15298 - The first high resolution image of coronal gas in a starbursting cool core cluster

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Sean Johnson (PI) (Contact)	**Princeton University**	**sdj@astro.princeton.edu**
Prof. Michael A. McDonald (CoI)	Massachusetts Institute of Technology	mcdonald@space.mit.edu
Massimo Gaspari (CoI)	Princeton University	mgaspari@astro.princeton.edu
Dr. John S. Mulchaey (CoI)	Carnegie Institution of Washington	mulchaey@obs.carnegiescience.edu
Prof. Hsiao-Wen Chen (CoI)	University of Chicago	hchen@oddjob.uchicago.edu
Prof. Jenny Emma Greene (CoI)	Princeton University	jgreene@astro.princeton.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:31.0	yes
02	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:33.0	yes
03	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:35.0	yes
04	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:37.0	yes
05	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:38.0	yes
06	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:39.0	yes
07	(1) ABELL1835	ACS/SBC	2	19-Jul-2017 21:01:40.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
08	(1) ABELL1835	ACS/SBC	1	19-Jul-2017 21:01:41.0	yes

15 Total Orbits Used

ABSTRACT

Galaxy clusters represent a unique laboratory for directly observing gas cooling and feedback due to their high masses and correspondingly high gas densities and temperatures. Cooling of X-ray gas observed in ~1/3 of clusters, known as cool-core clusters, should fuel star formation at prodigious rates, but such high levels of star formation are rarely observed. Feedback from active galactic nuclei (AGN) is a leading explanation for the lack of star formation in most cool clusters, and AGN power is sufficient to offset gas cooling on average. Nevertheless, some cool core clusters exhibit massive starbursts indicating that our understanding of cooling and feedback is incomplete. Observations of ~10^5 K coronal gas in cool core clusters through OVI emission offers a sensitive means of testing our understanding of cooling and feedback because OVI emission is a dominant coolant and sensitive tracer of shocked gas. Recently, Hayes et al. 2016 demonstrated that synthetic narrow-band imaging of OVI emission is possible through subtraction of long-pass filters with the ACS+SBC for targets at z=0.23-0.29. Here, we propose to use this exciting new technique to directly image coronal OVI emitting gas at high resolution in Abell 1835, a prototypical starbursting cool-core cluster at z=0.252. Abell 1835 hosts a strong cooling core, massive starburst, radio AGN, and at z=0.252, it offers a unique opportunity to directly image OVI at hi-res in the UV with ACS+SBC. With just 15 orbits of ACS+SBC imaging, the proposed observations will complete the existing rich multi-wavelength dataset available for Abell 1835 to provide new insights into cooling and feedback in clusters.

OBSERVING DESCRIPTION

We will obtain the first high resolution, synthetic narrow-band imaging of OVI emission from a strong cool core cluster with a central starburst and AGN. These observations will use a new technique to obtain synthetic narrow-band OVI images with the ACS+SBC for objects at z=0.23-0.28 resulting in an unprecedented view of cooling and feedback in the cluster. At z=0.252, the OVI 1031, 1037 doublet emission associated with Abell 1835 serendipitously falls at 1290 Ang, enabling synthetic narrow-band high resolution images of OVI emission with the ACS+SBC for this starbursting cool-core cluster.

To obtain OVI images of Abell 1835 we will observe the OVI on-line filter, F125LP, and the off-line filter, F140LP with the ACS+SBC. While the F125LP bandpass does not include geocoronal HI Lya, it does include geocoronal OI emission at 1304 Ang. To minimize the backgrounds in the F125LP observations due to airglow, we will therefore observe F125LP in the portion of each orbit in orbital shadow which reduces OI 1304 Ang

emission by a factor of ~150. Consequently, the dominant source of background will be Lya and UV continuum associated with the cluster. In addition, we request that our observations are scheduled so that the SBC amplifiers have been switched off for at least 24 hours. This cool-down period reduces the dark current of the detectors enabling more sensitive imaging outside of the cluster center where dark current will dominate the backgrounds. For the same reason, we will schedule our ACS+SBC observations in visits of no more than two orbits. We will carry out the observations with a 4" dither pattern to aid in artifact rejection and mitigate low-frequency flat fielding errors while maintaining 1/3 pixel sampling

To directly measure the continuum contribution to the synthetic OVI narrow-band, we also require imaging in F150LP. When combined with the F140LP, this will enable observations of the UV continuum emission levels through a synthetic narrow-band in a line-free continuum region at an observed wavelength of ~1400 Ang.

In order to place a 2-sigma limit on the presence of OVI emission with surface brightness corresponding to the observed star formation rate, we will require 12 ks of observation in each of F125LP, F140LP, and F150LP bands as discussed in the Phase I proposal.

The BOT returned a warning due to object N526005398. This object is the target, Abell 1835 and the BOT adopts the observed integrated magnitude for the galaxy and assumes an SED of an O5V star. The actual SED of the galaxy is substantially redder and the object does not violate the bright limits. To verify this, we retrieved the GALEX magnitudes of Abell 1835 (aka N526005398) and found AB(fuv)=19.27 and AB(nuv)=19.07 confirming that the object posses no safety risk to the instrument.

Proposal 15298 - Visit 01 - The first high resolution image of coronal gas in a starbursting cool core cluster

Visit

Proposal 15298, Visit 01, implementation Thu Jul 20 01:01:42 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current. If any additional exposure time is available because the guide star acquisition / re-acquisition are carried out in accultation, we request that this time is allocated to F150LP

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (3)
(2)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(2), (4)

Fixed Targets

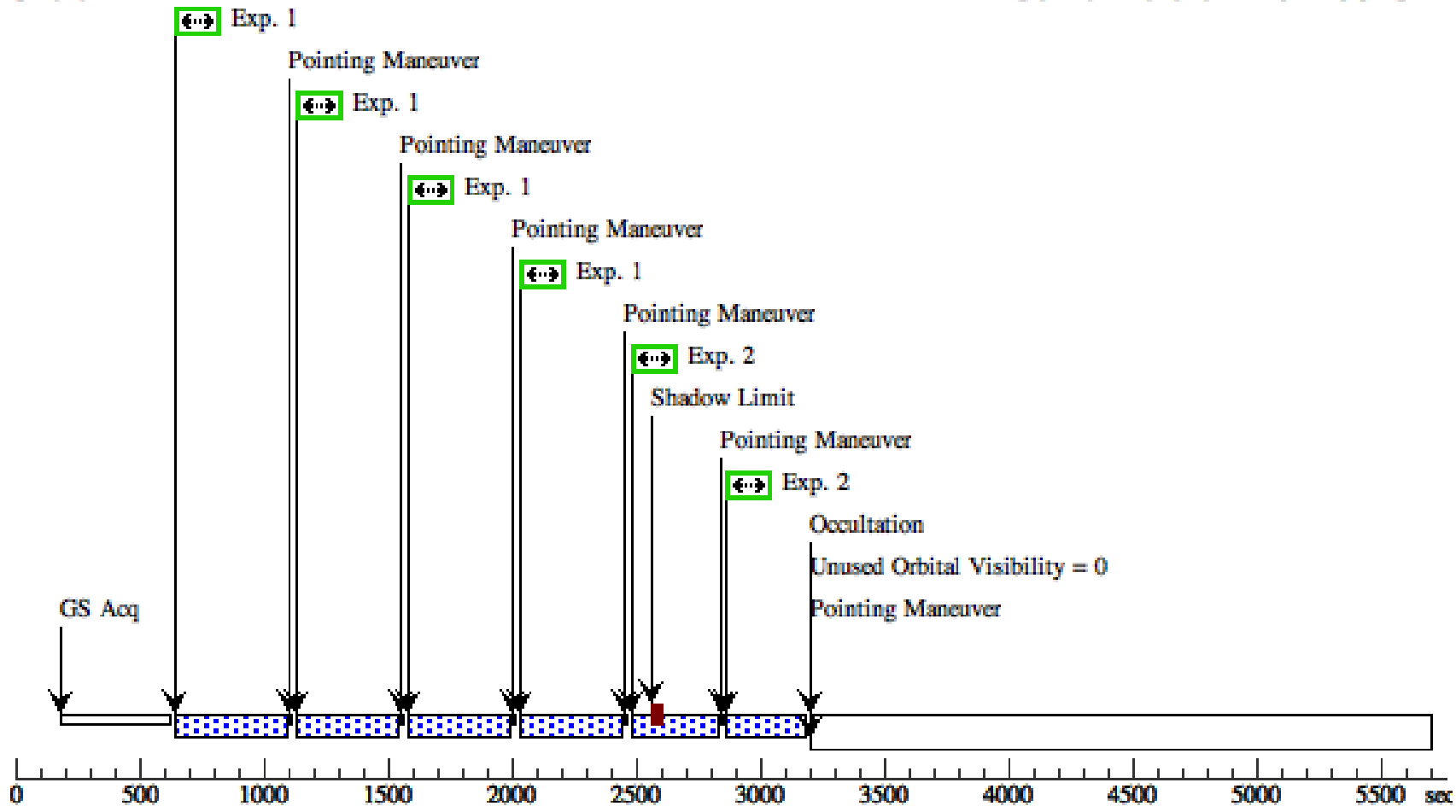
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

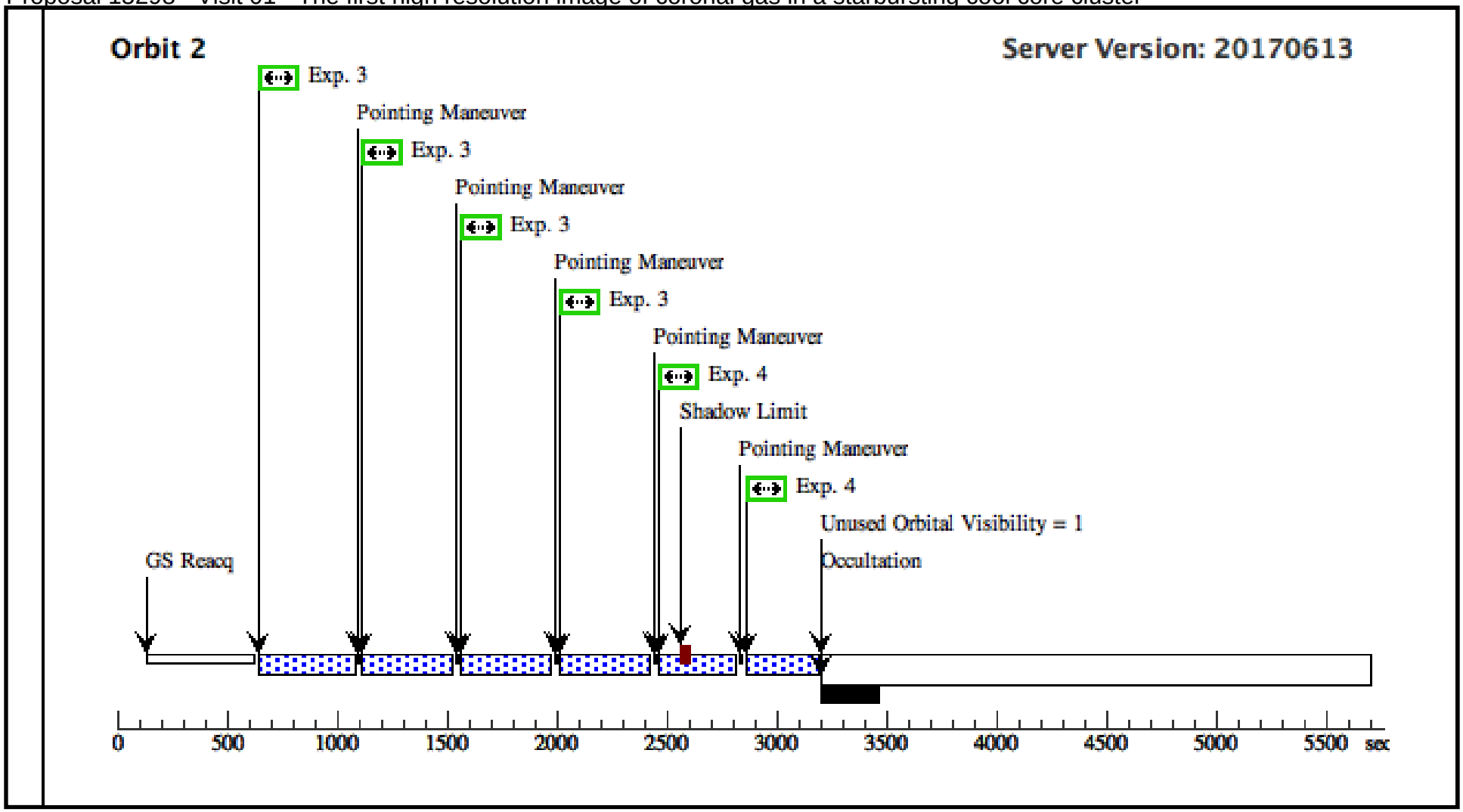
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 1-1 in Visit 01 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
2	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 2, Exps 2-2 in Visit 01 (2)	294 Secs (588 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 3-3 in Visit 01 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
4	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 2, Exps 4-4 in Visit 01 (2)	300 Secs (600 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 4
Unused Orbital Visibility = 1
Occultation
GS Reacq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 15298, Visit 02, implementation Thu Jul 20 01:01:42 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current. If any additional exposure time is available because the guide star acquisition / re-acquisition are carried out in accultation, we request that this time is allocated to F150LP

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (3)
(2)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(2), (4)

Fixed Targets

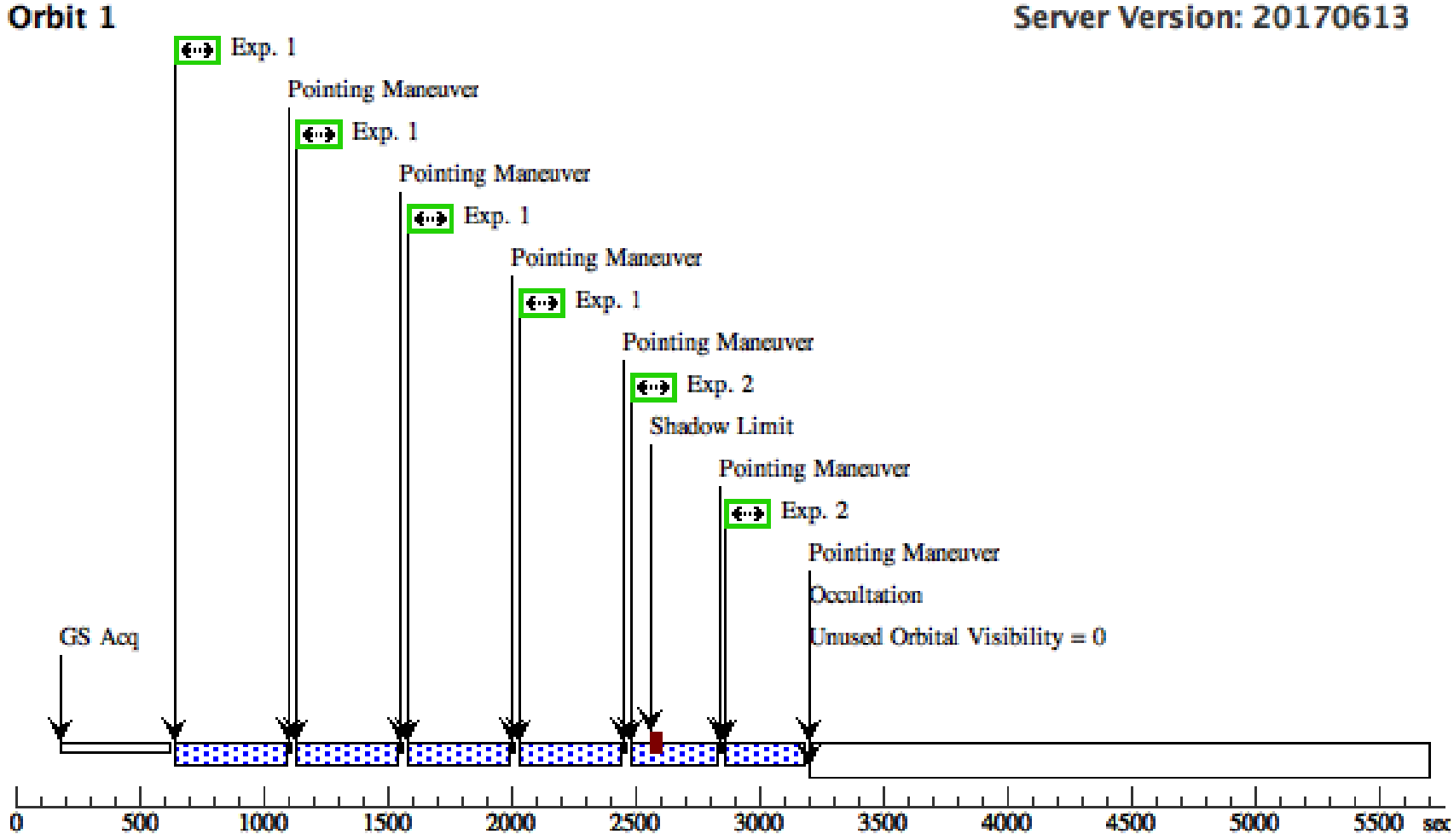
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

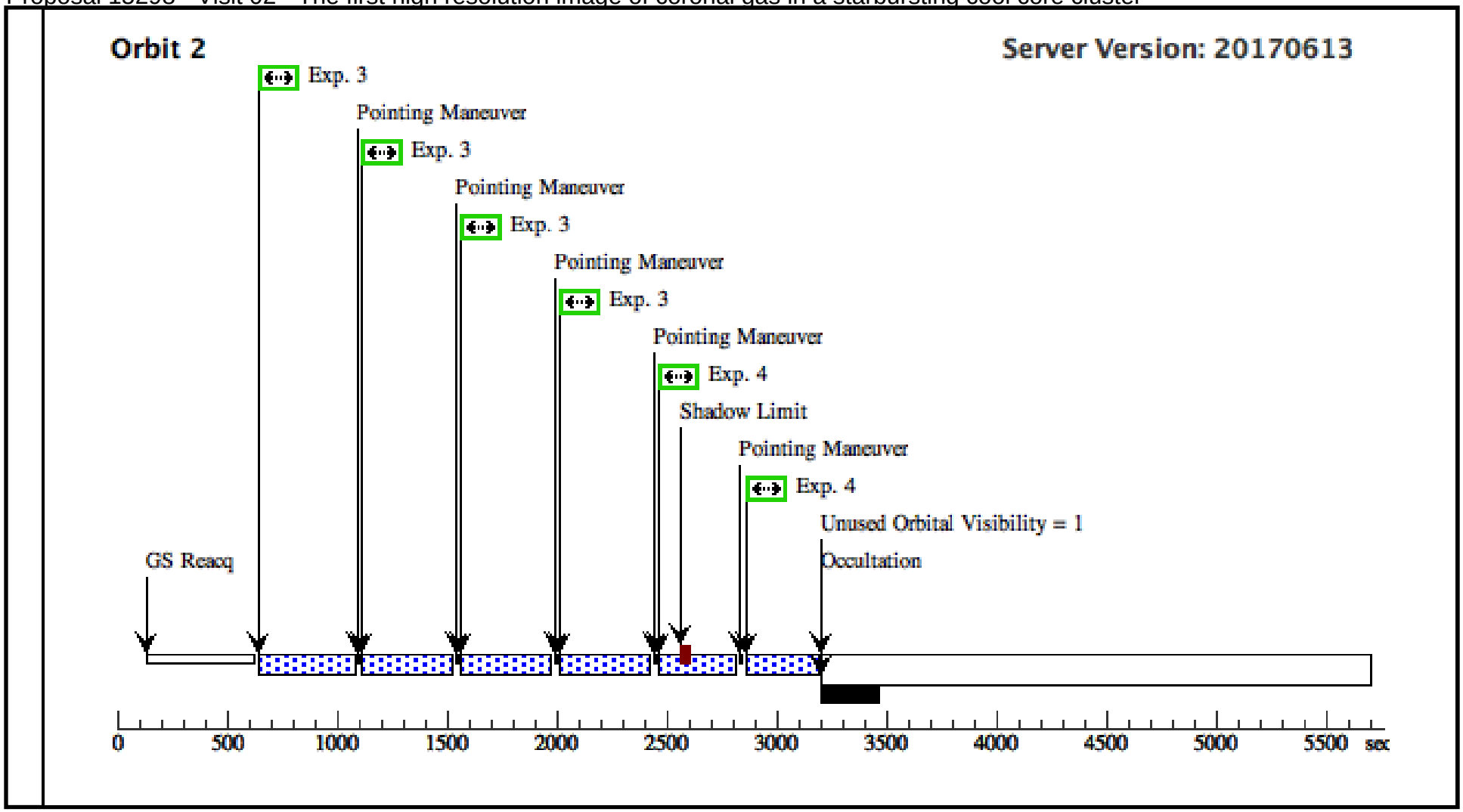
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 1-1 in Visit 02 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
2	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 2, Exps 2-2 in Visit 02 (2)	294 Secs (588 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 3-3 in Visit 02 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
4	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 2, Exps 4-4 in Visit 02 (2)	300 Secs (600 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 4
Unused Orbital Visibility = 1
Occultation
GS Reacq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 15298 - Visit 03 - The first high resolution image of coronal gas in a starbursting cool core cluster

Visit

Proposal 15298, Visit 03, implementation Thu Jul 20 01:01:42 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current. If any additional exposure time is available because the guide star acquisition / re-acquisition are carried out in accultation, we request that this time is allocated to F150LP in orbit 1 and F140LP in orbit 2.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (3)
(2)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(2), (4)

Fixed Targets

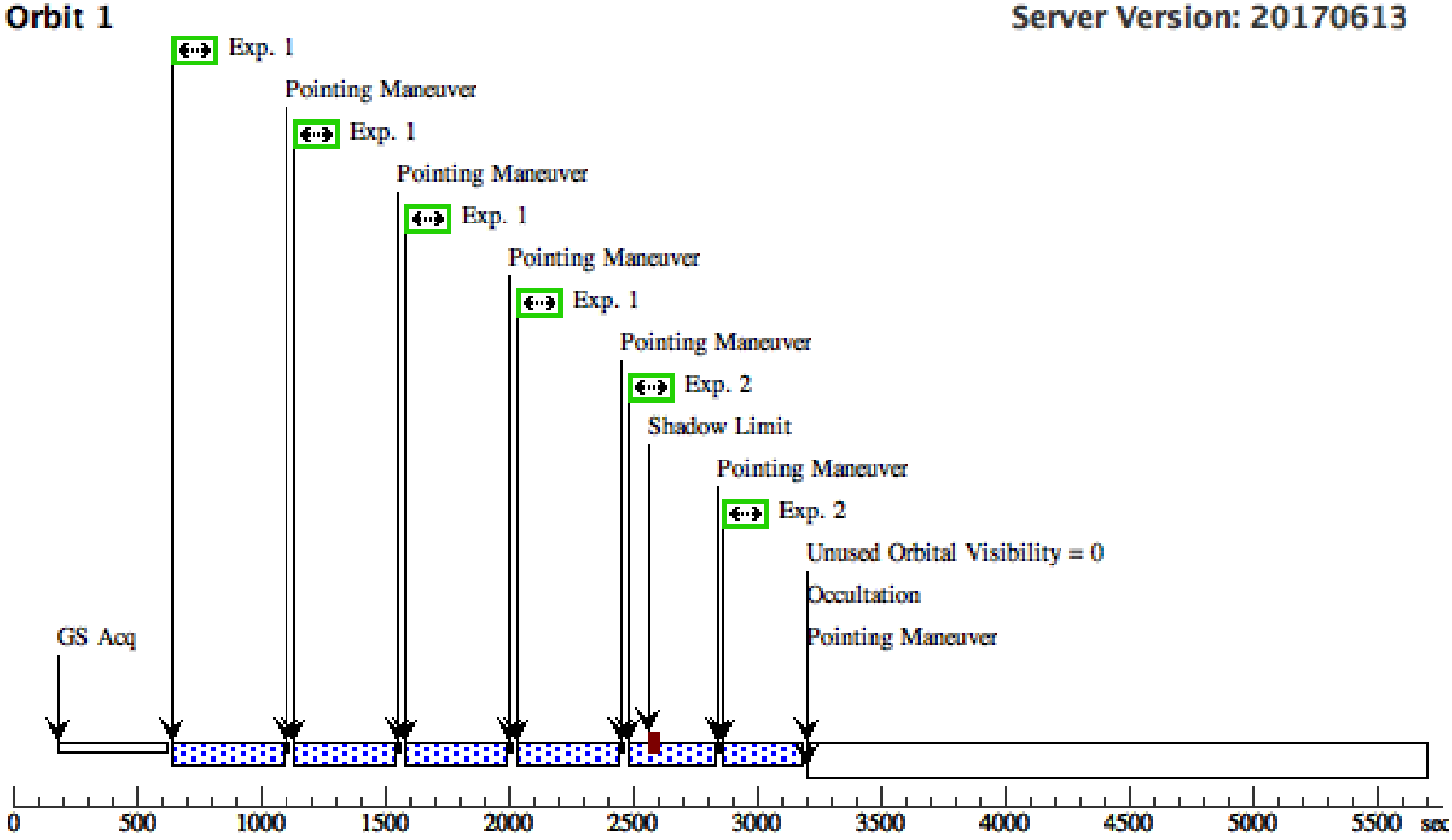
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

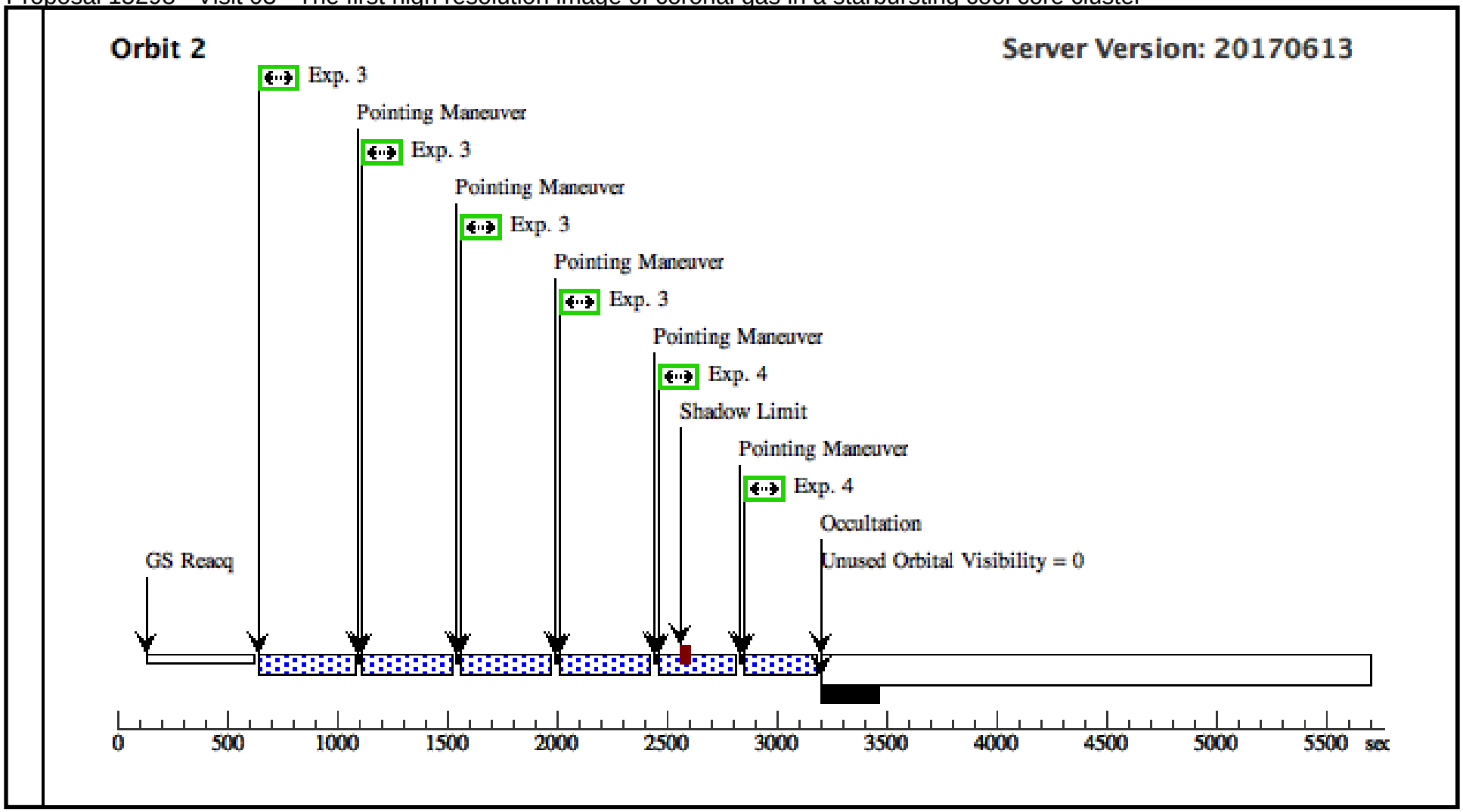
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 1-1 in Visit 03 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
2	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 2, Exps 2-2 in Visit 03 (2)	294 Secs (588 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	(ACS.im.1005477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 3-3 in Visit 03 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
4	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 2, Exps 4-4 in Visit 03 (2)	303 Secs (606 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 4
Occultation
Unused Orbital Visibility = 0
GS Reacq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 15298 - Visit 04 - The first high resolution image of coronal gas in a starbursting cool core cluster

Visit

Proposal 15298, Visit 04, implementation Thu Jul 20 01:01:42 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current. If any additional exposure time is available because the guide star acquisition / re-acquisition are carried out in accultation, we request that this time is allocated to F140LP

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (3)
(2)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(2), (4)

Fixed Targets

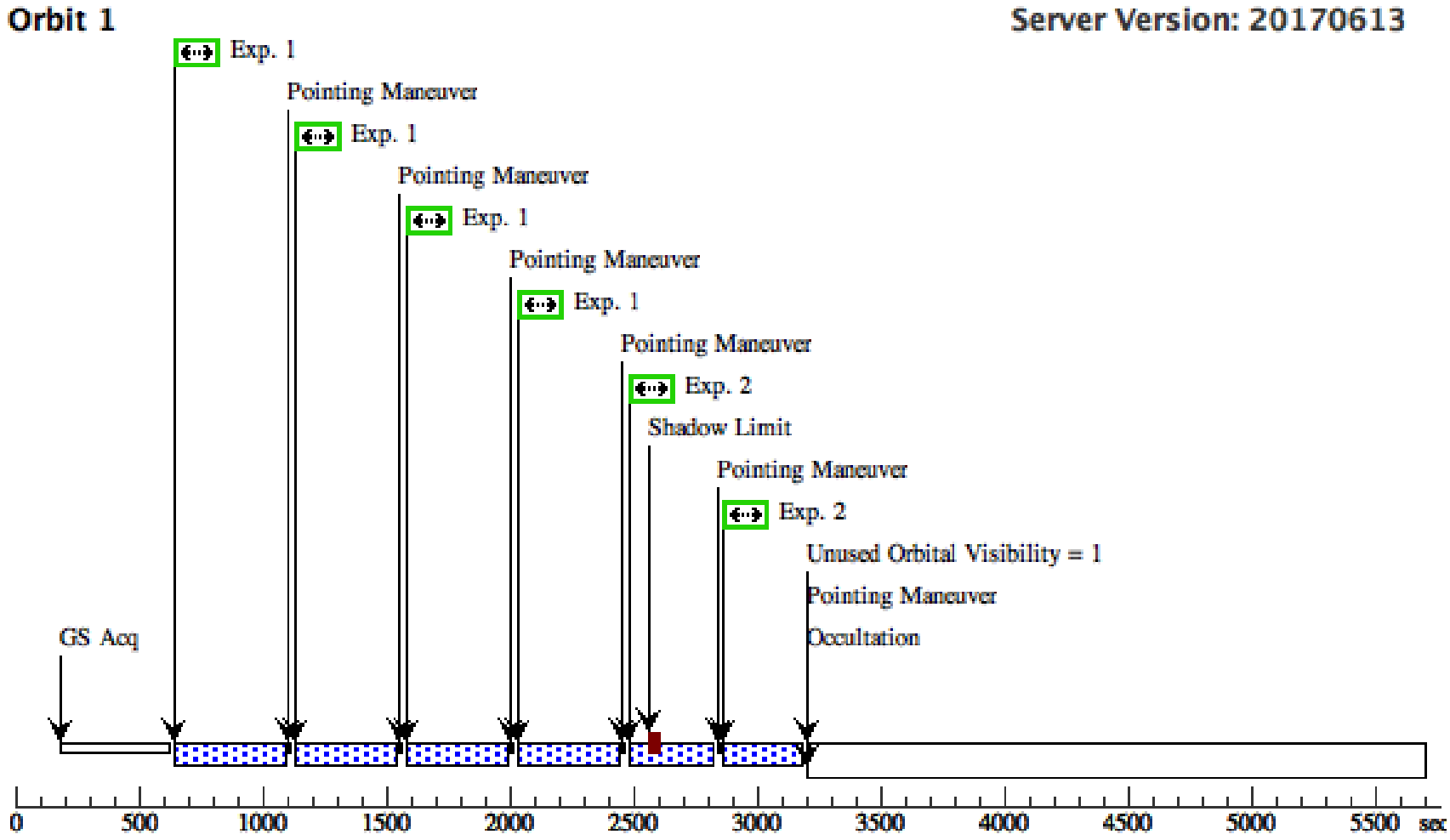
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

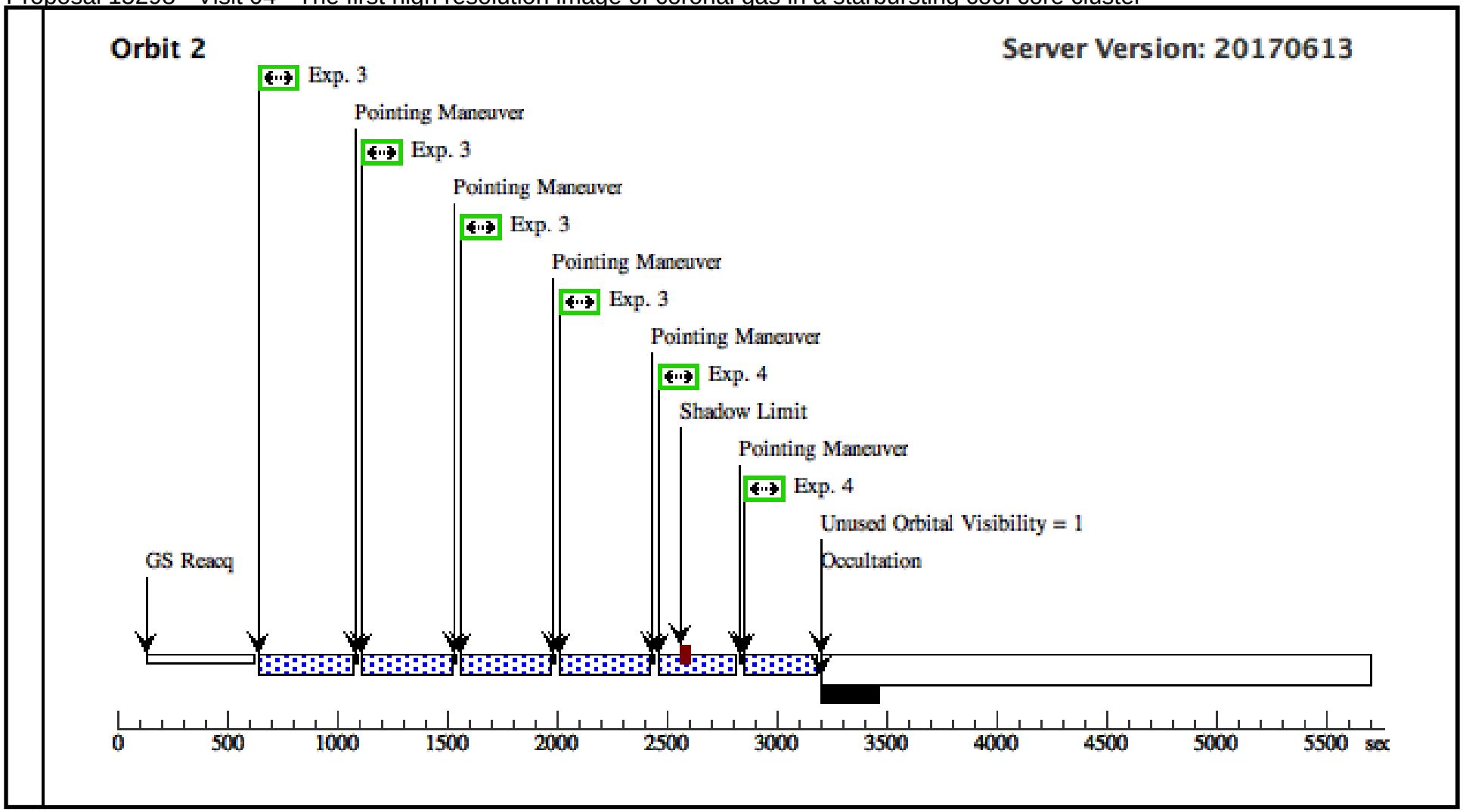
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.10 05477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 1-1 in Visit 04 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
2	(ACS.im.10 05487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 2, Exps 2-2 in Visit 04 (2)	296 Secs (592 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	(ACS.im.10 05477)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F125LP		SHADOW	Pattern 1, Exps 3-3 in Visit 04 (1)	385 Secs (1540 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
Comments: To minimize the dark current, please schedule after the ACS has been switched off for 24 hours									
4	(ACS.im.10 05487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 2, Exps 4-4 in Visit 04 (2)	305 Secs (610 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 4
Unused Orbital Visibility = 1
Occultation
GS Reacq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 15298, Visit 05, implementation Thu Jul 20 01:01:43 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2)

Fixed Targets

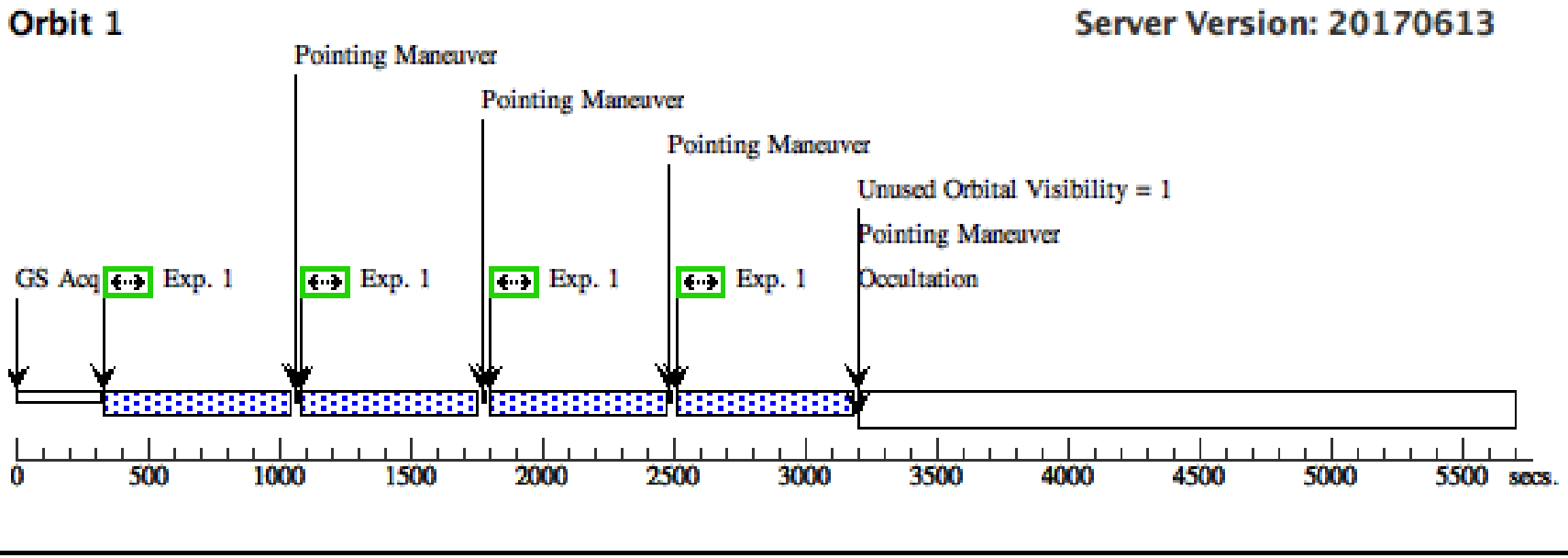
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

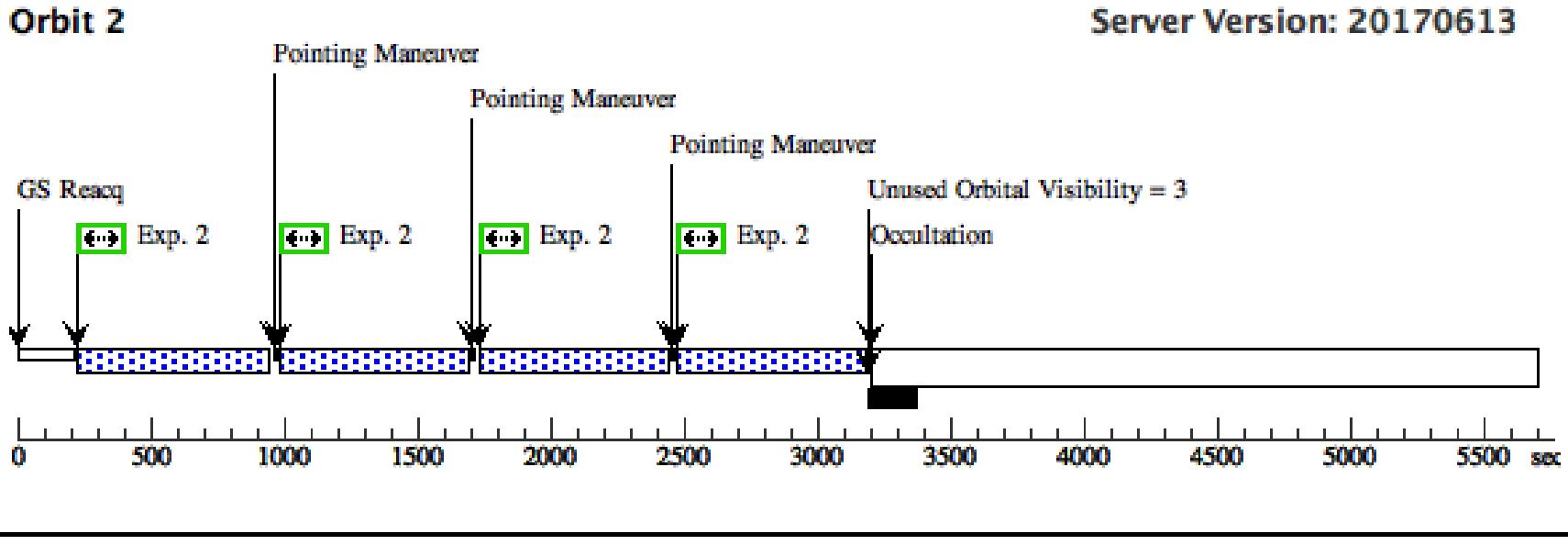
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 1-1 in Visit 05 (1)	400 Secs (2592 Secs)	
								[==>648.0 Secs (Pattern 1)] *[==>648.0 Secs (Pattern 2)]* *[==>648.0 Secs (Pattern 3)]* *[==>648.0 Secs (Pattern 4)]*	***[1]***
2	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 2-2 in Visit 05 (1)	400 Secs (2724 Secs)	
								[==>681.0 Secs (Pattern 1)] *[==>681.0 Secs (Pattern 2)]* *[==>681.0 Secs (Pattern 3)]* *[==>681.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure





Visit

Proposal 15298, Visit 06, implementation Thu Jul 20 01:01:43 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2)

Fixed Targets

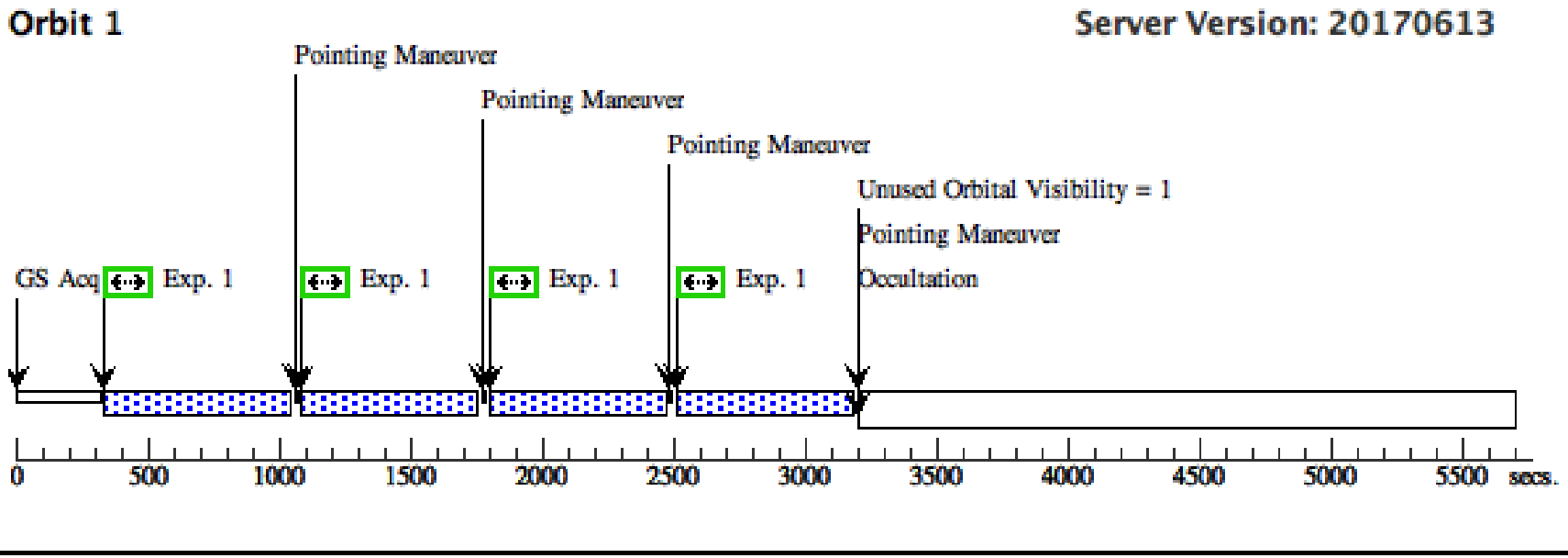
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

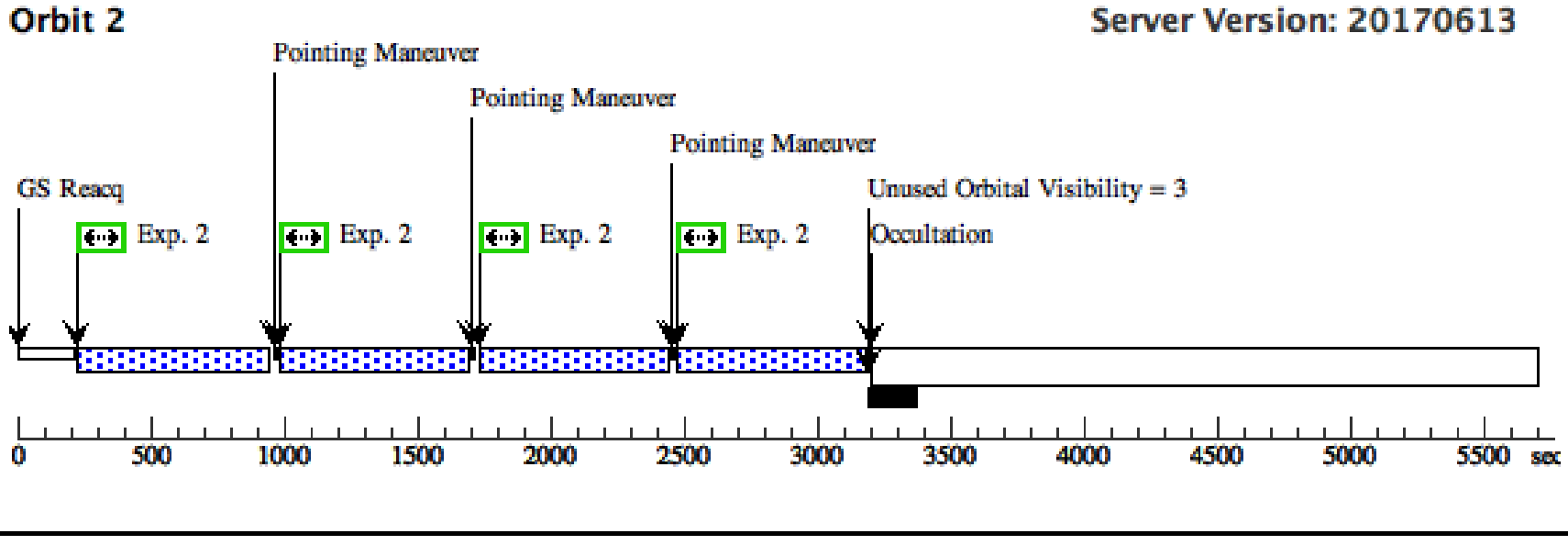
Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005482)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 in Visit 06 (1)	400 Secs (2592 Secs) *[==>648.0 Secs (Pattern 1)]* *[==>648.0 Secs (Pattern 2)]* *[==>648.0 Secs (Pattern 3)]* *[==>648.0 Secs (Pattern 4)]*	***[1]***
2	(ACS.im.1005482)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 2-2 in Visit 06 (1)	400 Secs (2724 Secs) *[==>681.0 Secs (Pattern 1)]* *[==>681.0 Secs (Pattern 2)]* *[==>681.0 Secs (Pattern 3)]* *[==>681.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure





Visit

Proposal 15298, Visit 07, implementation Thu Jul 20 01:01:43 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1), (2)

Fixed Targets

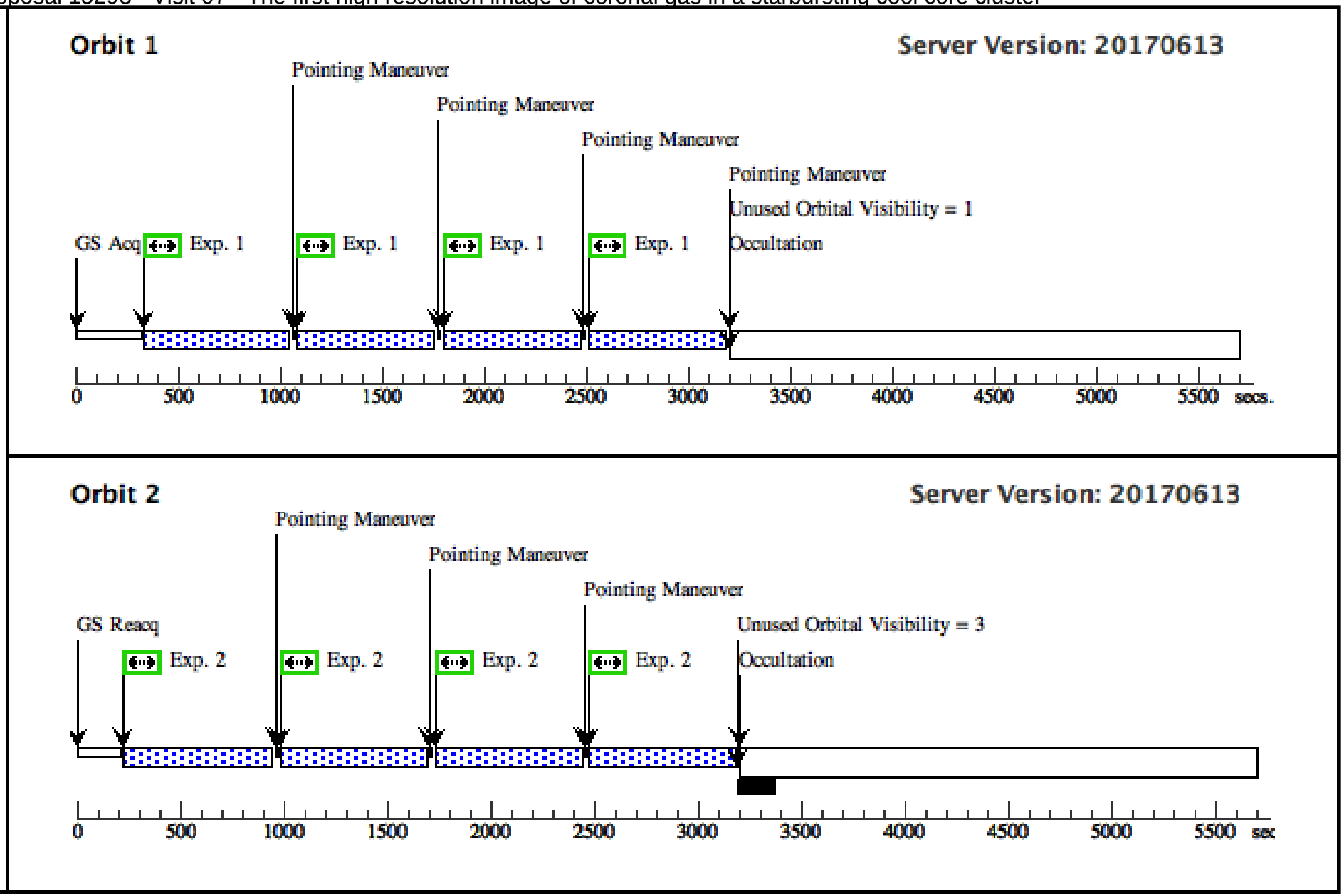
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005482)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 in Visit 07 (1)	400 Secs (2592 Secs) *[==>648.0 Secs (Pattern 1)]* *[==>648.0 Secs (Pattern 2)]* *[==>648.0 Secs (Pattern 3)]* *[==>648.0 Secs (Pattern 4)]*	***[1]***
2	(ACS.im.1005482)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 2-2 in Visit 07 (1)	400 Secs (2724 Secs) *[==>681.0 Secs (Pattern 1)]* *[==>681.0 Secs (Pattern 2)]* *[==>681.0 Secs (Pattern 3)]* *[==>681.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure



Visit

Proposal 15298, Visit 08, implementation Thu Jul 20 01:01:43 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: We request that the visit is scheduled after the SBC amplifiers have been turned off for at least 24 hours in order to minimize dark current.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=4	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1-2)

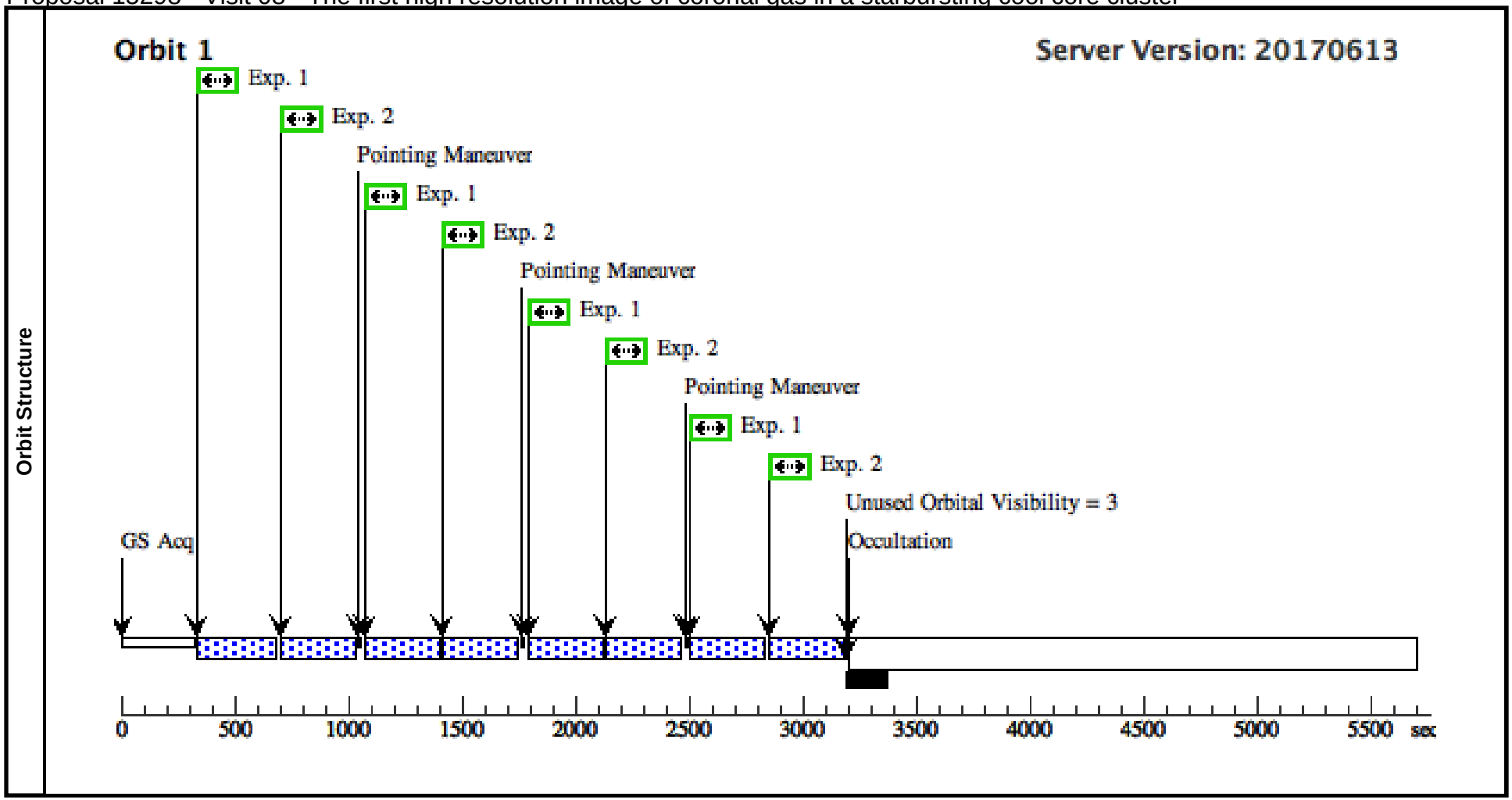
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ABELL1835 Alt Name1: 2MASXJ14010204+0252423 Alt Name2: SDSSJ140102.07+025242.4	RA: 14 01 2.0600 (210.2585833d) Dec: +02 52 42.49 (2.87847d) Equinox: J2000	Redshift: 0.25196	V=17.0 fuv=19.3 nuv=19.1 u=17.96, r=16.14	Reference Frame: ICRS

Comments: Starburst in AB1835 BCG Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-2 in Visit 08 (1)	100 Secs (1152 Secs) *[==>288.0 Secs (Pattern 1)]* *[==>288.0 Secs (Pattern 2)]* *[==>288.0 Secs (Pattern 3)]* *[==>288.0 Secs (Pattern 4)]*	***[1]***
2	(ACS.im.1005487)	(1) ABELL1835	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 1-2 in Visit 08 (1)	100 Secs (1152 Secs) *[==>288.0 Secs (Pattern 1)]* *[==>288.0 Secs (Pattern 2)]* *[==>288.0 Secs (Pattern 3)]* *[==>288.0 Secs (Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20170613
Exp. 1
Exp. 2
Pointing Maneuver
Exp. 1
Exp. 2
Pointing Maneuver
Exp. 1
Exp. 2
Pointing Maneuver
Exp. 1
Exp. 2
Unused Orbital Visibility = 3
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec