



# 12101 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Cycle: 18, Proposal Category: GO

(Treasury)

(Availability Mode: SUPPORTED)

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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>
A0	(1) MACS0647+7015 (3) MACS0647+7015-WFC3PAR1	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:33:45.0	yes
A2	(1) MACS0647+7015 (2) MACS0647+7015-ACSPAR1	ACS/WFC WFC3/IR	1	03-Jul-2012 21:33:59.0	yes
A3	(1) MACS0647+7015 (3) MACS0647+7015-WFC3PAR1	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:34:10.0	yes
A4	(1) MACS0647+7015 (2) MACS0647+7015-ACSPAR1	ACS/WFC WFC3/IR	1	03-Jul-2012 21:34:21.0	yes
A5	(1) MACS0647+7015 (3) MACS0647+7015-WFC3PAR1	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:34:31.0	yes
A6	(1) MACS0647+7015 (2) MACS0647+7015-ACSPAR1	ACS/WFC WFC3/UVIS	2	03-Jul-2012 21:34:46.0	yes

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<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>
A8	(1) MACS0647+7015 (3) MACS0647+7015-WFC3PAR1	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:34:59.0	yes
A9	(1) MACS0647+7015 (2) MACS0647+7015-ACSPAR1	ACS/WFC WFC3/IR	1	03-Jul-2012 21:35:09.0	yes
B0	(1) MACS0647+7015 (5) MACS0647+7015-WFC3PAR2	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:35:19.0	yes
B1	(1) MACS0647+7015 (4) MACS0647+7015-ACSPAR2	ACS/WFC WFC3/IR	1	03-Jul-2012 21:35:29.0	yes
B3	(1) MACS0647+7015 (4) MACS0647+7015-ACSPAR2	ACS/WFC WFC3/UVIS	2	03-Jul-2012 21:35:44.0	yes
B5	(1) MACS0647+7015 (5) MACS0647+7015-WFC3PAR2	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:35:59.0	yes
B6	(1) MACS0647+7015 (4) MACS0647+7015-ACSPAR2	ACS/WFC WFC3/IR WFC3/UVIS	2	03-Jul-2012 21:36:15.0	yes
B7	(1) MACS0647+7015 (5) MACS0647+7015-WFC3PAR2	ACS/WFC WFC3/IR WFC3/UVIS	1	03-Jul-2012 21:36:26.0	yes
B8	(1) MACS0647+7015 (4) MACS0647+7015-ACSPAR2	ACS/WFC WFC3/IR	1	03-Jul-2012 21:36:36.0	yes

18 Total Orbits Used

**ABSTRACT**

As the most massive objects in the universe, galaxy clusters represent important signposts in our story of structure evolution, and are the ultimate telescopic lenses, placing gravitationally lensed galaxies from the earliest epochs in comfortable reach for careful study. We take full advantage of

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the refurbished ACS and WFC3 cameras to deliver deep 14-filter images of 25 carefully chosen clusters. These will enable us to address timely and substantive questions about dark matter, dark energy, and galaxy evolution well beyond  $z=7$ . These X-ray clusters are chosen to be free of lensing bias and to span a wide range of redshift and mass. By combining strong and weak lensing, we will obtain the definitive mass profile of relaxed clusters to confront the distinctive prediction of the standard  $\Lambda$ CDM model. Detailed maps of internal structure will be enabled by  $\sim 1,000$  new multiply-imaged lensed sources to  $AB=26$ , all with precise ( $2\% \times (1+z)$ ) photometric redshift measurements, thanks to WFC3's UV and IR coverage. A supernovae search in parallel (with low magnification uncertainties) will extend the Hubble diagram of SN1a to  $z>1.5$ , testing the constancy of dark energy with time and probing progenitor evolution. Our homogeneous panchromatic deep imaging of this cluster sample will constitute a vast legacy archive for studies of the formation and evolution of structure.

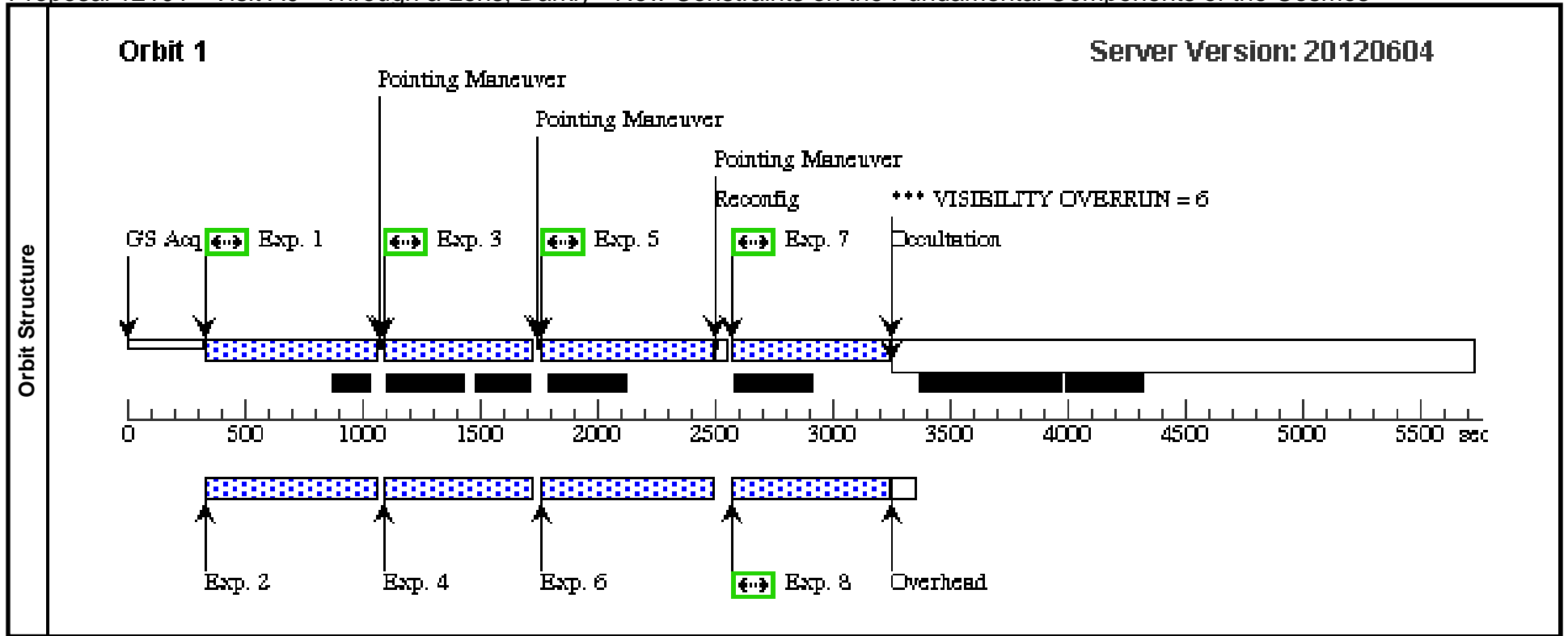
### **OBSERVING DESCRIPTION**

There are two special requirements: orientation and cadence. Four epochs must be executed at the same orientation. Each epoch will be between 10 and 14 days, depending on the roll angle availability for the given target. There will be two orientations selected, which will be approximately 20-30 degrees apart.

Proposal 12101 - Visit A0 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

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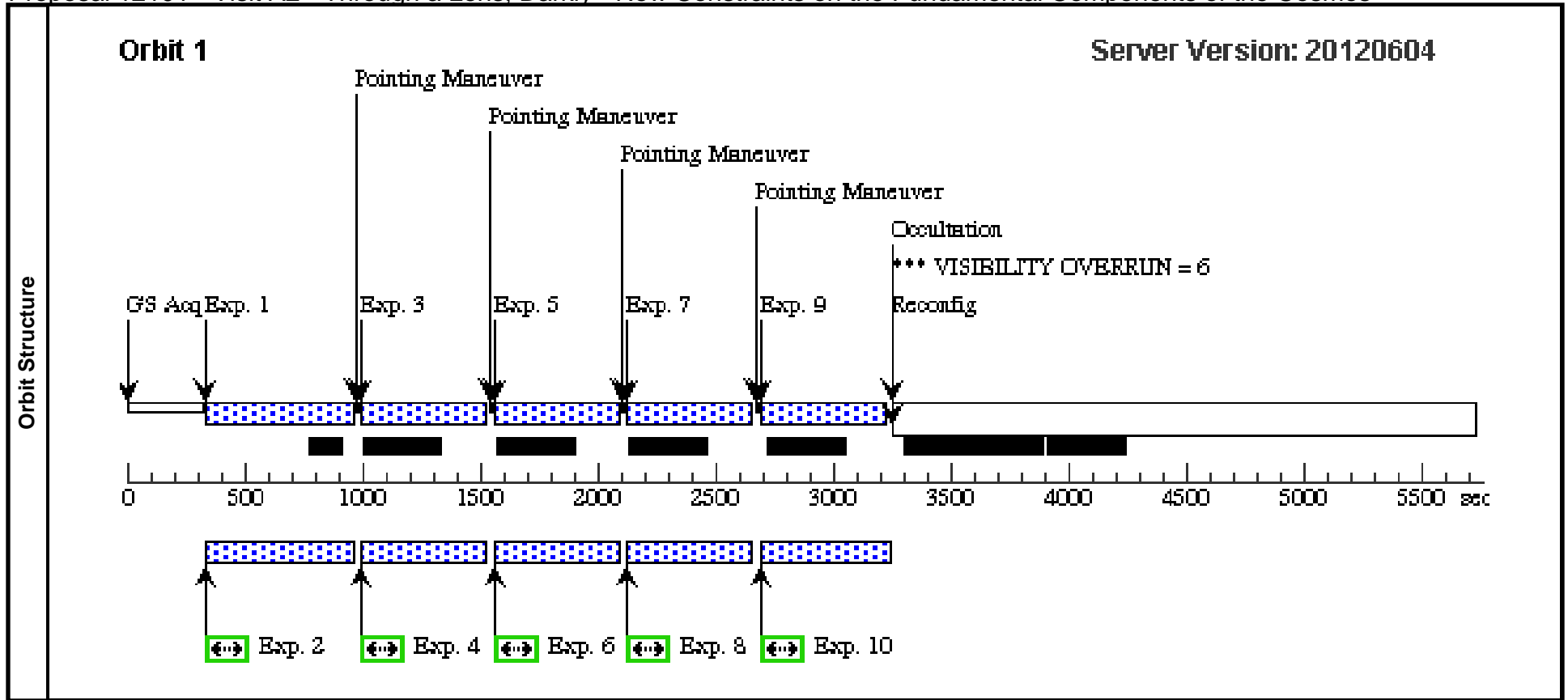
Visit	<b>Proposal 12101, Visit A0, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; ORIENT 0.0D TO 359 D <i>Comments: Visits A0-A2 represent epoch 1 (at orient 1) and should be taken concurrently</i>									
	Diagnostics	(Visit A0) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A0) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(3)	MACS0647+7015-WFC3PAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F606W		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A0	525 Secs [==>525.0 Secs ]	[1]
	2		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit A0	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F606W		POS TARG 0.0741,0 .1295	Prime + Parallel Group 3-4 in Visit A0	507 Secs [==>507.0 Secs ]	[1]
	4		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit A0	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.1729,- 0.0848	Prime + Parallel Group 5-6 in Visit A0	551 Secs [==>580 Secs ]	[1]
	6		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit A0	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.247,0. 2423	Prime + Parallel Group 7-8 in Visit A0	564 Secs [==>548 Secs ]	[1]
	8		(3) MACS0647+7015-WFC3PAR1	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit A0	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit A2 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

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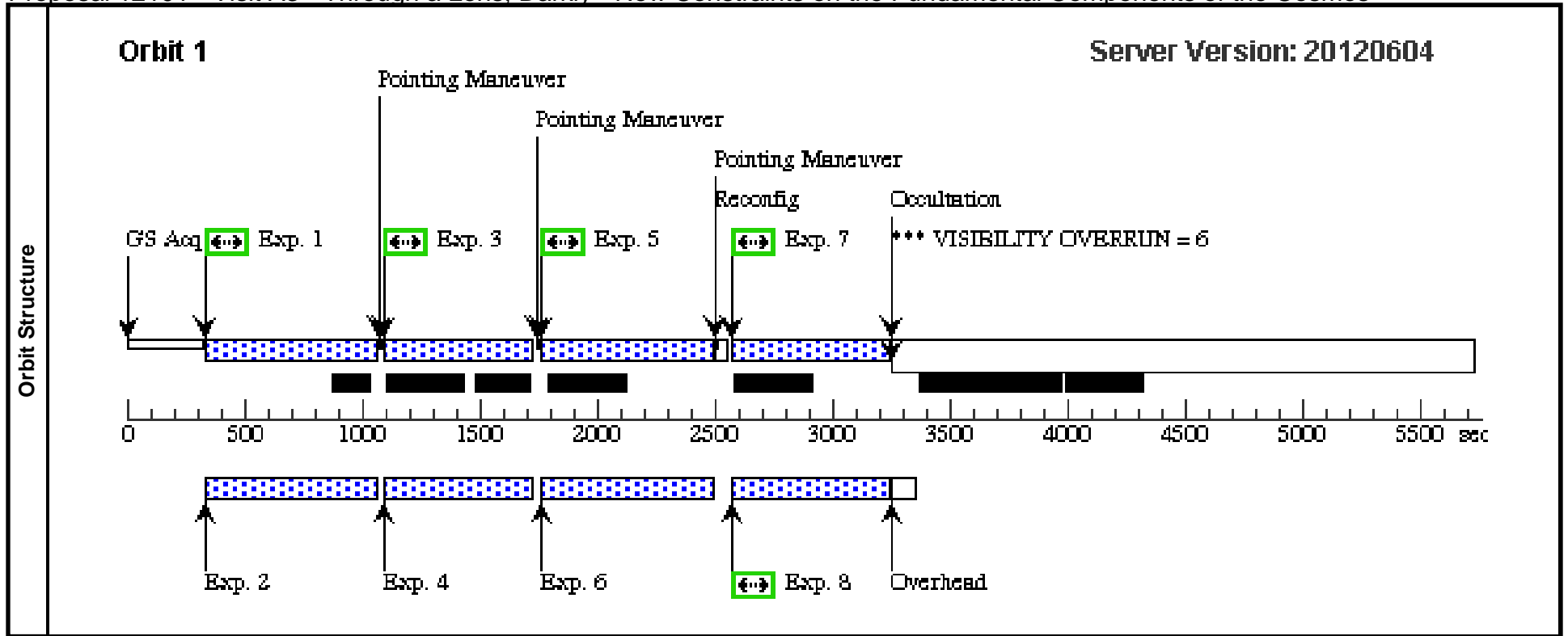
Visit	<b>Proposal 12101, Visit A2, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; SEQ A0,A2 WITHIN 1.2 Orbits <i>Comments: Visits A0-A2 represent epoch 1 (at orient 1) and should be taken concurrently</i>									
	Diagnostics	(Visit A2) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A2) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(2)	MACS0647+7015-ACSPAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=SPARS 100; NSAMP=7	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A2	[==>]	[1]
	2		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 1-2 in Visit A2	525 Secs [==>425.0 Secs]	[1]
	3		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.20325, -0.18165	Prime + Parallel Group 3-4 in Visit A2	[==>]	[1]
	4		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 3-4 in Visit A2	607 Secs [==>407.0 Secs]	[1]
	5		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.47425, 0.6055	Prime + Parallel Group 5-6 in Visit A2	[==>]	[1]
	6		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 5-6 in Visit A2	582 Secs [==>407.0 Secs]	[1]
	7		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.271,0 .42385	Prime + Parallel Group 7-8 in Visit A2	[==>]	[1]
	8		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 7-8 in Visit A2	587 Secs [==>407.0 Secs]	[1]
	9		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.47425, 0.6055	Prime + Parallel Group 9-10 in Visit A2	[==>]	[1]
10		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Group 9-10 in Visit A2	587 Secs [==>403.0 Secs]	[1]	



Proposal 12101 - Visit A3 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

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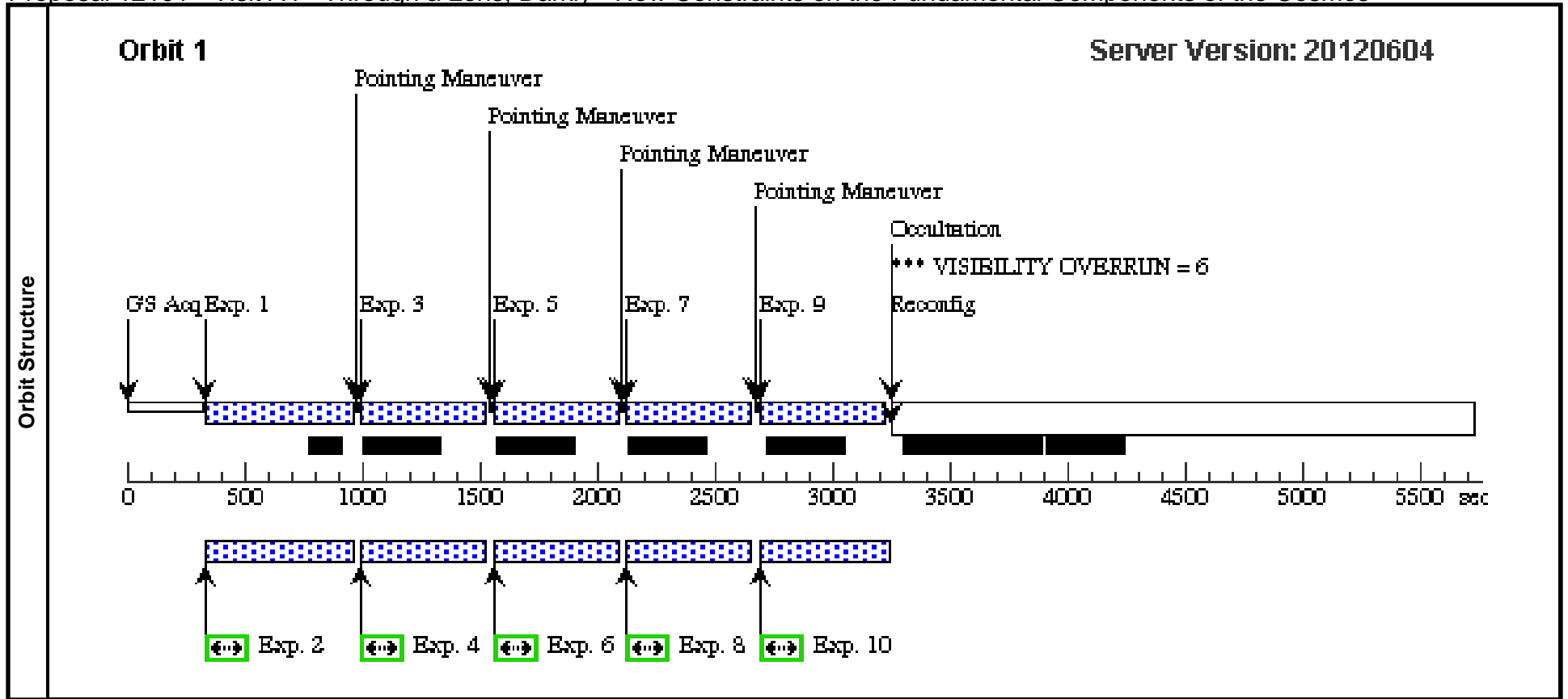
Visit	<b>Proposal 12101, Visit A3, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; AFTER A0 BY 12 D TO 14 D <i>Comments: Visits A3-A4 represent epoch 2 (at orient 1) and should be taken concurrently</i>									
	Diagnostics	(Visit A3) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A3) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(3)	MACS0647+7015-WFC3PAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F775W		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A3	525 Secs [==>525.0 Secs ]	[1]
	2		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit A3	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F775W		POS TARG 0.3211,0 .7917	Prime + Parallel Group 3-4 in Visit A3	507 Secs [==>507.0 Secs ]	[1]
	4		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit A3	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F475W		POS TARG 1.0868,0 .5573	Prime + Parallel Group 5-6 in Visit A3	551 Secs [==>582 Secs ]	[1]
	6		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit A3	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F475W		POS TARG -0.3211, -0.1742	Prime + Parallel Group 7-8 in Visit A3	564 Secs [==>548 Secs ]	[1]
	8		(3) MACS0647+7015-WFC3PAR1	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit A3	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit A4 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

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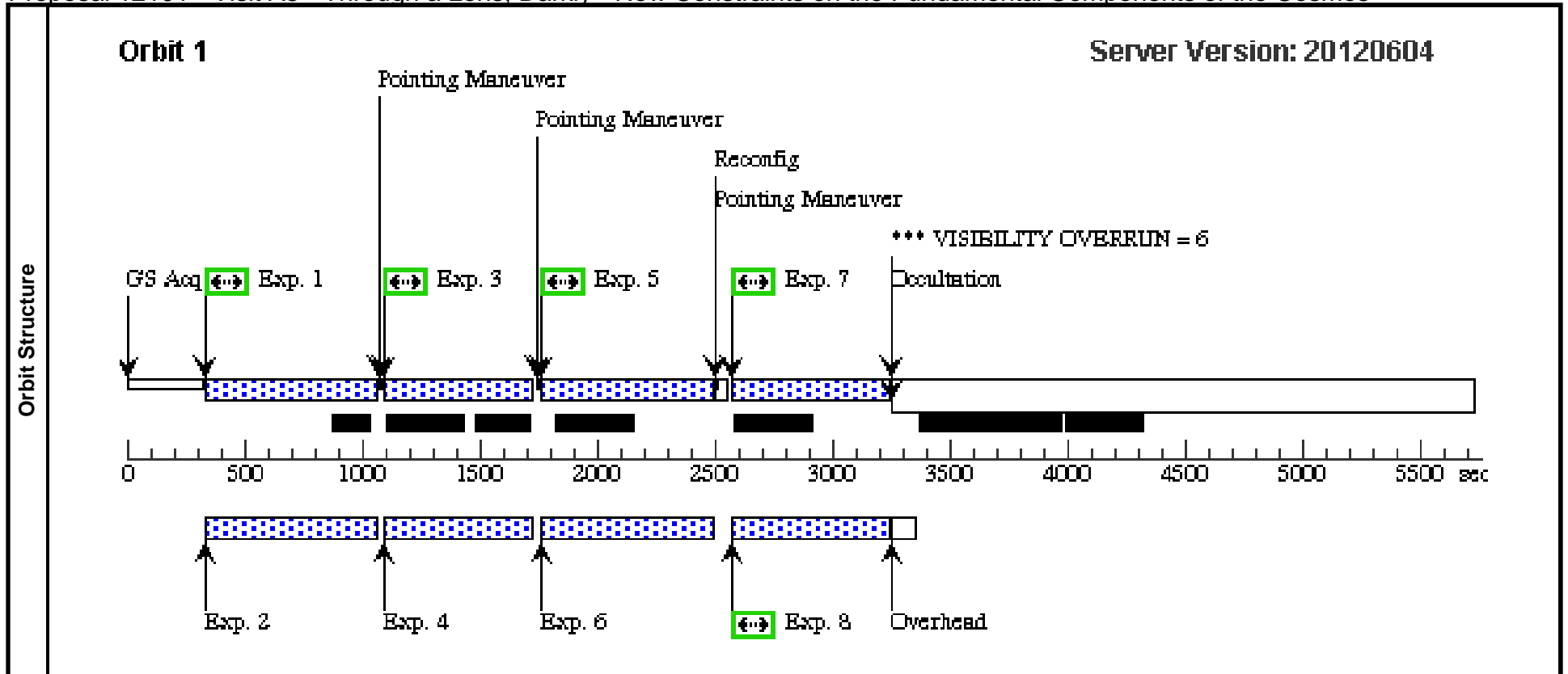
Visit	<b>Proposal 12101, Visit A4, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; SEQ A3,A4 WITHIN 1.2 Orbits <i>Comments: Visits A3-A4 represent epoch 2 (at orient 1) and should be taken concurrently</i>									
	Diagnostics	(Visit A4) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A4) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(2)	MACS0647+7015-ACSPAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS 100; NSAMP=7	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A4	[==>]	[1]
	2		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 1-2 in Visit A4	525 Secs [==>425 Secs ]	[1]
	3		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -1.1517 5,0.42385	Prime + Parallel Group 3-4 in Visit A4	[==>]	[1]
	4		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 3-4 in Visit A4	607 Secs [==>407.0 Secs ]	[1]
	5		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 5-6 in Visit A4	[==>]	[1]
	6		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 5-6 in Visit A4	582 Secs [==>407 Secs ]	[1]
	7		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.33875, -0.1211	Prime + Parallel Group 7-8 in Visit A4	[==>]	[1]
	8		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 7-8 in Visit A4	587 Secs [==>407.0 Secs ]	[1]
	9		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F140W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 9-10 in Visit A4	[==>]	[1]
10		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Group 9-10 in Visit A4	587 Secs [==>403 Secs ]	[1]	



Proposal 12101 - Visit A5 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

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<b>Visit</b>	<b>Proposal 12101, Visit A5, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; AFTER A0 BY 25 D TO 27 D <i>Comments: Visits A5-A7 represent epoch 3 (at orient 1) and should be taken concurrently</i>									
	<b>Diagnosics</b> (Visit A5) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit A5) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100.									
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(3)	MACS0647+7015-WFC3PAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F435W		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A5	525 Secs [==>525.0 Secs ]	[1]
	2		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit A5	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F435W		POS TARG 0.3211,0 .7917	Prime + Parallel Group 3-4 in Visit A5	507 Secs [==>507.0 Secs ]	[1]
	4		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit A5	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F625W		POS TARG 1.0868,0 .5573	Prime + Parallel Group 5-6 in Visit A5	551 Secs [==>551 Secs ]	[1]
	6		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit A5	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F625W		POS TARG -0.3211, -0.1742	Prime + Parallel Group 7-8 in Visit A5	564 Secs [==>548 Secs ]	[1]
8		(3) MACS0647+7015-WFC3PAR1	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit A5	400 Secs [==>642 Secs ]	[1]	



Proposal 12101 - Visit A6 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:53 GMT 2012

<b>Visit</b>	<b>Proposal 12101, Visit A6, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; SEQ A5,A6 WITHIN 1.2 Orbits <i>Comments: Visits A5-A7 represent epoch 3 (at orient 1) and should be taken concurrently</i>					
	<b>Diagnosics</b> (Visit A6) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit A6) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit A6) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100.					
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS
	(2)	MACS0647+7015-ACSPAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS

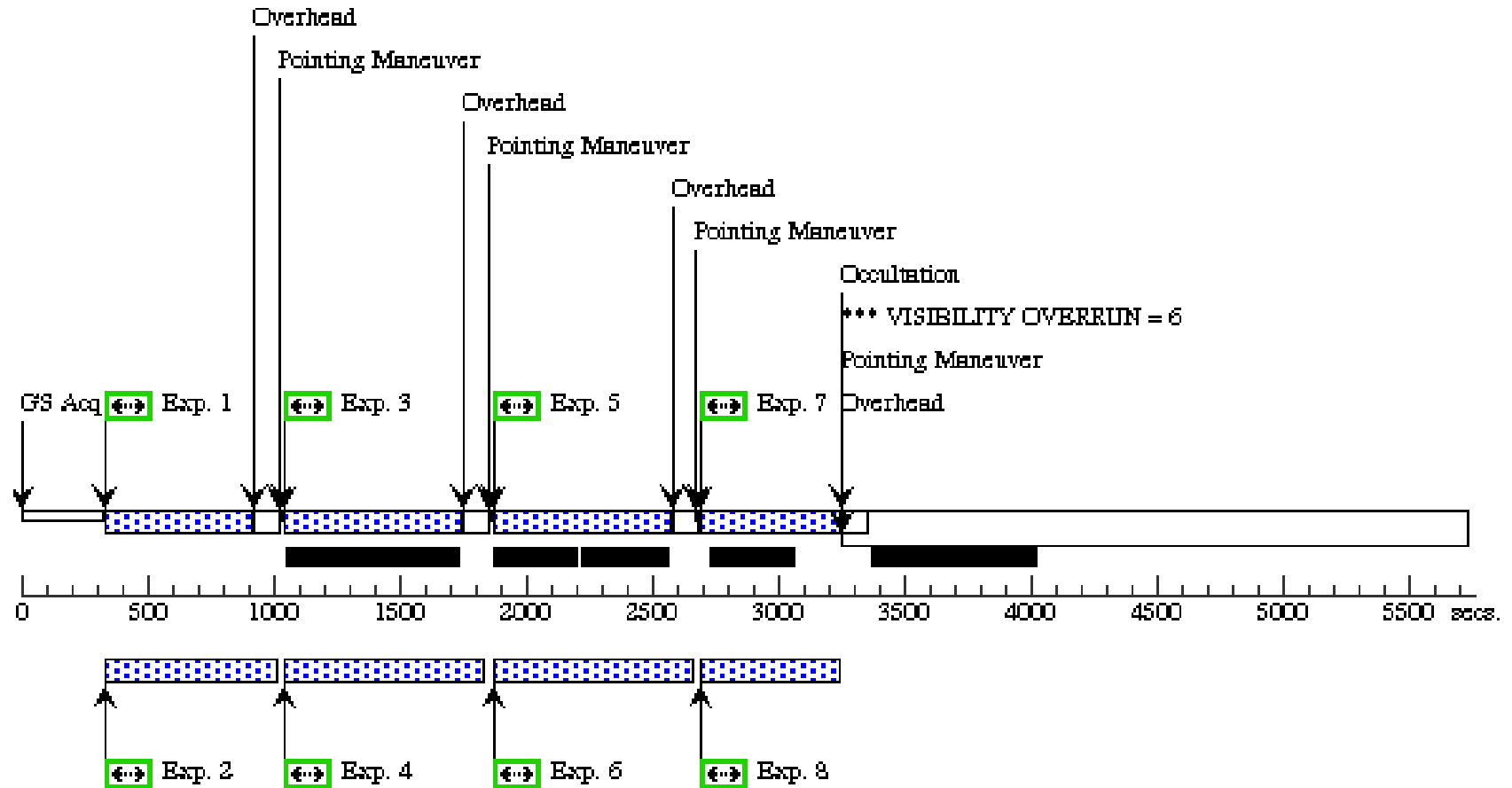
Proposal 12101 - Visit A6 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

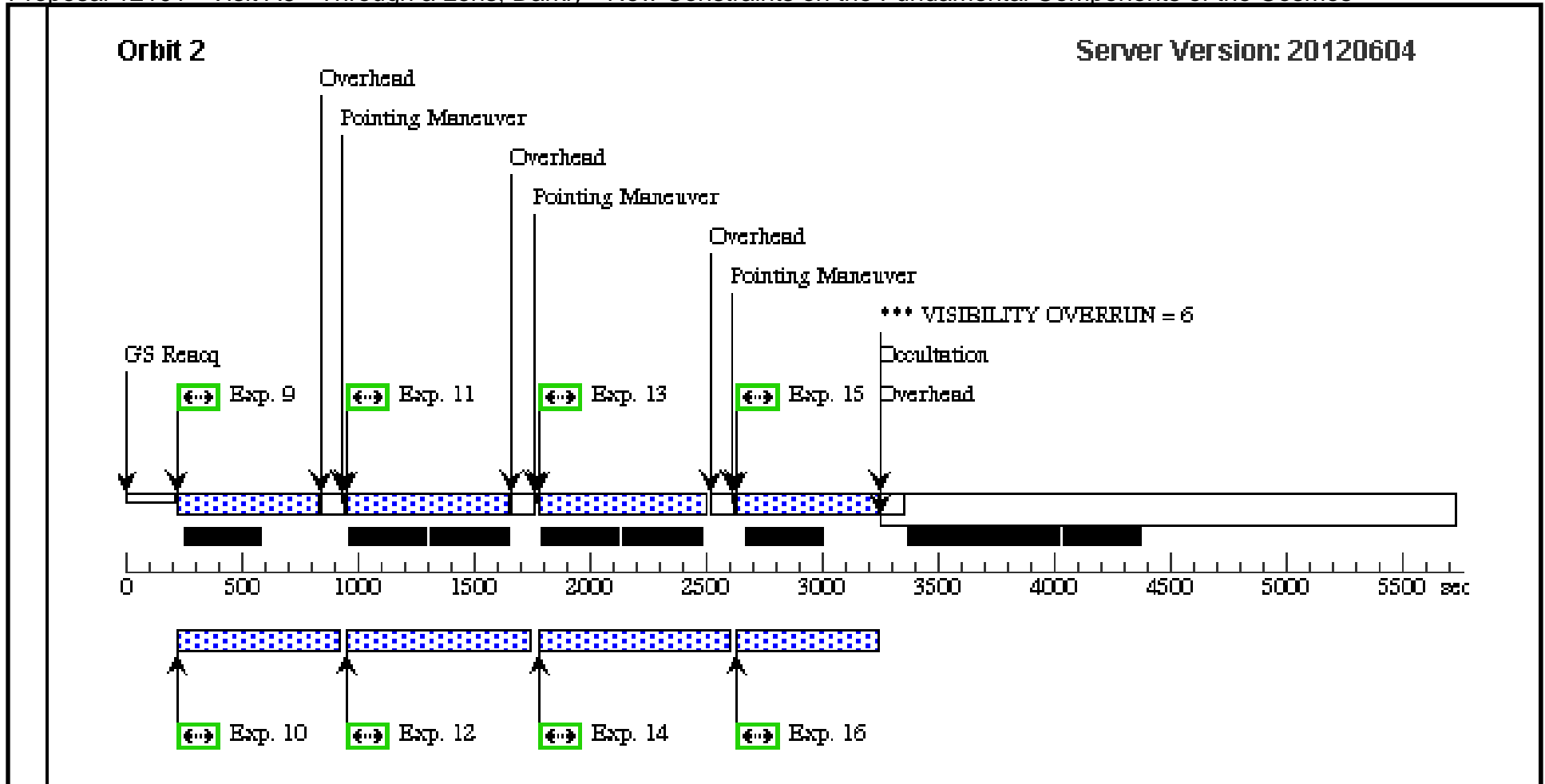
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG 0,0; GS ACQ SCENARI O.BASE1B3	Prime + Parallel Gro up 1-2 in Visit A6	600 Secs [==>550 Secs ]	[1]
	2		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 1-2 in Visit A6	600 Secs [==>470 Secs ]	[1]
	3		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG 0.0594,- 0.0552	Prime + Parallel Gro up 3-4 in Visit A6	600 Secs [==>699.0 Secs ]	[1]
	4		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 3-4 in Visit A6	600 Secs [==>669.0 Secs ]	[1]
	5		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG 0.1188,0 .06735	Prime + Parallel Gro up 5-6 in Visit A6	600 Secs [==>699.0 Secs ]	[1]
	6		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 5-6 in Visit A6	600 Secs [==>669.0 Secs ]	[1]
	7		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG -0.0594, 0.15395	Prime + Parallel Gro up 7-8 in Visit A6	600 Secs [==>550 Secs ]	[1]
	8		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 7-8 in Visit A6	600 Secs [==>399.0 Secs ]	[1]
	9		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG 0,0	Prime + Parallel Gro up 9-10 in Visit A6	600 Secs [==>608 Secs ]	[2]
	10		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 9-10 in Visit A6	600 Secs [==>552 Secs ]	[2]
	11		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F225W	CR-SPLIT=NO	POS TARG 0.0594,- 0.0552	Prime + Parallel Gro up 11-12 in Visit A6	600 Secs [==>699.0 Secs ]	[2]
	12		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 11-12 in Visit A6	600 Secs [==>669.0 Secs ]	[2]
	13		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F390W	CR-SPLIT=NO	POS TARG 0.1188,0 .06735	Prime + Parallel Gro up 13-14 in Visit A6	600 Secs [==>699.0 Secs ]	[2]
	14		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 13-14 in Visit A6	600 Secs [==>695.0 Secs ]	[2]
	15		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F390W	CR-SPLIT=NO	POS TARG -0.0594, 0.15395	Prime + Parallel Gro up 15-16 in Visit A6	600 Secs [==>609.0 Secs ]	[2]
16		(2) MACS0647+701 5-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 15-16 in Visit A6	600 Secs [==>458 Secs ]	[2]	

**Orbit 1**

Server Version: 20120604

Orbit Structure

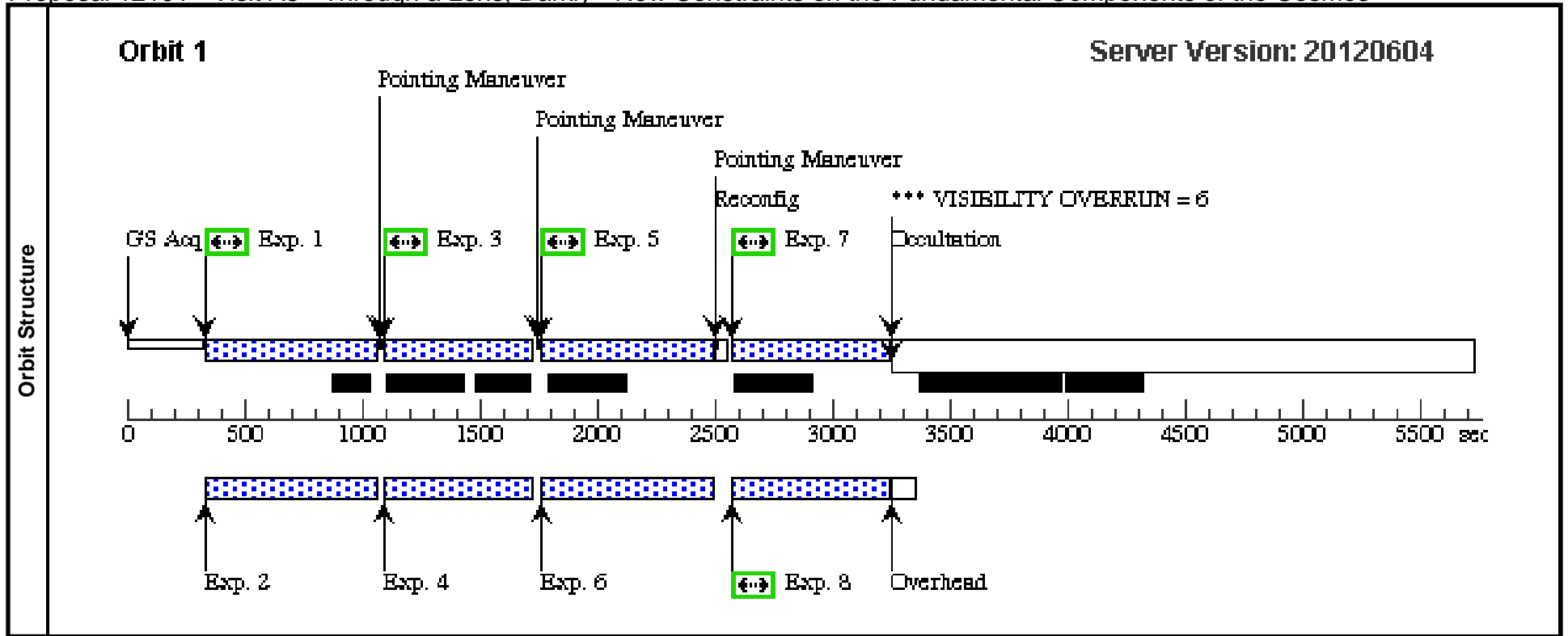




Proposal 12101 - Visit A8 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:55 GMT 2012

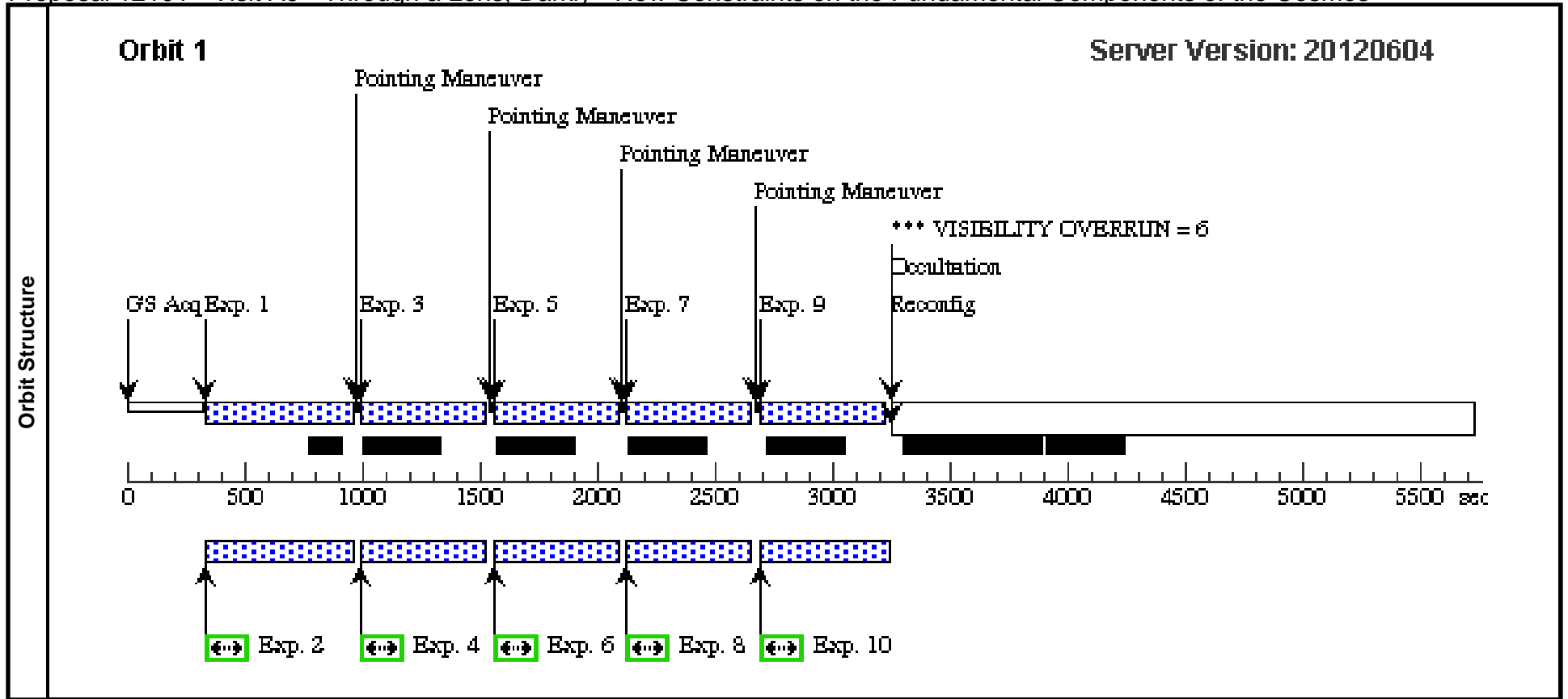
Visit	<b>Proposal 12101, Visit A8, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; AFTER A0 BY 38 D TO 40 D Comments: Visits A8-A9 represent epoch 4 (at orient 1) and should be taken concurrently									
	Diagnostics	(Visit A8) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A8) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS			
	(3)	MACS0647+7015-WFC3PAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A8	525 Secs [==>525 Secs ]	[1]
	2		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit A8	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.3211,0 .7917	Prime + Parallel Group 3-4 in Visit A8	507 Secs [==>507.0 Secs ]	[1]
	4		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit A8	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F775W		POS TARG 1.0868,0 .5573	Prime + Parallel Group 5-6 in Visit A8	551 Secs [==>582 Secs ]	[1]
	6		(3) MACS0647+7015-WFC3PAR1	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit A8	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F775W		POS TARG -0.3211, -0.1742	Prime + Parallel Group 7-8 in Visit A8	564 Secs [==>548 Secs ]	[1]
	8		(3) MACS0647+7015-WFC3PAR1	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit A8	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit A9 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:56 GMT 2012

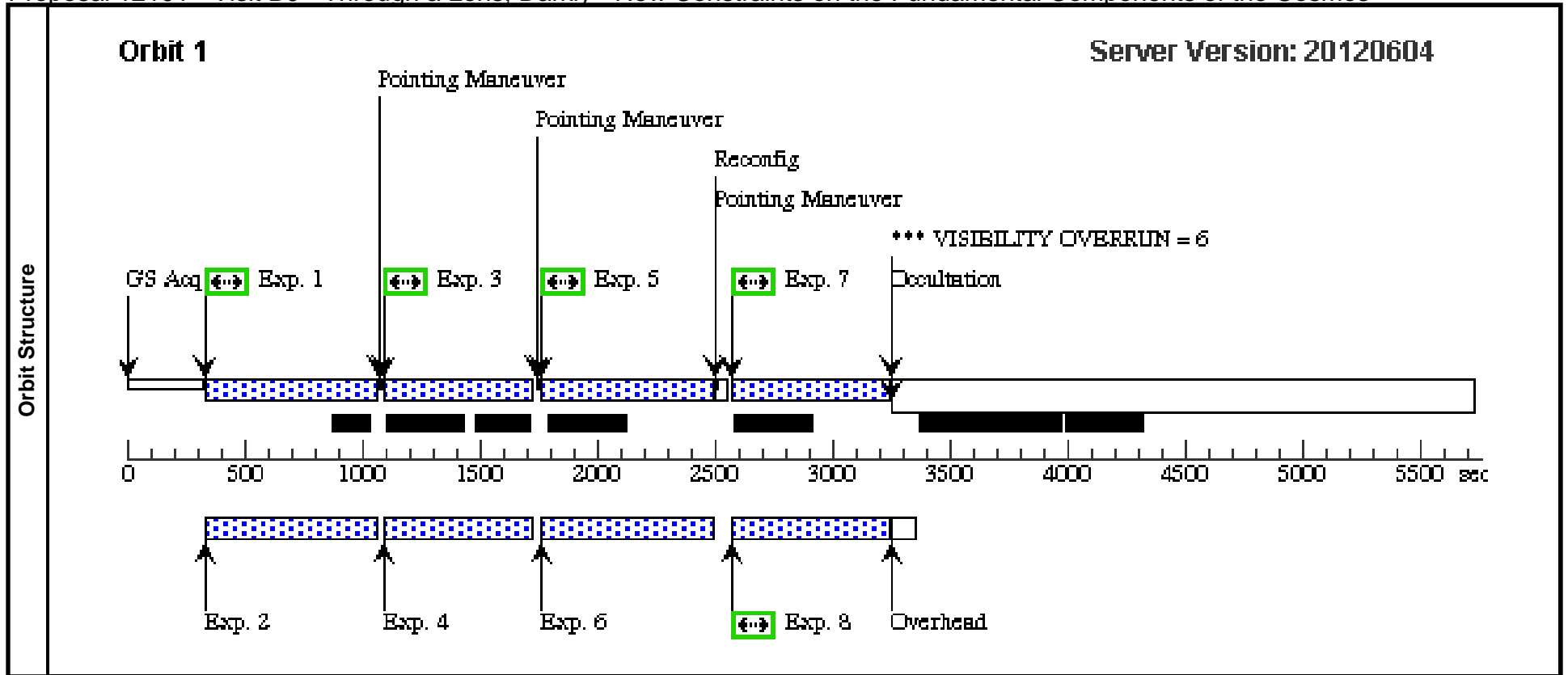
<b>Visit</b>	<b>Proposal 12101, Visit A9, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS A0; SEQ A8,A9 WITHIN 1.2 Orbits <i>Comments: Visits A8-A9 represent epoch 4 (at orient 1) and should be taken concurrently</i>									
	(Visit A9) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit A9) Warning (Orbit Planner): VISIBILITY OVERRUN									
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(2)	MACS0647+7015-ACSPAR1	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=7	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit A9	[==>]	[1]
	2		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 1-2 in Visit A9	525 Secs [==>425 Secs ]	[1]
	3		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -1.1517 5,0.42385	Prime + Parallel Group 3-4 in Visit A9	[==>]	[1]
	4		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 3-4 in Visit A9	607 Secs [==>407.0 Secs ]	[1]
	5		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 5-6 in Visit A9	[==>]	[1]
	6		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 5-6 in Visit A9	582 Secs [==>407 Secs ]	[1]
	7		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.33875, -0.1211	Prime + Parallel Group 7-8 in Visit A9	[==>]	[1]
	8		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 7-8 in Visit A9	587 Secs [==>407.0 Secs ]	[1]
	9		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 9-10 in Visit A9	[==>]	[1]
10		(2) MACS0647+7015-ACSPAR1	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Group 9-10 in Visit A9	587 Secs [==>403 Secs ]	[1]	



Proposal 12101 - Visit B0 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:57 GMT 2012

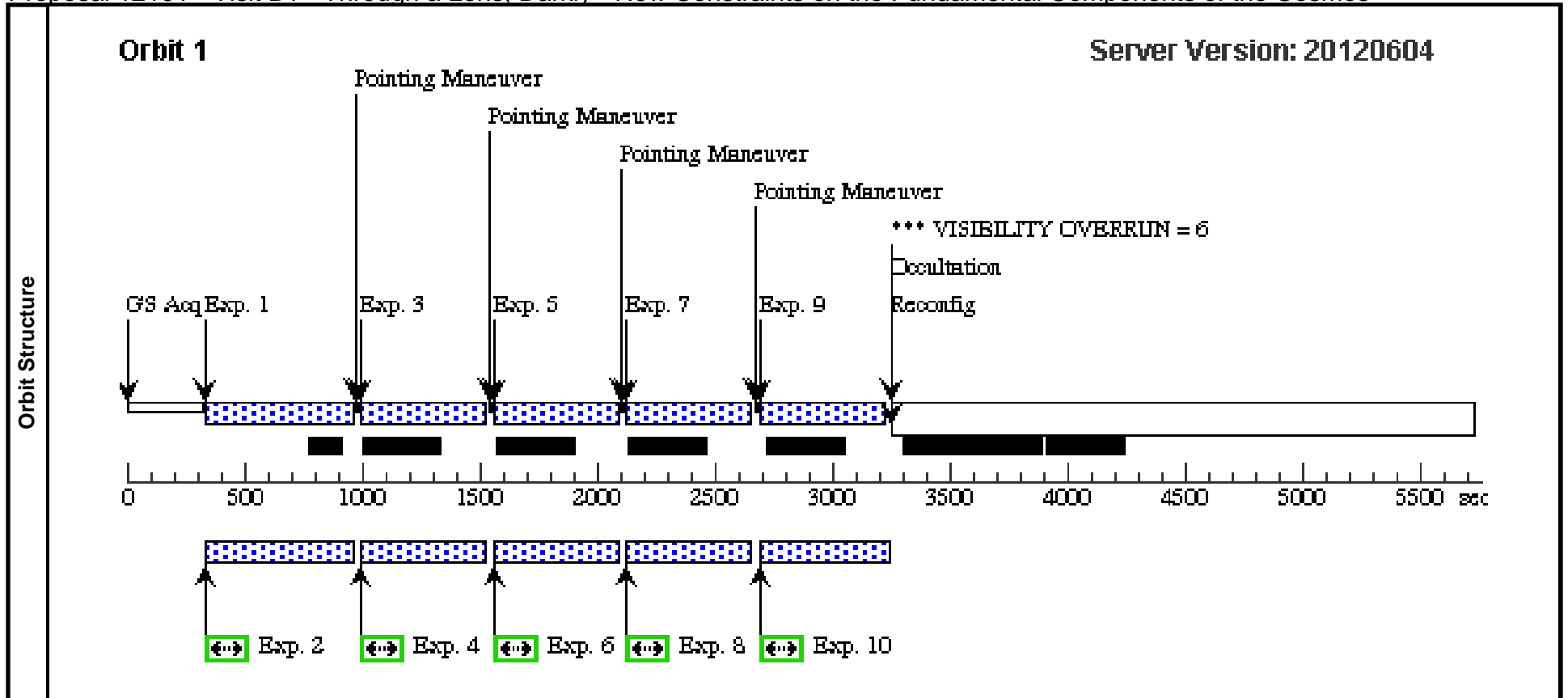
Visit	<b>Proposal 12101, Visit B0, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; ORIENT 19D TO 21D FROM A0 <i>Comments: Visits B0-B1 represent epoch 1 (at orient 2) and should be taken concurrently</i>									
	Diagnostics	(Visit B0) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit B0) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100.								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(5)	MACS0647+7015-WFC3PAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F625W		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit B0	525 Secs [==>525 Secs ]	[1]
	2		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit B0	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F625W		POS TARG 0.0741,0 .1295	Prime + Parallel Group 3-4 in Visit B0	507 Secs [==>507.0 Secs ]	[1]
	4		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit B0	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.1729,- 0.0848	Prime + Parallel Group 5-6 in Visit B0	551 Secs [==>585 Secs ]	[1]
	6		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit B0	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.247,0. 2423	Prime + Parallel Group 7-8 in Visit B0	564 Secs [==>548 Secs ]	[1]
	8		(5) MACS0647+7015-WFC3PAR2	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit B0	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit B1 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:58 GMT 2012

<b>Visit</b>	<b>Proposal 12101, Visit B1, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS B0; SEQ B0,B1 WITHIN 1.2 Orbits <i>Comments: Visits B0-B1 represent epoch 1 (at orient 2) and should be taken concurrently</i>									
	(Visit B1) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit B1) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100.									
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(4)	MACS0647+7015-ACSPAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=7	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit B1	[==>]	[1]
	2		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 1-2 in Visit B1	525 Secs [==>425 Secs ]	[1]
	3		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.20325, -0.18165	Prime + Parallel Group 3-4 in Visit B1	[==>]	[1]
	4		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 3-4 in Visit B1	607 Secs [==>407.0 Secs ]	[1]
	5		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.47425, 0.6055	Prime + Parallel Group 5-6 in Visit B1	[==>]	[1]
	6		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 5-6 in Visit B1	582 Secs [==>407 Secs ]	[1]
	7		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.271,0 .42385	Prime + Parallel Group 7-8 in Visit B1	[==>]	[1]
	8		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 7-8 in Visit B1	587 Secs [==>407.0 Secs ]	[1]
	9		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.47425, 0.6055	Prime + Parallel Group 9-10 in Visit B1	[==>]	[1]
10		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Group 9-10 in Visit B1	587 Secs [==>403 Secs ]	[1]	



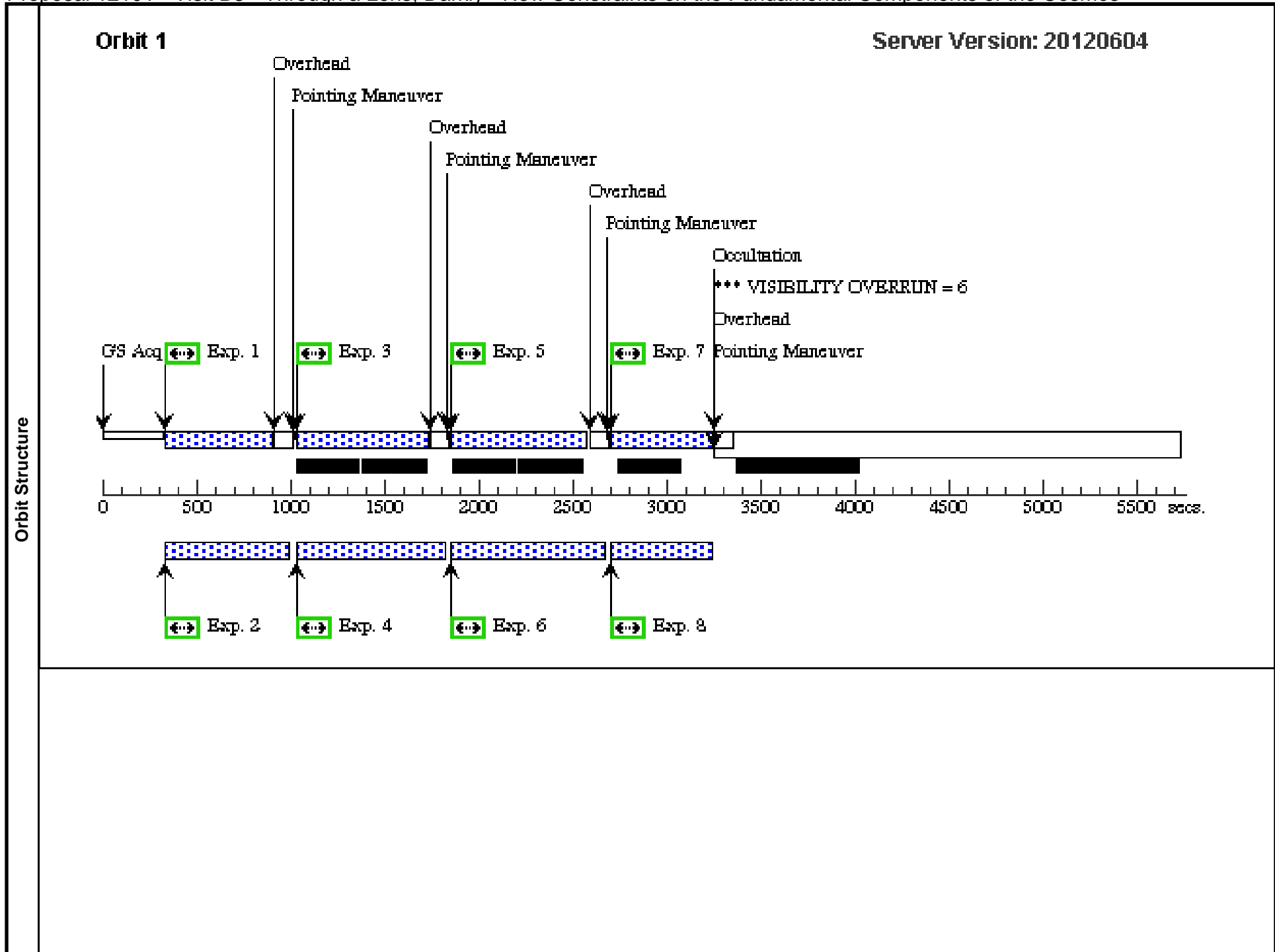
Proposal 12101 - Visit B3 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:36:59 GMT 2012

<b>Visit</b>	<b>Proposal 12101, Visit B3, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS B0; AFTER B0 BY 12 D TO 14 D <i>Comments: Visits B3-B4 represent epoch 2 (at orient 2) and should be taken concurrently</i>					
	<b>Diagnosics</b> (Visit B3) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit B3) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit B3) Warning (Orbit Planner): VISIBILITY OVERRUN					
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS
	(4)	MACS0647+7015-ACSPAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS

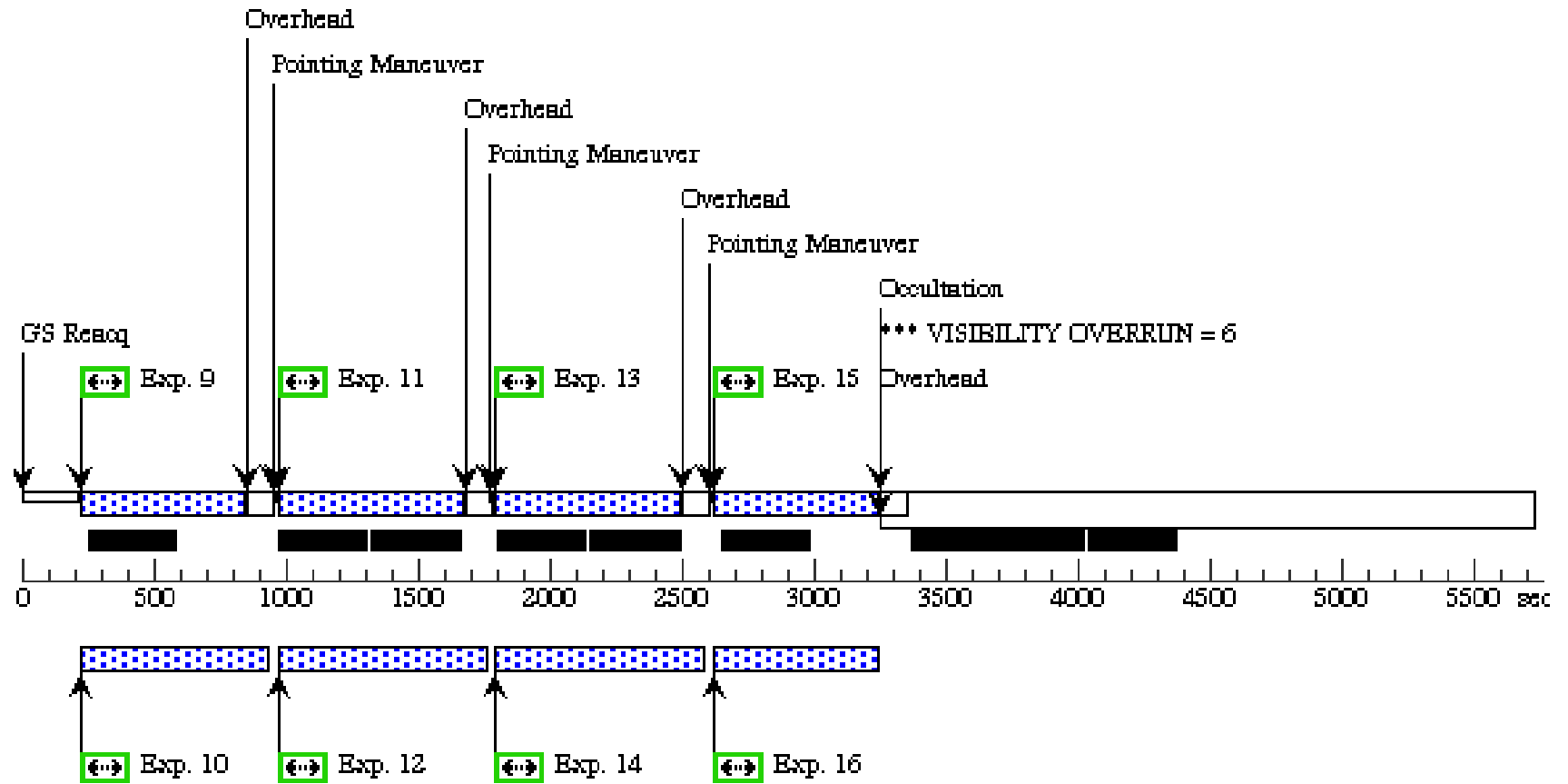
Proposal 12101 - Visit B3 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F390W	CR-SPLIT=NO	POS TARG 0,0; GS ACQ SCENARI O.BASE1B3	Prime + Parallel Gro up 1-2 in Visit B3	600 Secs [==>538 Secs ]	[1]
	2		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 1-2 in Visit B3	600 Secs [==>458 Secs ]	[1]
	3		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F390W	CR-SPLIT=NO	POS TARG 0.0594,- 0.0552	Prime + Parallel Gro up 3-4 in Visit B3	600 Secs [==>699.0 Secs ]	[1]
	4		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 3-4 in Visit B3	600 Secs [==>669 Secs ]	[1]
	5		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG 0.1188,0 .06735	Prime + Parallel Gro up 5-6 in Visit B3	600 Secs [==>699.0 Secs ]	[1]
	6		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 5-6 in Visit B3	600 Secs [==>692 Secs ]	[1]
	7		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG -0.0594, 0.15395	Prime + Parallel Gro up 7-8 in Visit B3	600 Secs [==>539 Secs ]	[1]
	8		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 7-8 in Visit B3	600 Secs [==>388 Secs ]	[1]
	9		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG 0,0	Prime + Parallel Gro up 9-10 in Visit B3	600 Secs [==>621 Secs ]	[2]
	10		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 9-10 in Visit B3	600 Secs [==>565 Secs ]	[2]
	11		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG 0.0594,- 0.0552	Prime + Parallel Gro up 11-12 in Visit B3	600 Secs [==>699 Secs ]	[2]
	12		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 11-12 in Visit B3	600 Secs [==>669 Secs ]	[2]
	13		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG 0.1188,0 .06735	Prime + Parallel Gro up 13-14 in Visit B3	600 Secs [==>699 Secs ]	[2]
	14		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 13-14 in Visit B3	600 Secs [==>669 Secs ]	[2]
	15		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO	POS TARG -0.0594, 0.15395	Prime + Parallel Gro up 15-16 in Visit B3	600 Secs [==>622 Secs ]	[2]
16		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 15-16 in Visit B3	600 Secs [==>471 Secs ]	[2]	



Orbit 2

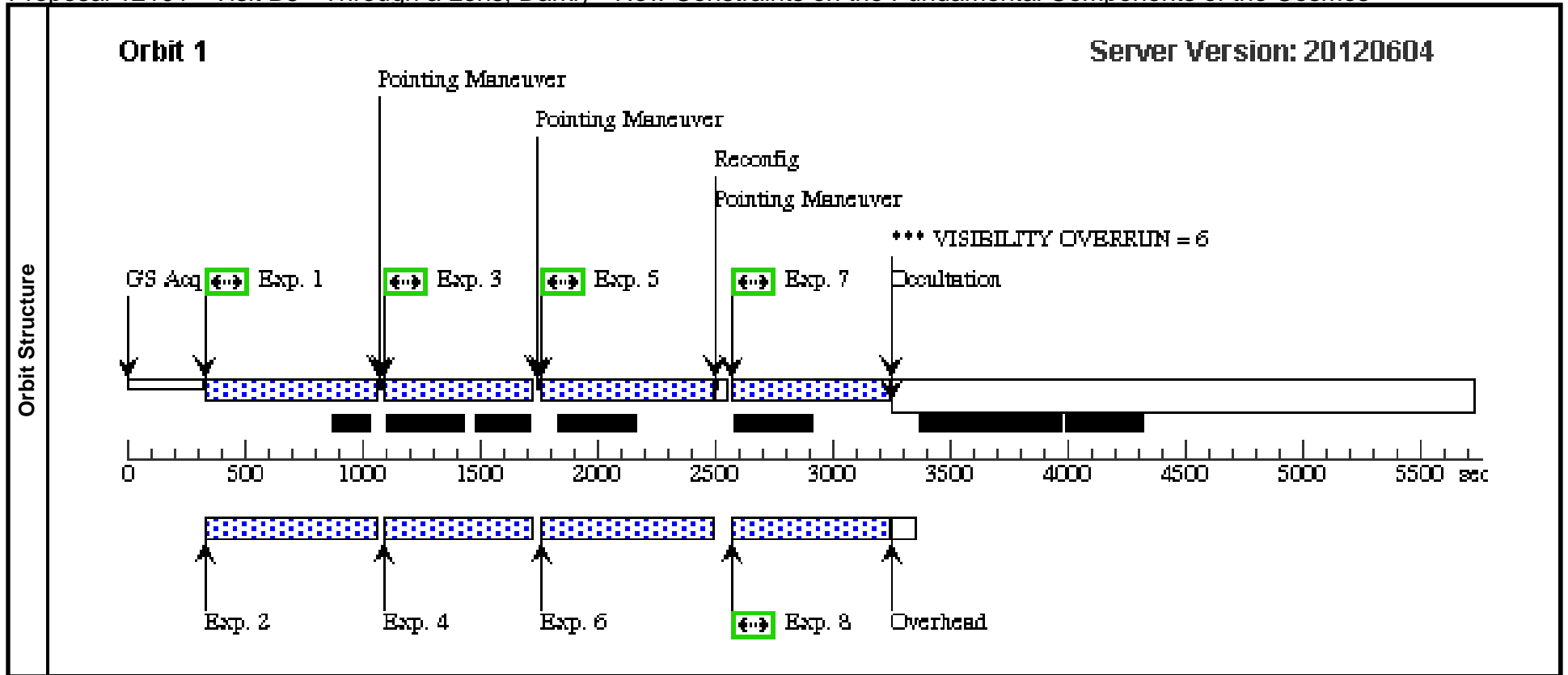
Server Version: 20120604



Proposal 12101 - Visit B5 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:37:02 GMT 2012

Visit	<b>Proposal 12101, Visit B5, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS B0; AFTER B0 BY 25 D TO 27 D <i>Comments: Visits B5-B6 represent epoch 3 (at orient 2) and should be taken concurrently</i>									
	Diagnostics	(Visit B5) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit B5) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(5)	MACS0647+7015-WFC3PAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F606W		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit B5	525 Secs [==>525 Secs ]	[1]
	2		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit B5	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F606W		POS TARG 0.3211,0 .7917	Prime + Parallel Group 3-4 in Visit B5	507 Secs [==>507.0 Secs ]	[1]
	4		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit B5	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F435W		POS TARG 1.0868,0 .5573	Prime + Parallel Group 5-6 in Visit B5	551 Secs [==>544 Secs ]	[1]
	6		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit B5	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F435W		POS TARG -0.3211, -0.1742	Prime + Parallel Group 7-8 in Visit B5	564 Secs [==>548 Secs ]	[1]
	8		(5) MACS0647+7015-WFC3PAR2	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit B5	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit B6 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:37:03 GMT 2012

<b>Visit</b>	<p><b>Proposal 12101, Visit B6, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC</p> <p>Special Requirements: SCHED 80%; SAME ORIENT AS B0; SEQ B5,B6 WITHIN 1.2 Orbits</p> <p><i>Comments: Visits B5-B6 represent epoch 3 (at orient 2) and should be taken concurrently</i></p>																						
	<b>Diagnostics</b>	<p>(Visit B6) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit B6) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100.</p> <p>(Visit B6) Warning (Orbit Planner): PARALLELS SIGNIFICANTLY EXTEND ALIGNMENT TIME</p> <p>(Visit B6) Warning (Orbit Planner): VISIBILITY OVERRUN</p>																					
<b>Fixed Targets</b>		<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>MACS0647+7015</td> <td>RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000</td> <td></td> <td>V=15</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td>(4)</td> <td>MACS0647+7015-ACSPAR2</td> <td>RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000</td> <td></td> <td>V=15</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS	(4)	MACS0647+7015-ACSPAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																	
(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS																		
(4)	MACS0647+7015-ACSPAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS																		

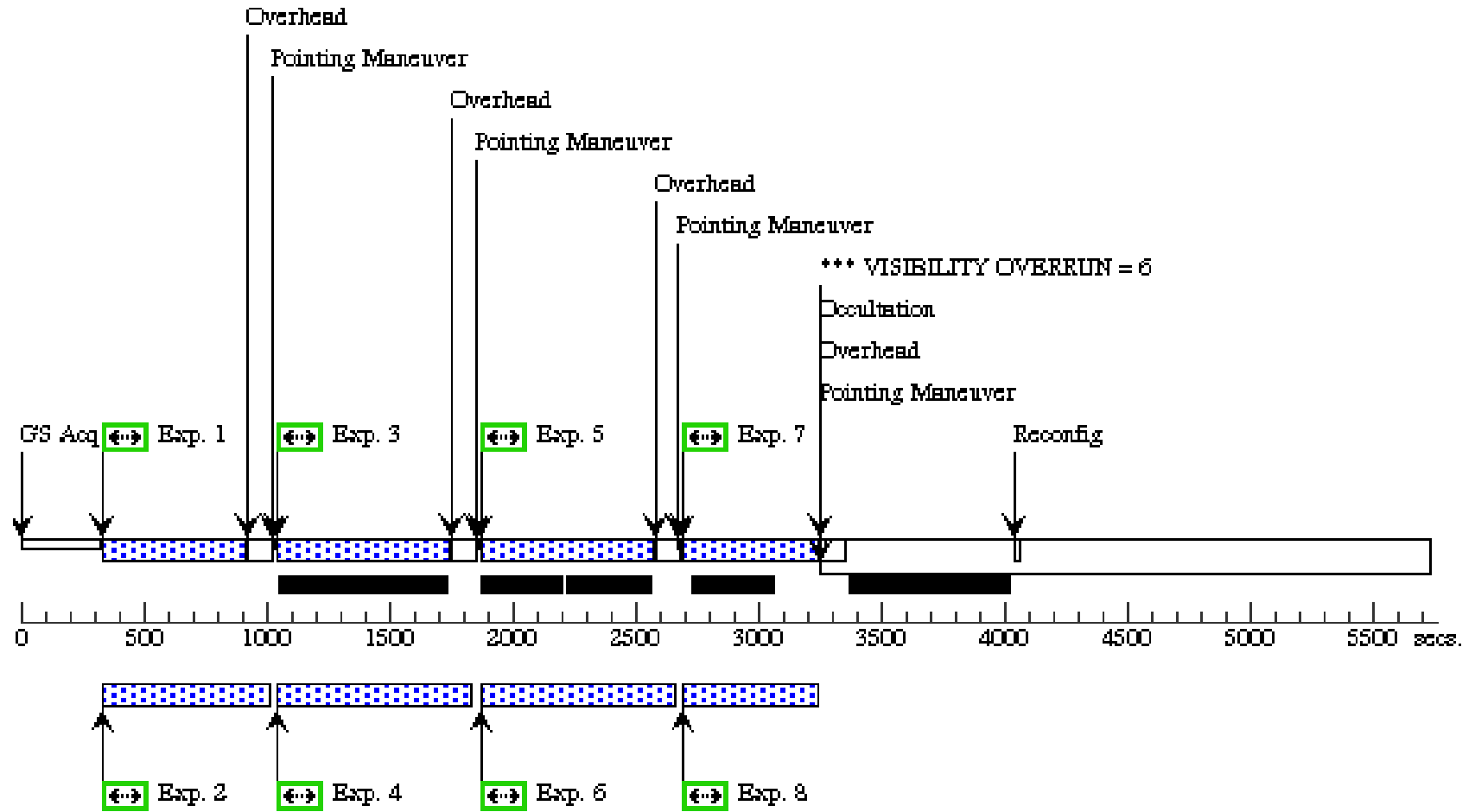
Proposal 12101 - Visit B6 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

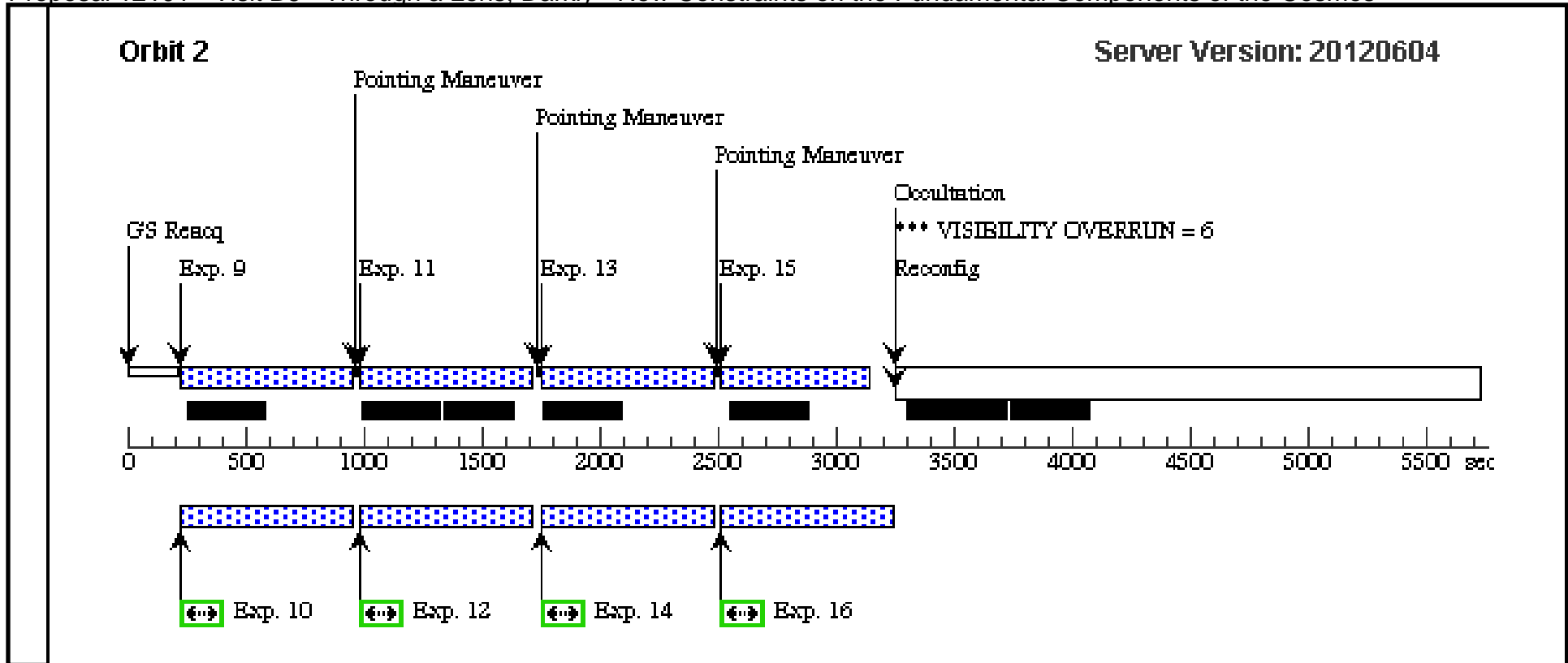
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F336W	CR-SPLIT=NO	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Gro up 1-2 in Visit B6	600 Secs [==>550 Secs ]	[1]
	2		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 1-2 in Visit B6	600 Secs [==>470 Secs ]	[1]
	3		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F336W	CR-SPLIT=NO	POS TARG 0.0594,- 0.0552	Prime + Parallel Gro up 3-4 in Visit B6	600 Secs [==>699.0 Secs ]	[1]
	4		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 3-4 in Visit B6	600 Secs [==>669 Secs ]	[1]
	5		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F336W	CR-SPLIT=NO	POS TARG 0.1188,0 .06735	Prime + Parallel Gro up 5-6 in Visit B6	600 Secs [==>699.0 Secs ]	[1]
	6		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 5-6 in Visit B6	600 Secs [==>669 Secs ]	[1]
	7		(1) MACS0647+701 5	WFC3/UVIS, ACCUM, UVIS-FIX	F336W	CR-SPLIT=NO	POS TARG -0.0594, 0.15395	Prime + Parallel Gro up 7-8 in Visit B6	600 Secs [==>550 Secs ]	[1]
	8		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 7-8 in Visit B6	600 Secs [==>399 Secs ]	[1]
	9		(1) MACS0647+701 5	WFC3/IR, MULTIACCUM, IR-FIX	F140W		SAMP-SEQ=SPARS POS TARG 0,0 100; NSAMP=8	Prime + Parallel Gro up 9-10 in Visit B6	[==>]	[2]
	10		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 9-10 in Visit B6	525 Secs [==>581.0 Secs ]	[2]
	11		(1) MACS0647+701 5	WFC3/IR, MULTIACCUM, IR-FIX	F140W		SAMP-SEQ=SPARS POS TARG -1.1517 100; NSAMP=8	Prime + Parallel Gro up 11-12 in Visit B6	[==>]	[2]
	12		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 11-12 in Visit B6	607 Secs [==>607 Secs ]	[2]
	13		(1) MACS0647+701 5	WFC3/IR, MULTIACCUM, IR-FIX	F105W		SAMP-SEQ=SPARS POS TARG -0.813,- 100; NSAMP=8	Prime + Parallel Gro up 13-14 in Visit B6	[==>]	[2]
	14		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Gro up 13-14 in Visit B6	481 Secs [==>607.0 Secs ]	[2]
	15		(1) MACS0647+701 5	WFC3/IR, MULTIACCUM, IR-FIX	F105W		SAMP-SEQ=SPARS POS TARG 0.33875, 100; NSAMP=7	Prime + Parallel Gro up 15-16 in Visit B6	[==>]	[2]
16		(4) MACS0647+701 5-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Gro up 15-16 in Visit B6	576 Secs [==>579 Secs ]	[2]	

**Orbit 1**

Server Version: 20120604

Orbit Structure

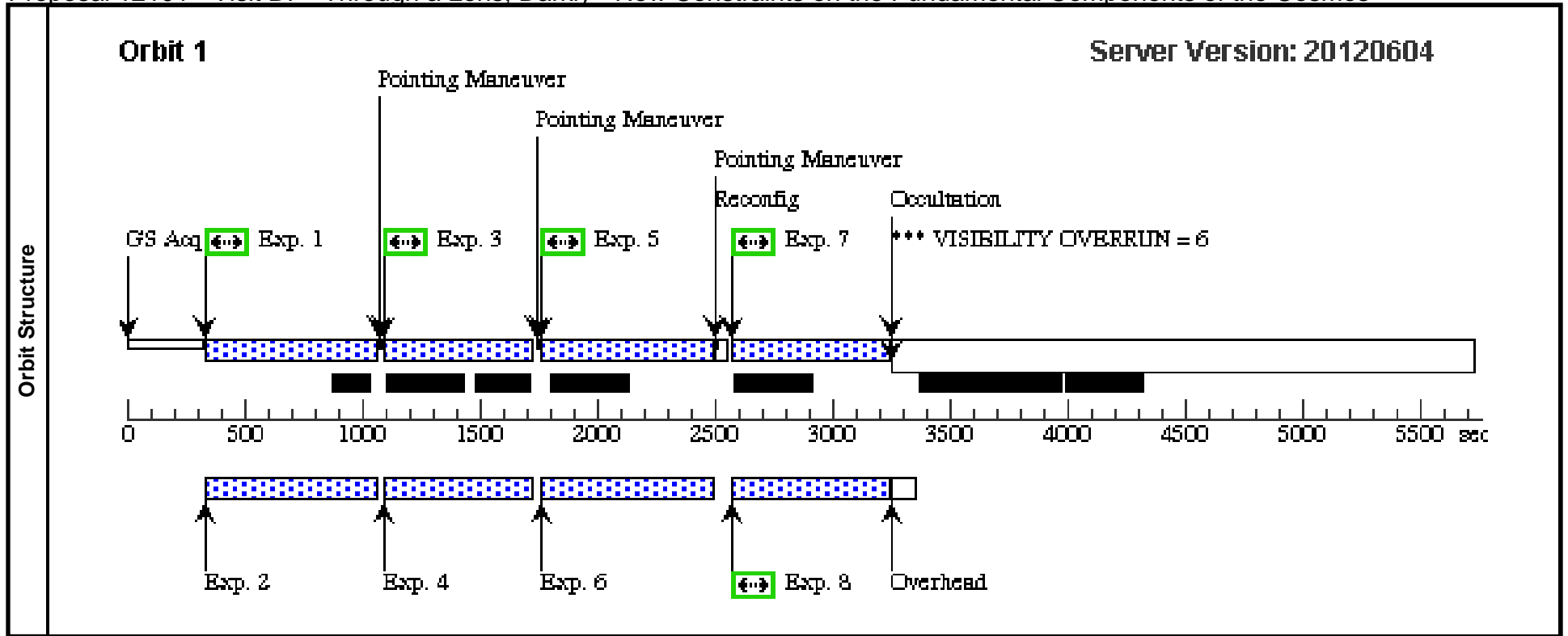




Proposal 12101 - Visit B7 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:37:05 GMT 2012

Visit	<b>Proposal 12101, Visit B7, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS B0; AFTER B0 BY 38 D TO 40 D <i>Comments: Visits B7-B8 represent epoch 4 (at orient 2) and should be taken concurrently</i>									
	Diagnostics	(Visit B7) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit B7) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(5)	MACS0647+7015-WFC3PAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit B7	525 Secs [==>525 Secs ]	[1]
	2		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 1-2 in Visit B7	[==>]	[1]
	3		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F850LP		POS TARG 0.3211,0 .7917	Prime + Parallel Group 3-4 in Visit B7	507 Secs [==>507.0 Secs ]	[1]
	4		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 50; NSAMP=13		Prime + Parallel Group 3-4 in Visit B7	[==>]	[1]
	5		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F475W		POS TARG 1.0868,0 .5573	Prime + Parallel Group 5-6 in Visit B7	551 Secs [==>570 Secs ]	[1]
	6		(5) MACS0647+7015-WFC3PAR2	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=8		Prime + Parallel Group 5-6 in Visit B7	[==>]	[1]
	7		(1) MACS0647+7015	ACS/WFC, ACCUM, WFC-FIX	F475W		POS TARG -0.3211, -0.1742	Prime + Parallel Group 7-8 in Visit B7	564 Secs [==>548 Secs ]	[1]
	8		(5) MACS0647+7015-WFC3PAR2	WFC3/UVIS, ACCUM, UVIS-FIX	F350LP	CR-SPLIT=NO		Prime + Parallel Group 7-8 in Visit B7	400 Secs [==>642 Secs ]	[1]



Proposal 12101 - Visit B8 - Through a Lens, Darkly - New Constraints on the Fundamental Components of the Cosmos

Wed Jul 04 01:37:06 GMT 2012

Visit	<b>Proposal 12101, Visit B8, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 80%; SAME ORIENT AS B0; SEQ B7,B8 WITHIN 1.2 Orbits <i>Comments: Visits B7-B8 represent epoch 4 (at orient 2) and should be taken concurrently</i>									
	Diagnostics	(Visit B8) Warning (Form): The proposal is part of a large program (100 orbits or more in one cycle) and so should use Schedulability 100. (Visit B8) Warning (Orbit Planner): VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	MACS0647+7015	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS				
(4)	MACS0647+7015-ACSPAR2	RA: 06 47 50.2700 (101.9594583d) Dec: +70 14 55.00 (70.24861d) Equinox: J2000		V=15	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=7	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Group 1-2 in Visit B8	[==>]	[1]
	2		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 1-2 in Visit B8	525 Secs [==>425 Secs ]	[1]
	3		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -1.1517 5,0.42385	Prime + Parallel Group 3-4 in Visit B8	[==>]	[1]
	4		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 3-4 in Visit B8	607 Secs [==>407.0 Secs ]	[1]
	5		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 5-6 in Visit B8	[==>]	[1]
	6		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 5-6 in Visit B8	582 Secs [==>407 Secs ]	[1]
	7		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG 0.33875, -0.1211	Prime + Parallel Group 7-8 in Visit B8	[==>]	[1]
	8		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F850LP			Prime + Parallel Group 7-8 in Visit B8	587 Secs [==>407.0 Secs ]	[1]
	9		(1) MACS0647+7015	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS 100; NSAMP=6	POS TARG -0.813,- 0.30275	Prime + Parallel Group 9-10 in Visit B8	[==>]	[1]
10		(4) MACS0647+7015-ACSPAR2	ACS/WFC, ACCUM, WFC-FIX	F775W			Prime + Parallel Group 9-10 in Visit B8	587 Secs [==>403 Secs ]	[1]	

