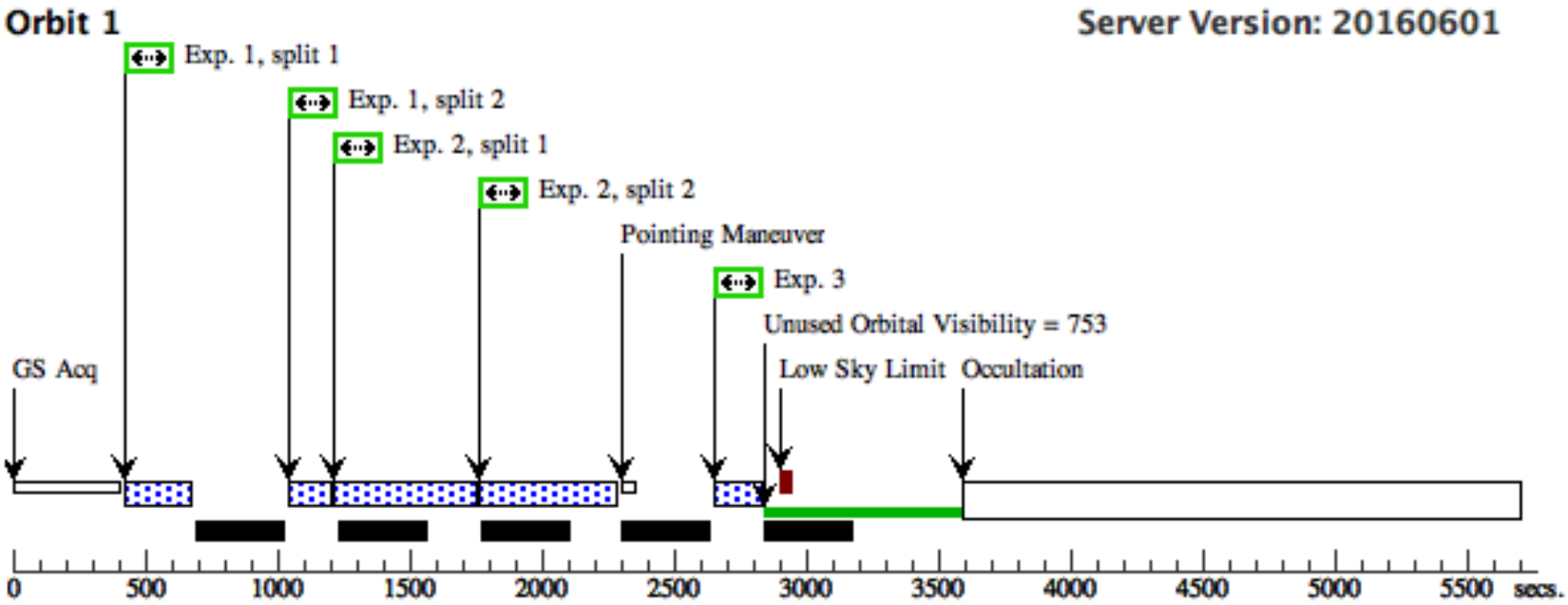
Comments: Field 6' W of cluster centre.

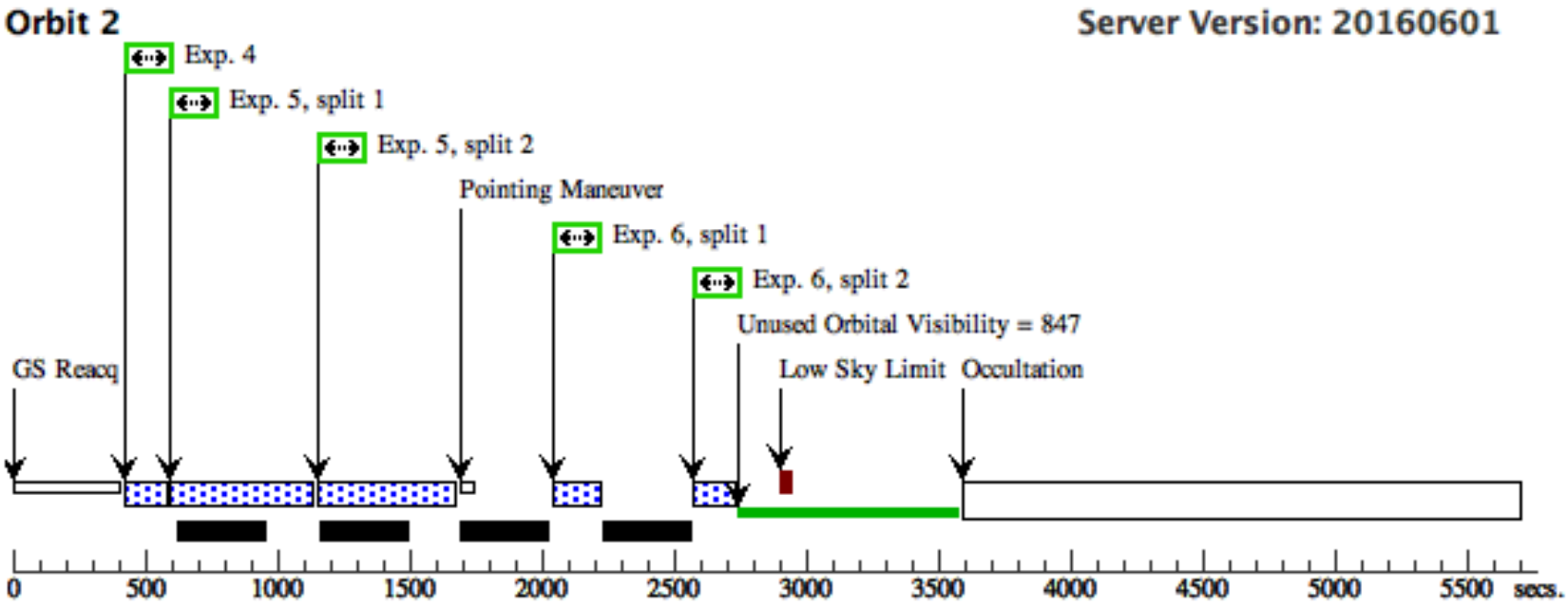
Proposal 14398 - Visit 01 - ACS External CTE Monitor

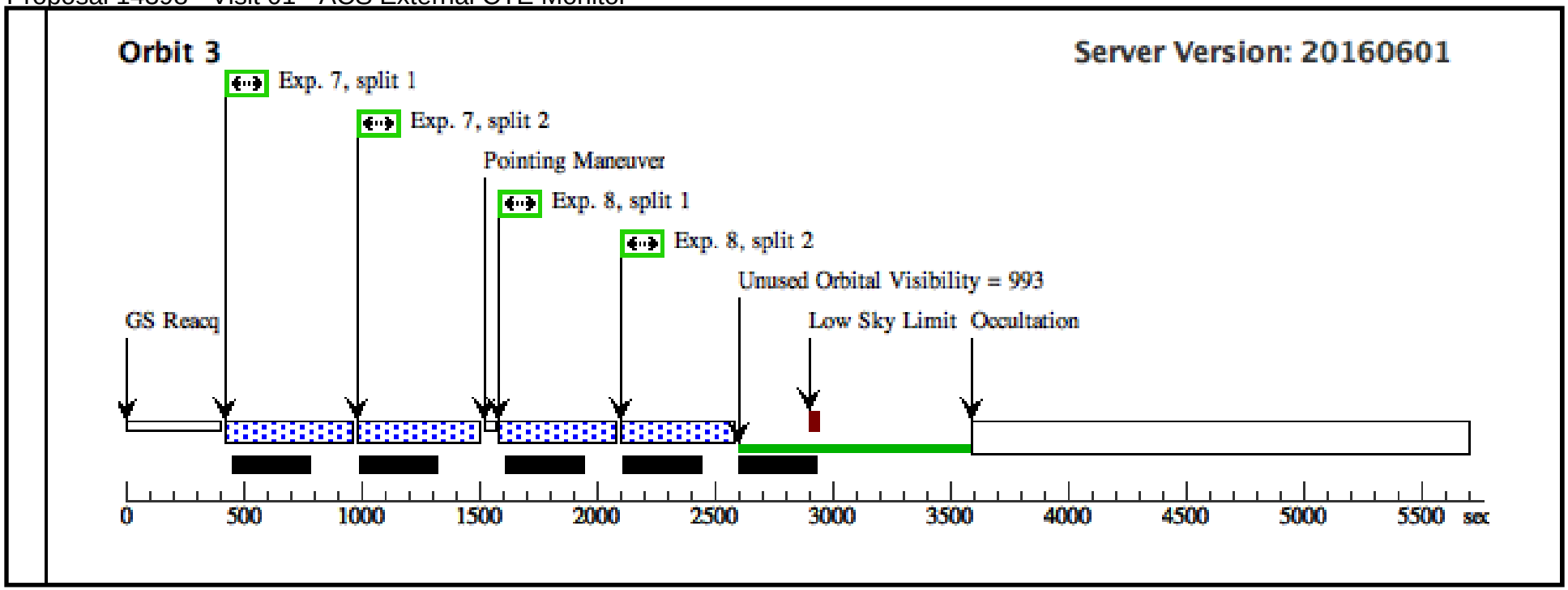
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 101.17,8.19; LOW-SKY; GS ACQ SCENARIO BASE1B3	Same Obset in Visit 01 Sequence 1-3 Non-Int in Same Obset in Visit 01	60.0 Secs (60 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
2		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 101.17,8.19; LOW-SKY	Same Obset in Visit 01 Sequence 1-3 Non-Int in Same Obset in Visit 01	800.0 Secs (800 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=NO	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 01 Sequence 1-3 Non-Int in Same Obset in Visit 01	30.0 Secs (30 Secs) *[==>]*	***[1]***
4		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=NO	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 01 Sequence 4-6 Non-Int in Same Obset in Visit 01	30.0 Secs (30 Secs) *[==>]*	***[2]***
5		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 01 Sequence 4-6 Non-Int in Same Obset in Visit 01	800.0 Secs (800 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
6		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 01 Sequence 4-6 Non-Int in Same Obset in Visit 01	60.0 Secs (60 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
7		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 01 Sequence 7-7 Non-Int in Same Obset in Visit 01	800.0 Secs (800 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***
8		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 101.17,8.19; LOW-SKY	Same Obset in Visit 01 Sequence 8-8 Non-Int in Same Obset in Visit 01	720.0 Secs (720 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***

Orbit Structure




Orbit 2
Server Version: 20160601
Exp. 4
Exp. 5, split 1
Exp. 5, split 2
Pointing Maneuver
Exp. 6, split 1
Exp. 6, split 2
Unused Orbital Visibility = 847
GS Reacq
Low Sky Limit
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 3
Server Version: 20160601
Exp. 7, split 1
Exp. 7, split 2
Pointing Maneuver
Exp. 8, split 1
Exp. 8, split 2
Unused Orbital Visibility = 993
GS Reacq
Low Sky Limit
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14398, Visit 02, scheduling Fri Jul 29 17:32:48 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 01

Comments: USE SINGLE GUIDE STAR IF NECESSARY.VISIT SHOULD USE CONTIGUOUS ORBITS
DO NO BREAK ORBITS

Diagnostics

(Visit 02) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING
(Visit 02) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING
(Visit 02) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

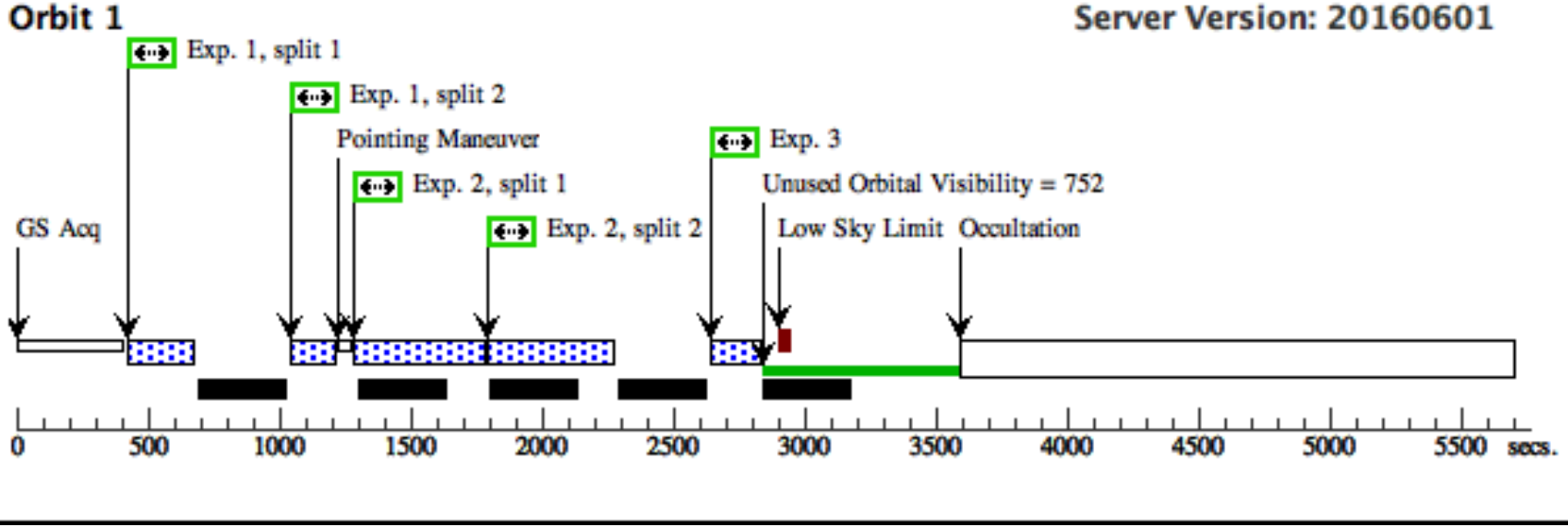
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC104	RA: 00 22 38.2500 (5.6593750d) Dec: -72 03 54.00 (-72.06500d) Equinox: J2000	Proper Motion RA: 0 sec of time/yr Proper Motion Dec: 0 arcsec/yr Parallax: 0"	V=17.5+/-0.1	Reference Frame: ICRS

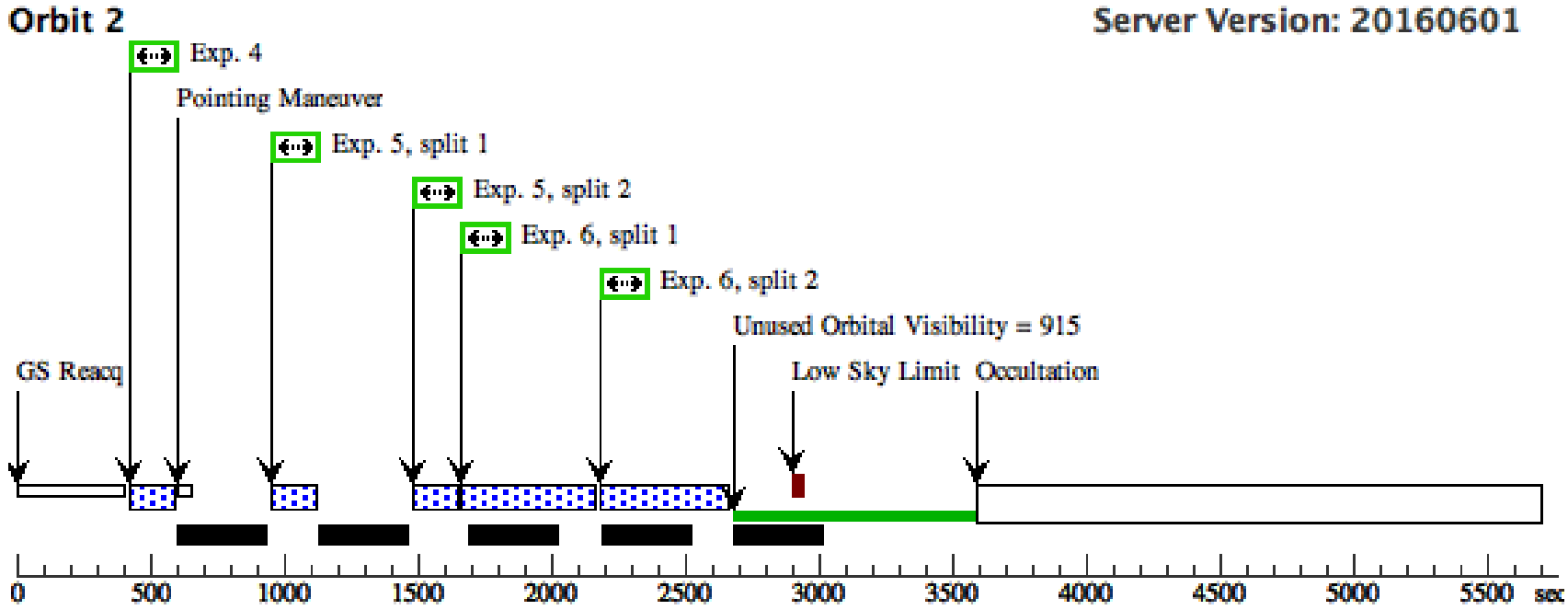
Comments: Field 6' W of cluster centre.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 101.17,8.19; LOW-SKY; GS ACQ SCENARIO BASE1B3	Same Obset in Visit 02 Sequence 1-3 Non-Int in Same Obset in Visit 02	80.0 Secs (80 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
2		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 02 Sequence 1-3 Non-Int in Same Obset in Visit 02	720.0 Secs (720 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=NO	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 02 Sequence 1-3 Non-Int in Same Obset in Visit 02	40.0 Secs (40 Secs) *[==>]*	***[1]***
4		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=NO	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 02 Sequence 4-6 Non-Int in Same Obset in Visit 02	40.0 Secs (40 Secs) *[==>]*	***[2]***
5		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 02 Sequence 4-6 Non-Int in Same Obset in Visit 02	80.0 Secs (80 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
6		(1) NGC104	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 02 Sequence 4-6 Non-Int in Same Obset in Visit 02	720.0 Secs (720 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***

Orbit Structure





Visit

Proposal 14398, Visit 03, scheduling Fri Jul 29 17:32:48 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 01

Comments: USE SINGLE GUIDE STAR IF NECESSARY.VISIT SHOULD USE CONTIGUOUS ORBITS
DO NO BREAK ORBITS

Diagnostics

(Visit 03) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING

(Visit 03) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Visit 03) Warning (Orbit Planner): MERGING RULE VIOLATED DURING AUTOMATIC MERGING

(Visit 03) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

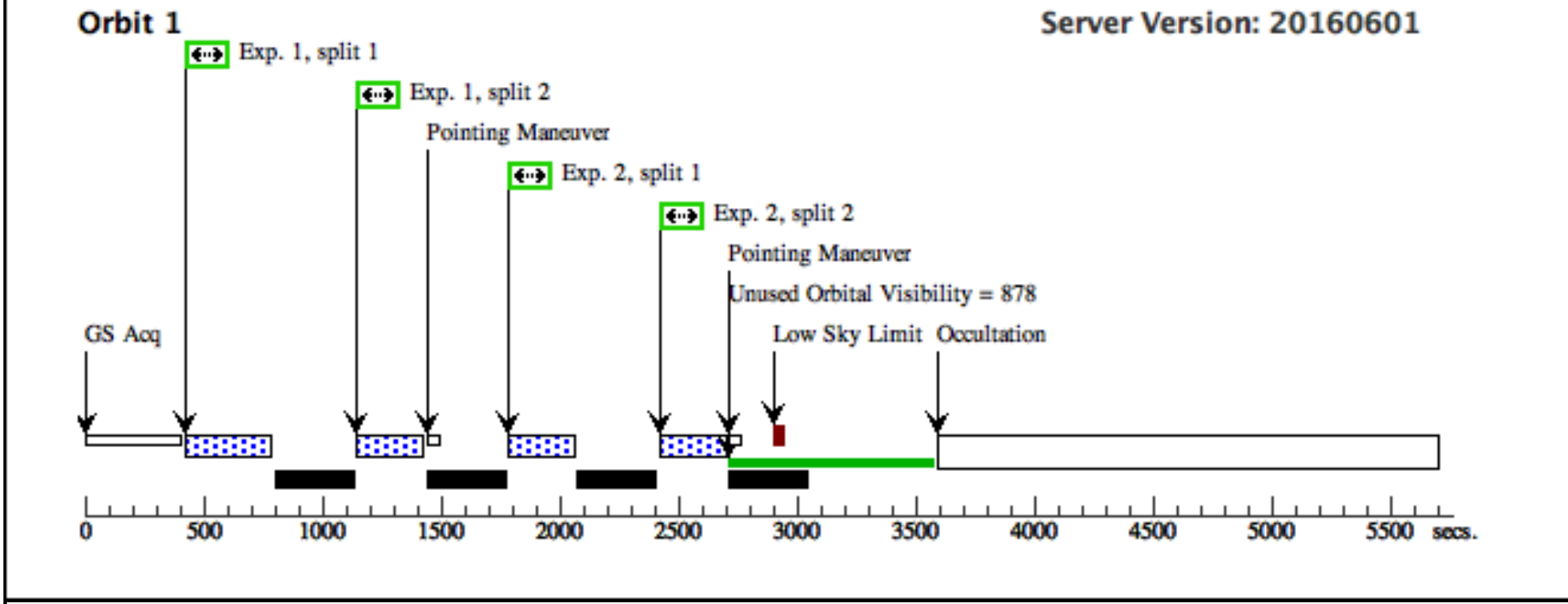
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC104	RA: 00 22 38.2500 (5.6593750d) Dec: -72 03 54.00 (-72.06500d) Equinox: J2000	Proper Motion RA: 0 sec of time/yr Proper Motion Dec: 0 arcsec/yr Parallax: 0"	V=17.5+/-0.1	Reference Frame: ICRS

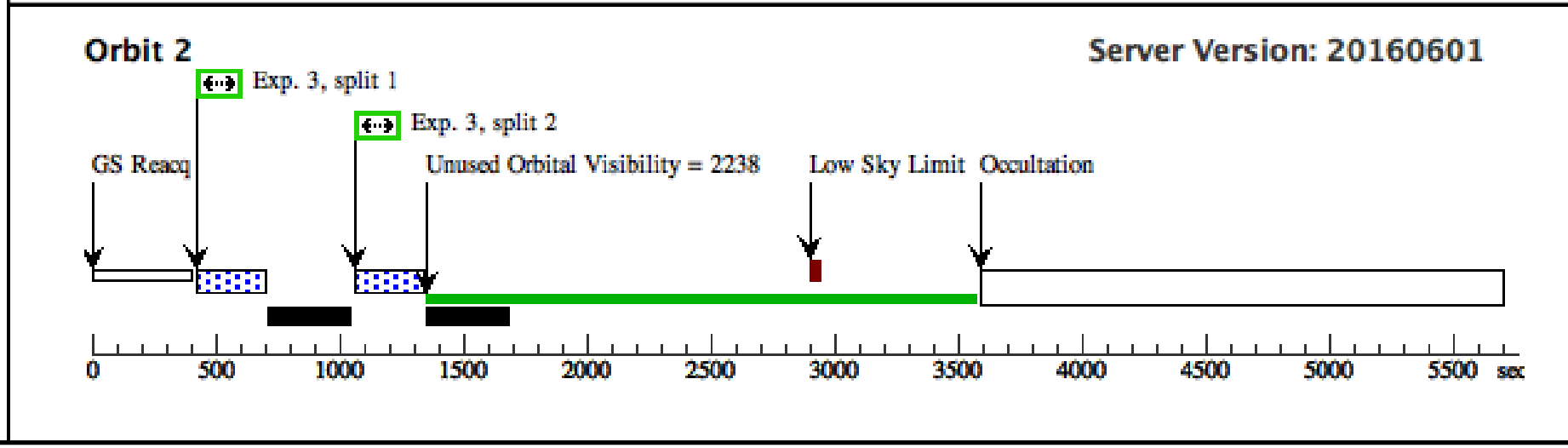
Comments: Field 6' W of cluster centre.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 101.17,8.19; LOW-SKY; GS ACQ SCENARIO BASE1B3	Same Obset in Visit 03 Sequence 1-2 Non-Int in Same Obset in Visit 03	300.0 Secs (300 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
2		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 0.0,0.0; LOW-SKY	Same Obset in Visit 03 Sequence 1-2 Non-Int in Same Obset in Visit 03	300.0 Secs (300 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(1) NGC104	ACS/WFC, ACCUM, WFC	F606W	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 03 Sequence 3-3 Non-Int in Same Obset in Visit 03	300.0 Secs (300 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***

Orbit Structure





Visit

Proposal 14398, Visit 04, scheduling Fri Jul 29 17:32:48 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 01

Comments: USE SINGLE GUIDE STAR IF NECESSARY.VISIT SHOULD USE CONTIGUOUS ORBITS
DO NO BREAK ORBITS

Diagnostics

(Visit 04) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Visit 04) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

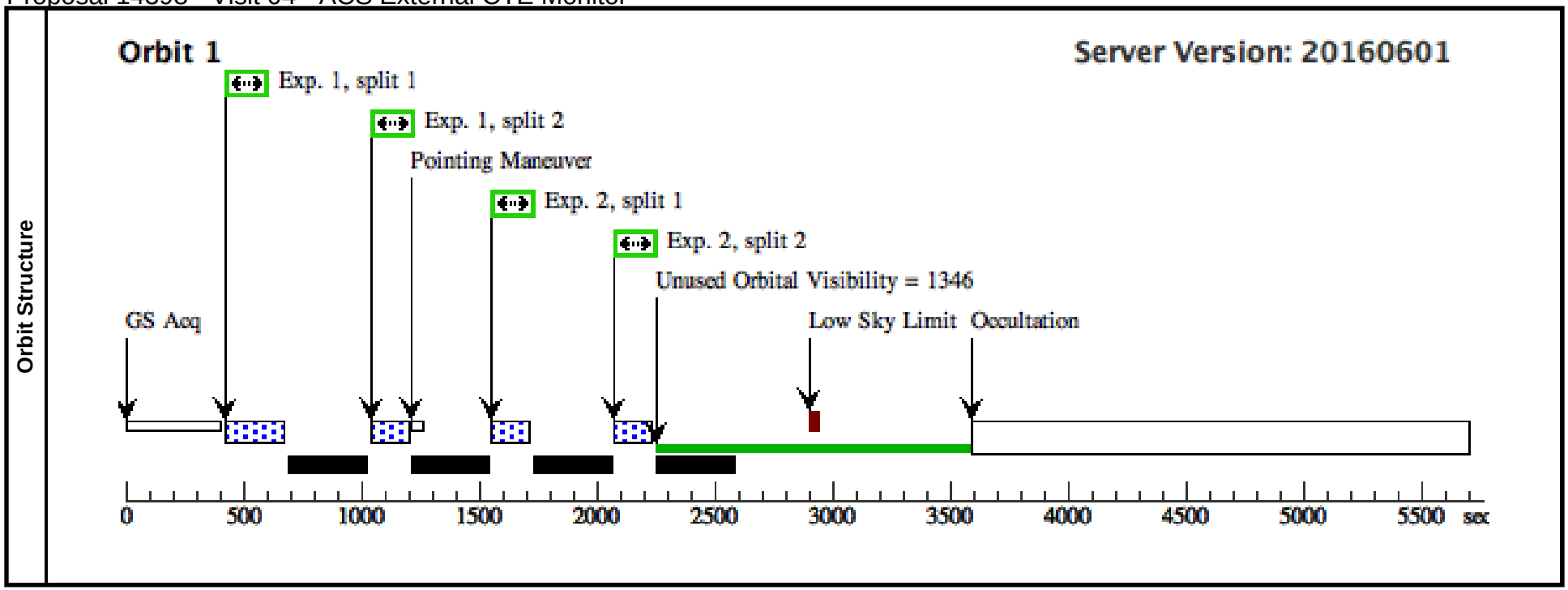
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC104-F502N	RA: 00 23 38.0000 (5.9083333d) Dec: -72 06 6.00 (-72.10167d) Equinox: J2000		V=4.91	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) NGC104-F502N	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 0.0,0.0; LOW-SKY; GS ACQ SCENARIO BASE1B3	Same Obset in Visit 04 Sequence 1-2 Non-Int in Same Obset in Visit 04	60.0 Secs (60 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
2		(2) NGC104-F502N	ACS/WFC, ACCUM, WFC	F502N	CR-SPLIT=2	POS TARG 0.0,103.64; LOW-SKY	Same Obset in Visit 04 Sequence 1-2 Non-Int in Same Obset in Visit 04	60.0 Secs (60 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20160601
Exp. 1, split 1
Exp. 1, split 2
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Unused Orbital Visibility = 1346
GS Acq
Low Sky Limit
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec