16223 - Star-forming clumps in jellyfish galaxy tails

Cycle: 28, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) JO175	WFC3/UVIS	3	29-Sep-2020 11:00:22.0	yes
02	(1) JO175	WFC3/UVIS	2	29-Sep-2020 11:00:23.0	yes
03	(2) JW39	WFC3/UVIS	3	29-Sep-2020 11:00:24.0	yes
04	(2) JW39	WFC3/UVIS	2	29-Sep-2020 11:00:26.0	yes
05	(3) JO204	WFC3/UVIS	3	29-Sep-2020 11:00:26.0	yes
06	(3) JO204	WFC3/UVIS	2	29-Sep-2020 11:00:28.0	yes
07	(4) JO201	WFC3/UVIS	3	29-Sep-2020 11:00:28.0	yes
08	(4) JO201	WFC3/UVIS	2	29-Sep-2020 11:00:30.0	yes
09	(5) JO206	WFC3/UVIS	3	29-Sep-2020 11:00:30.0	yes
10	(5) JO206	WFC3/UVIS	2	29-Sep-2020 11:00:32.0	yes
50	(5) JO206	WFC3/UVIS	2	29-Sep-2020 11:00:33.0	yes
11	(6) JW100	WFC3/UVIS	3	29-Sep-2020 11:00:34.0	yes
12	(6) JW100	WFC3/UVIS	2	29-Sep-2020 11:00:35.0	yes

32 Total Orbits Used

ABSTRACT

Star-forming, Halpha-emitting clumps are found in the tails of galaxies undergoing intense ram-pressure stripping in galaxy clusters (so-called jellyfish galaxies). These clumps offer a unique opportunity to study the star formation process under extreme conditions, in the absence of an underlying disk and embedded within the hot intracluster medium. Yet, a comprehensive, high spatial resolution study of these systems is missing. We propose to observe the first statistical sample of clumps in the tails (250) and disks (500) of six jellyfish galaxies, using a combination of broad-band filters (UV- to I) and a narrow-band Halpha filter. HST observations are needed to study the sizes, stellar masses and ages of the clumps and their clustering hierarchy, investigating whether the hierarchical structure in the tails follows the one in disks. We will study the clump scaling relations, explore the universality of the star formation process and verify whether a disk is irrelevant for star formation, as hinted by jellyfish galaxy results so far. We will investigate the nature and fate of these clumps, as well as the nature of the diffuse emission in the tails where smaller, so far undetected clumps might exist. The unmatched spatial resolution of HST (70pc in our case) will create a powerful synergy with available multi-

wavelength data at lower (1kpc) resolution (MUSE, ALMA, JVLA).
This program is the first HST systematic study of jellyfish galaxies at low-z. A relatively modest investment of HST will lead to a breakthrough in understanding the connection between ram pressure stripping and star formation, as well as the mechanisms regulating the star formation process in general.

OBSERVING DESCRIPTION

We will obtain WFC3/UVIS multi-wavelength imaging of 6 jellyfish galaxies spanning from NUV to I band rest frame, as well as narrow band imaging with the F680N filter tuned to cover the Halpha emission line at the redshift of our galaxies.

Halpha is needed to study the ionized gas and the star formation on a timescale < a few 10^7 yr; UV/U observations probe the young stellar populations, on a timescale an order of magnitude longer than Halpha; V- and I-band imaging are required to subtract the contribution of the stellar continuum to the narrow-band, to characterize intermediate age and older stellar populations, and to constrain the SED fitting. In previous studies, clump stellar masses and ages are usually derived based on color-color diagrams and luminosities vs single stellar population tracks, also at high-z. This method will be compared with results from the spectro-photometric fitting code SINOPSIS that uses the full SED.

The 6 target galaxies were selected from the sample of jellyfish galaxies of the GASP survey on the basis of the number of Halpha-emitting clumps in the stripped tails detected with MUSE.

We request five HST orbits for each galaxy (2 orbits in F275W, 1 orbit each in F336W and F680N, and 0.5 orbit each in F606W and F814W) on 6 objects, for a total request of 30 orbits.

Visit

Proposal 16223, JO175_UV (01), scheduling Tue Sep 29 15:00:36 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO175_UV (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JO175_UV (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JO175_UV (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JO175_F336W (01.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO175_F275W (01.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

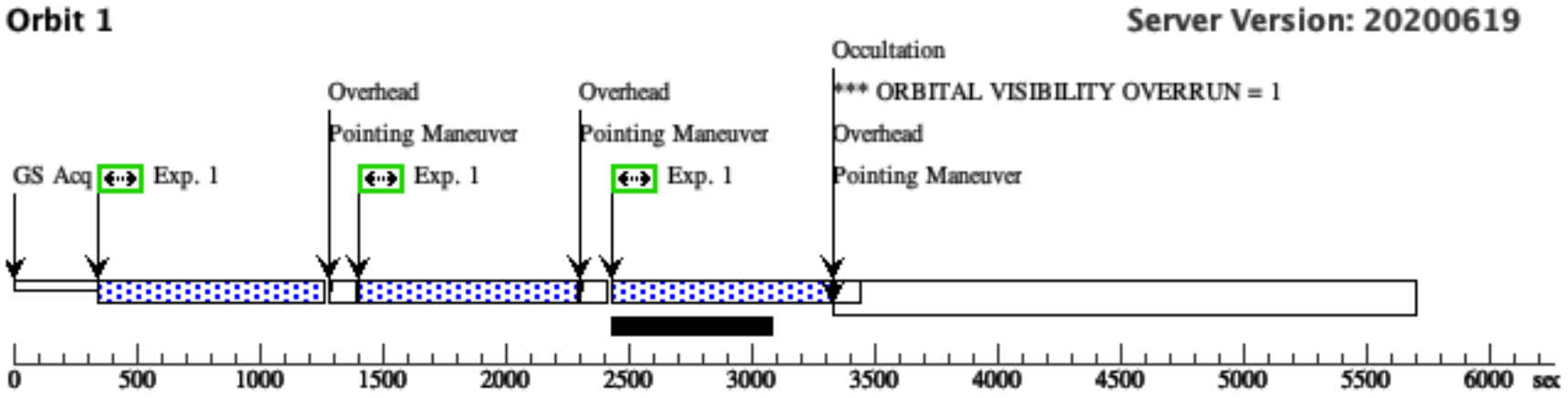
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	JO175	RA: 20 51 23.0297 (312.8459571d)		V=15.9	Reference Frame: ICRS
		Dec: -52 49 30.19 (-52.82505d)			
		Equinox: J2000			

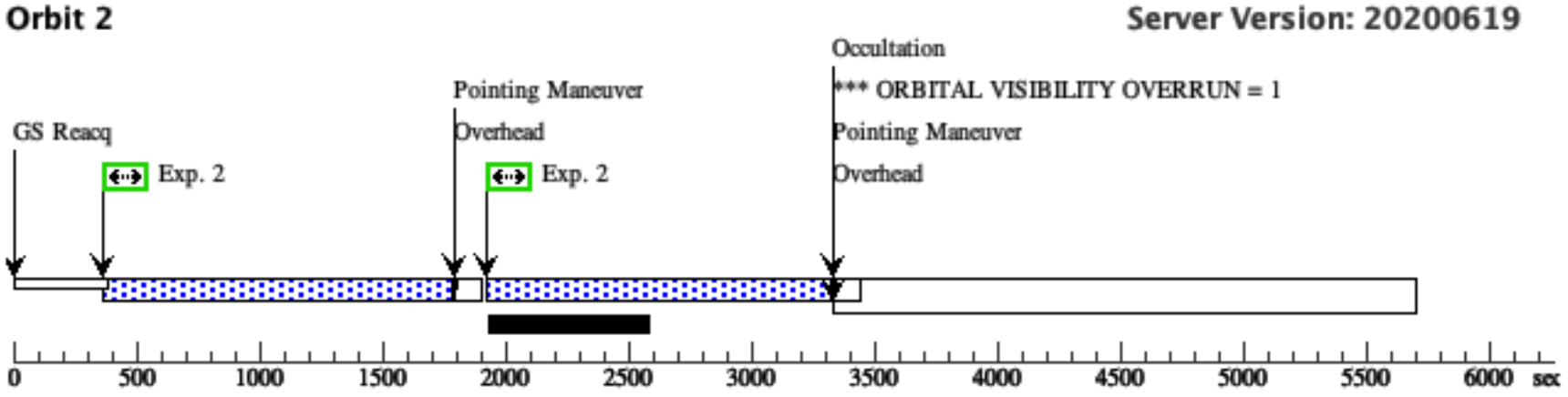
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

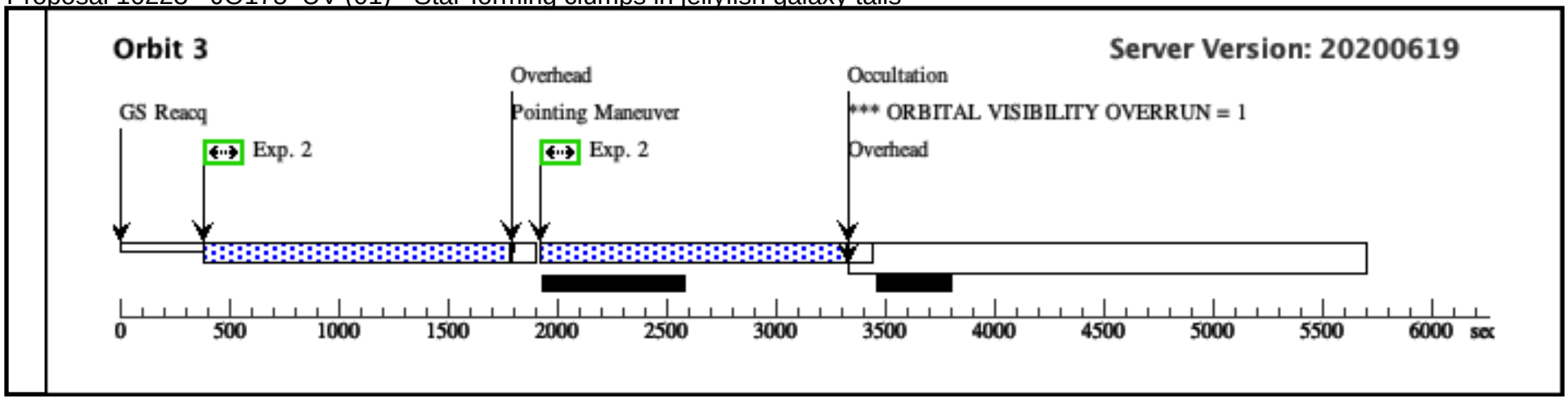
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO175_F336W	(1) JO175	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=17		Pattern 3, Exps 1-1 in JO175_UV (01) (3)	800 Secs (2667 Secs)	
								[==>889.0 Secs (Pattern 1)]	***[1]***
								[==>889.0 Secs (Pattern 2)]	
								[==>889.0 Secs (Pattern 3)]	
2	JO175_F275W	(1) JO175	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JO175_UV (01) (4)	1000 Secs (5592 Secs)	
								[==>1398.0 Secs (Pattern 1)]	***[2]***
								[==>1398.0 Secs (Pattern 2)]	
								[==>1398.0 Secs (Pattern 3)]	***[3]***
								[==>1398.0 Secs (Pattern 4)]	

Orbit Structure






Orbit 3
Server Version: 20200619
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Occultation
*** ORBITAL VISIBILITY OVERRUN = 1
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO175_OPT (02), scheduling Tue Sep 29 15:00:36 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO175_F606W (02.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO175_F814W (02.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO175_F680N (02.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

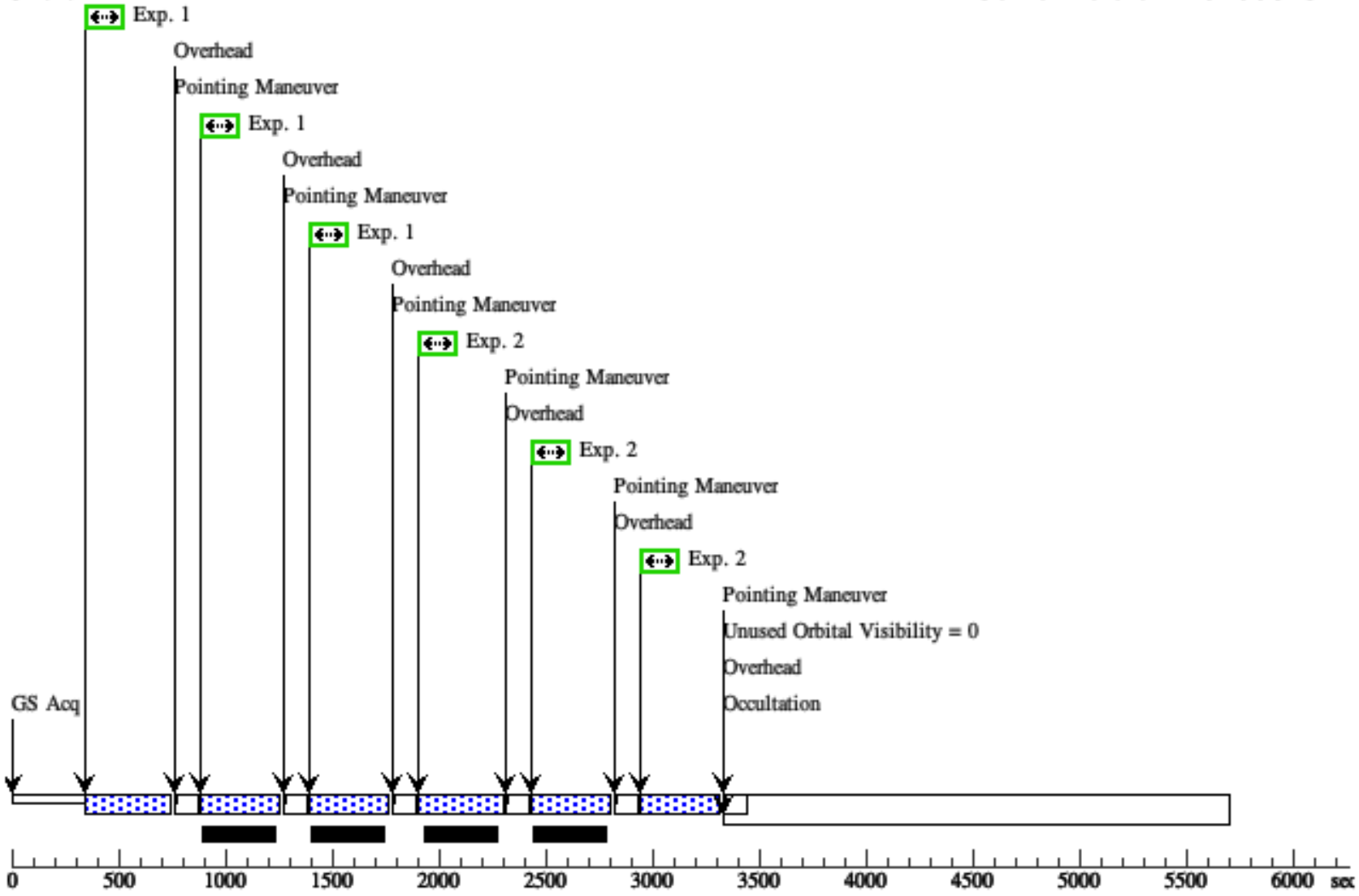
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	JO175	RA: 20 51 23.0297 (312.8459571d)		V=15.9	Reference Frame: ICRS
		Dec: -52 49 30.19 (-52.82505d)			
		Equinox: J2000			

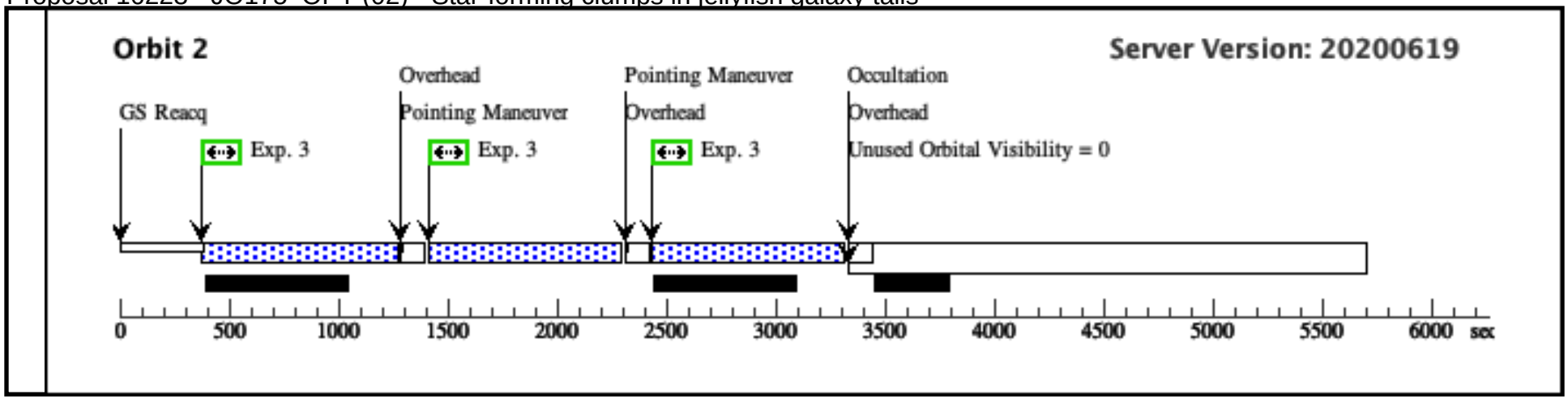
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO175_F606W	(1) JO175	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=5		Pattern 3, Exps 1-1 in JO175_OPT (02) (3)	350 Secs (1125 Secs)	
								[==>375.0 Secs (Pattern 1)]	***[1]***
								[==>375.0 Secs (Pattern 2)]	
								[==>375.0 Secs (Pattern 3)]	
2	JO175_F814W	(1) JO175	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JO175_OPT (02) (3)	350 Secs (1125 Secs)	
								[==>375.0 Secs (Pattern 1)]	***[1]***
								[==>375.0 Secs (Pattern 2)]	
								[==>375.0 Secs (Pattern 3)]	
3	JO175_F680N	(1) JO175	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=13		Pattern 3, Exps 3-3 in JO175_OPT (02) (3)	500 Secs (2661 Secs)	
								[==>887.0 Secs (Pattern 1)]	***[2]***
								[==>887.0 Secs (Pattern 2)]	
								[==>887.0 Secs (Pattern 3)]	

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Pointing Maneuver
Overhead
Exp. 3
Occultation
Overhead
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JW39_UV (03), scheduling Tue Sep 29 15:00:36 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JW39_UV (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JW39_F336W (03.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW39_F275W (03.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

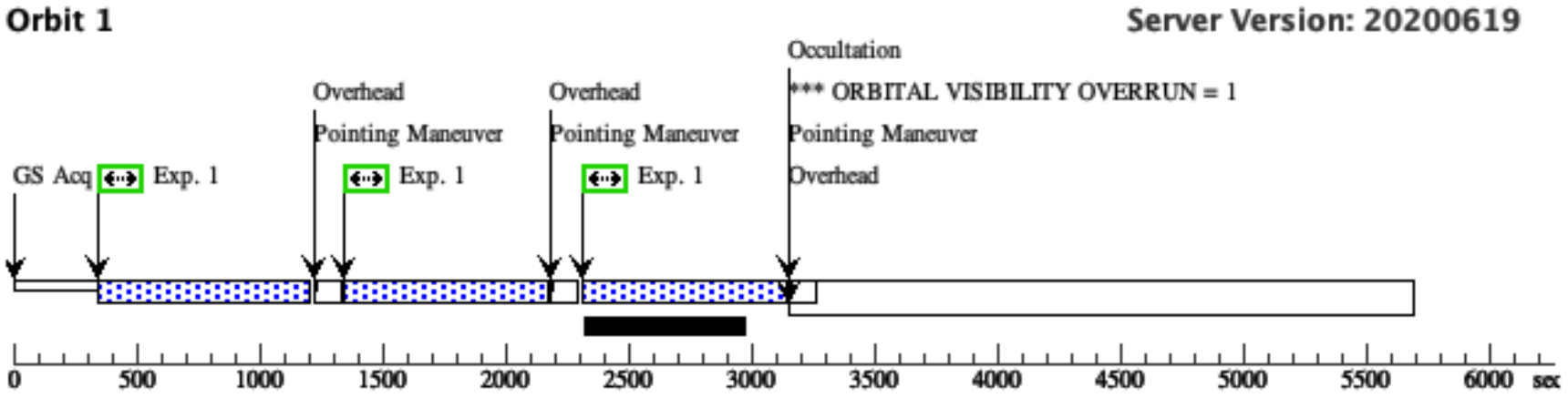
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	JW39	RA: 13 04 8.4814 (196.0353392d)		V=15.3	Reference Frame: ICRS
		Dec: +19 12 4.62 (19.20128d)			
		Equinox: J2000			

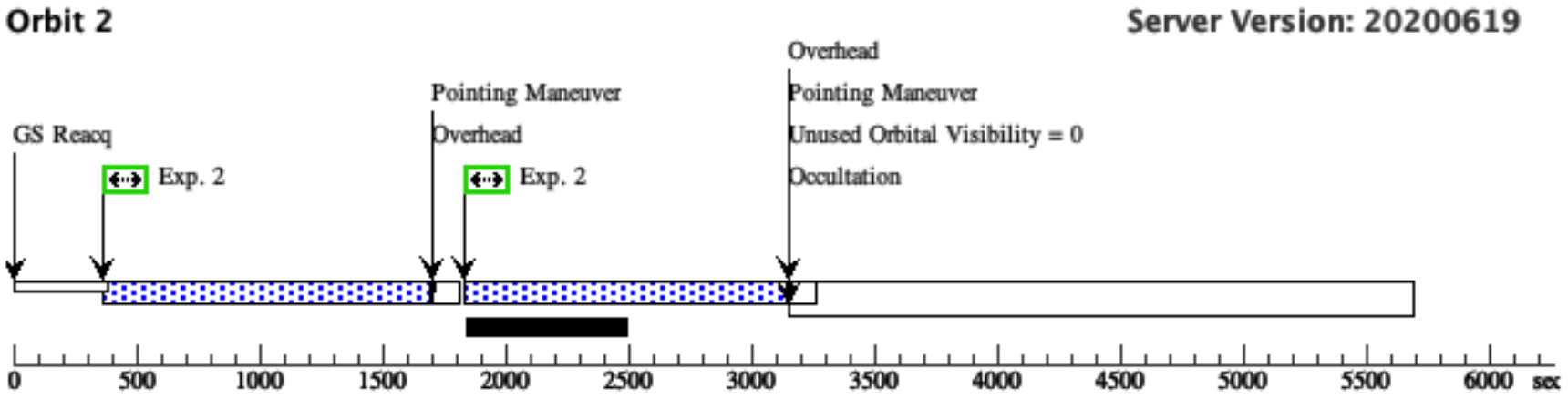
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

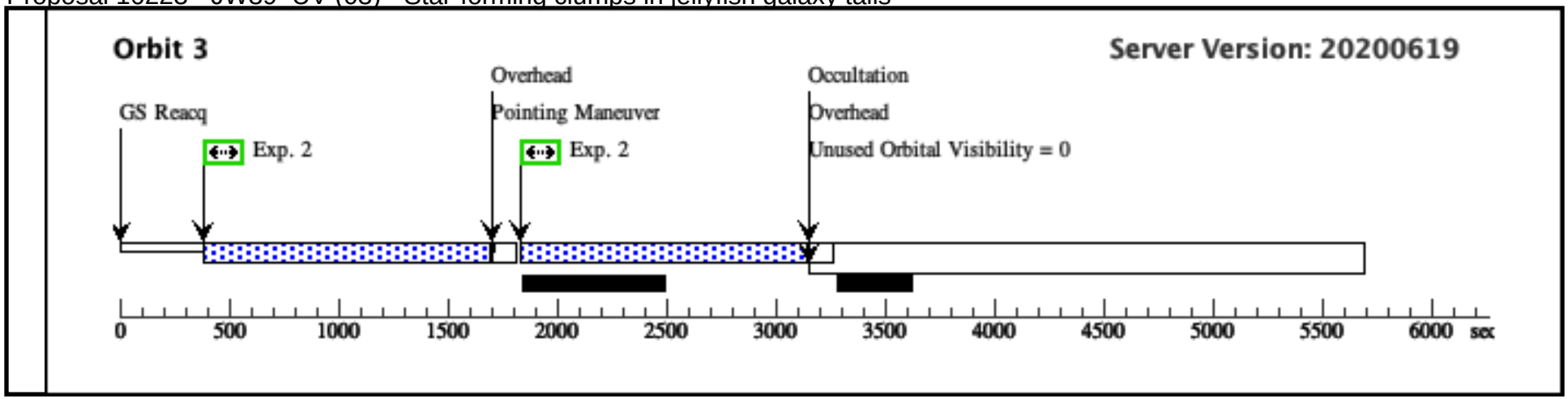
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JW39_F336W	(2) JW39	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=18		Pattern 3, Exps 1-1 in JW39_UV (03) (3)	800 Secs (2490 Secs)	
								[==>830.0 Secs (Pattern 1)]	***[1]***
								[==>830.0 Secs (Pattern 2)]	
								[==>830.0 Secs (Pattern 3)]	
2	JW39_F275W	(2) JW39	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JW39_UV (03) (4)	1300 Secs (5236 Secs)	
								[==>1309.0 Secs (Pattern 1)]	***[2]***
								[==>1309.0 Secs (Pattern 2)]	
								[==>1309.0 Secs (Pattern 3)]	***[3]***
								[==>1309.0 Secs (Pattern 4)]	

Orbit Structure






Orbit 3
Server Version: 20200619
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Occultation
Overhead
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JW39_OPT (04), scheduling Tue Sep 29 15:00:36 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JW39_F606W (04.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW39_F814W (04.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW39_F680N (04.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

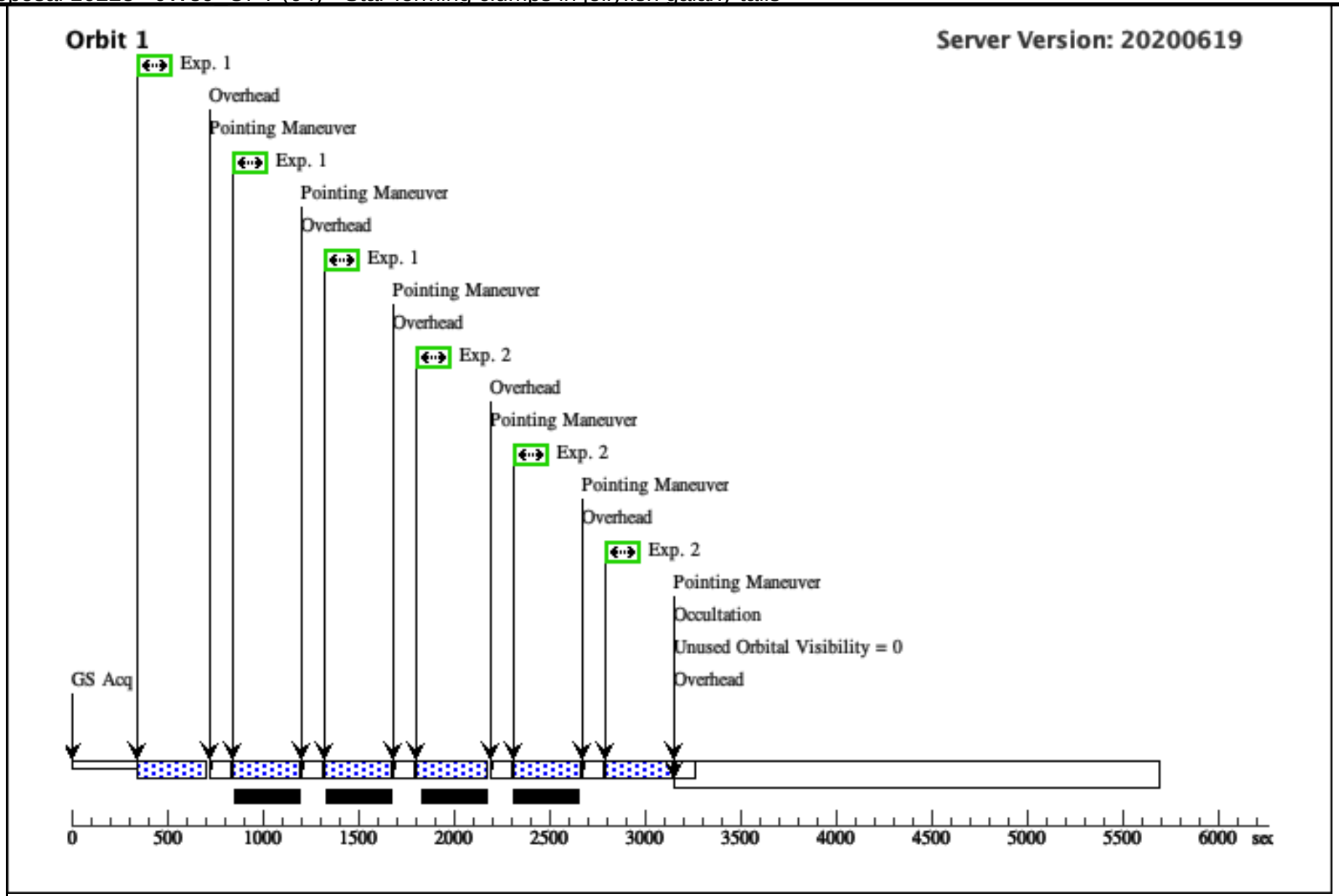
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	JW39	RA: 13 04 8.4814 (196.0353392d)		V=15.3	Reference Frame: ICRS
		Dec: +19 12 4.62 (19.20128d)			
		Equinox: J2000			

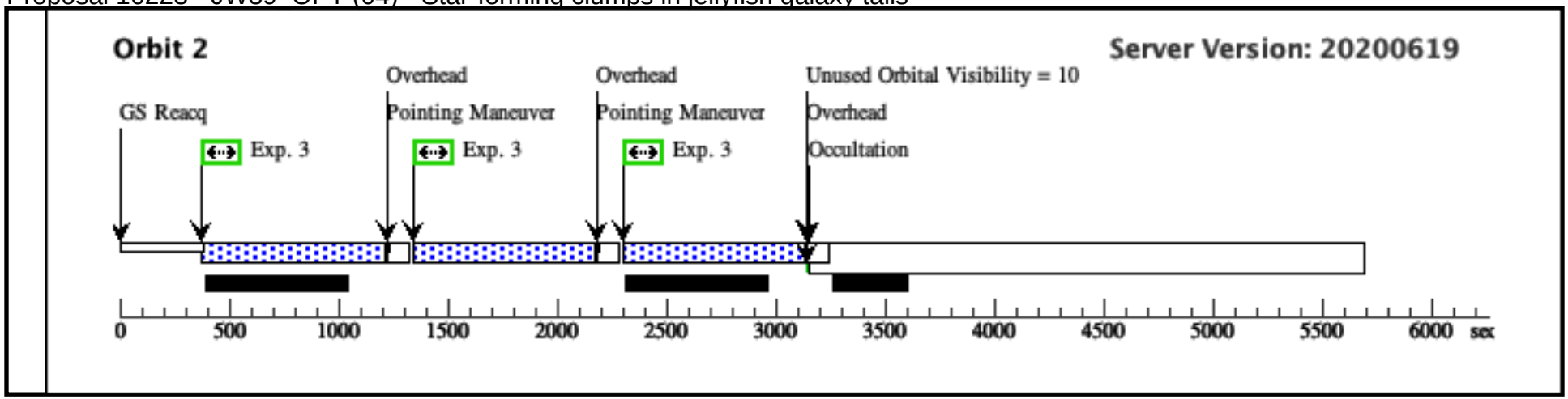
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JW39_F606W	(2) JW39	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=7		Pattern 3, Exps 1-1 in JW39_OPT (04) (3)	348 Secs (1029 Secs)	
								[==>333.0 Secs (Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
2	JW39_F814W	(2) JW39	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JW39_OPT (04) (3)	348 Secs (1044 Secs)	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
3	JW39_F680N	(2) JW39	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JW39_OPT (04) (3)	500 Secs (2484 Secs)	
								[==>828.0 Secs (Pattern 1)]	
								[==>828.0 Secs (Pattern 2)]	***[2]***
								[==>828.0 Secs (Pattern 3)]	

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Unused Orbital Visibility = 10
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO204_UV (05), scheduling Tue Sep 29 15:00:36 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO204_F336W (05.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO204_F275W (05.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

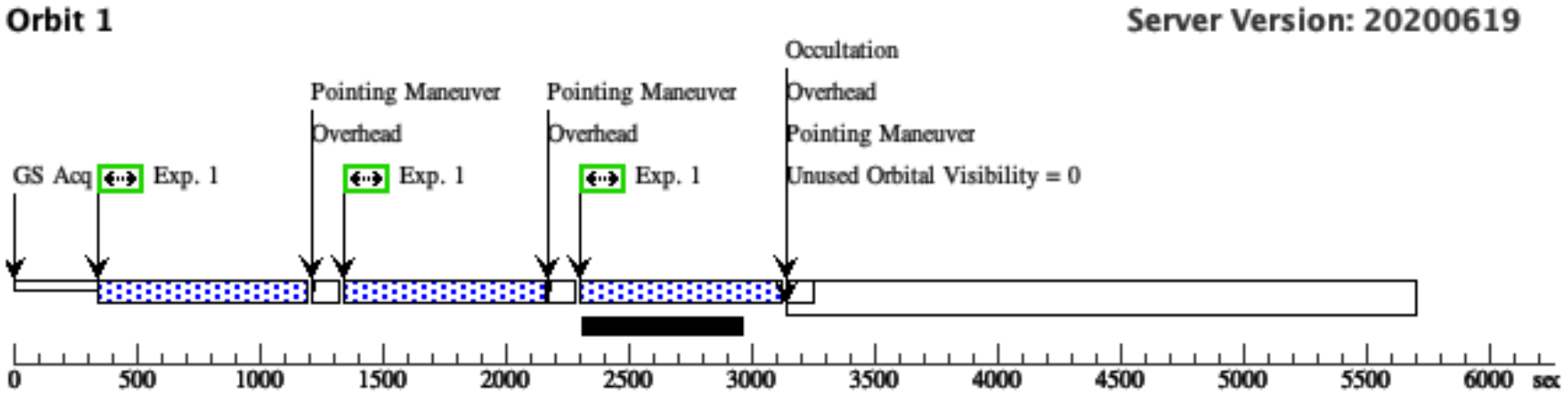
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	JO204	RA: 10 13 49.7263 (153.4571929d) Dec: -00 54 35.89 (-.90997d) Equinox: J2000		V=15.2	Reference Frame: ICRS

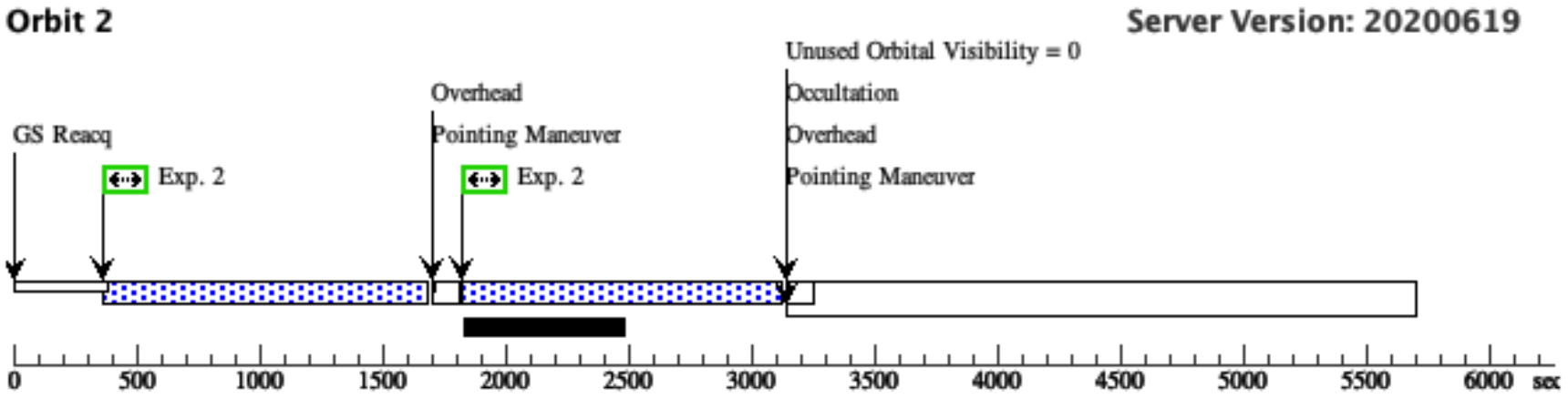
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

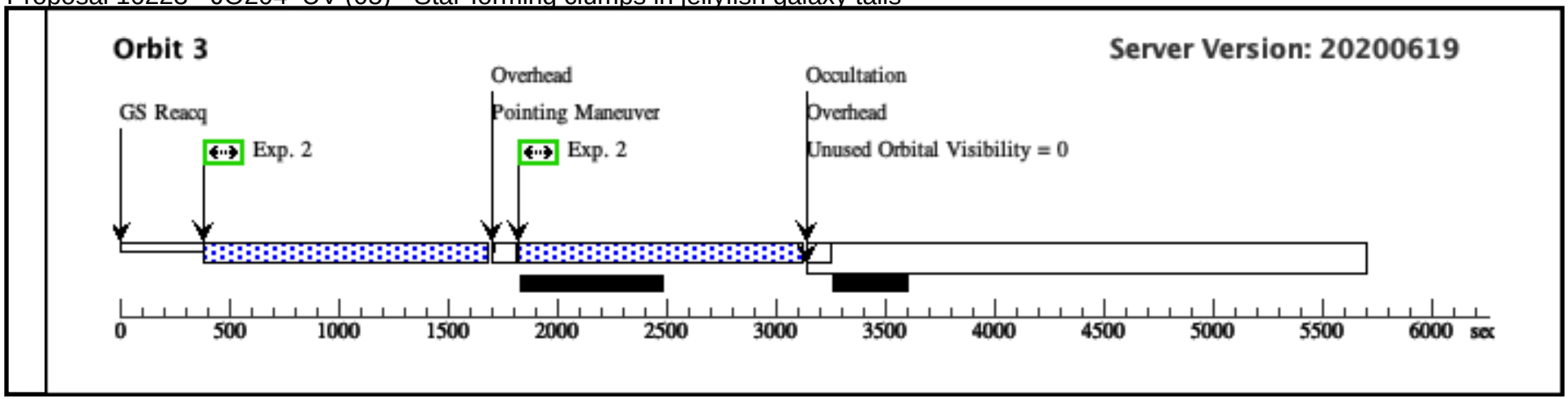
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO204_F336W	(3) JO204	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=18		Pattern 3, Exps 1-1 in JO204_UV (05) (3)	800 Secs (2475 Secs)	
								[==>825.0 Secs (Pattern 1)] *[==>825.0 Secs (Pattern 2)]* *[==>825.0 Secs (Pattern 3)]*	***[1]***
2	JO204_F275W	(3) JO204	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JO204_UV (05) (4)	1300 Secs (5208 Secs)	
								[==>1302.0 Secs (Pattern 1)] *[==>1302.0 Secs (Pattern 2)]*	***[2]***
								[==>1302.0 Secs (Pattern 3)] *[==>1302.0 Secs (Pattern 4)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20200619
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Occultation
Overhead
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO204_OPT (06), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO204_F606W (06.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO204_F814W (06.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO204_F680N (06.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

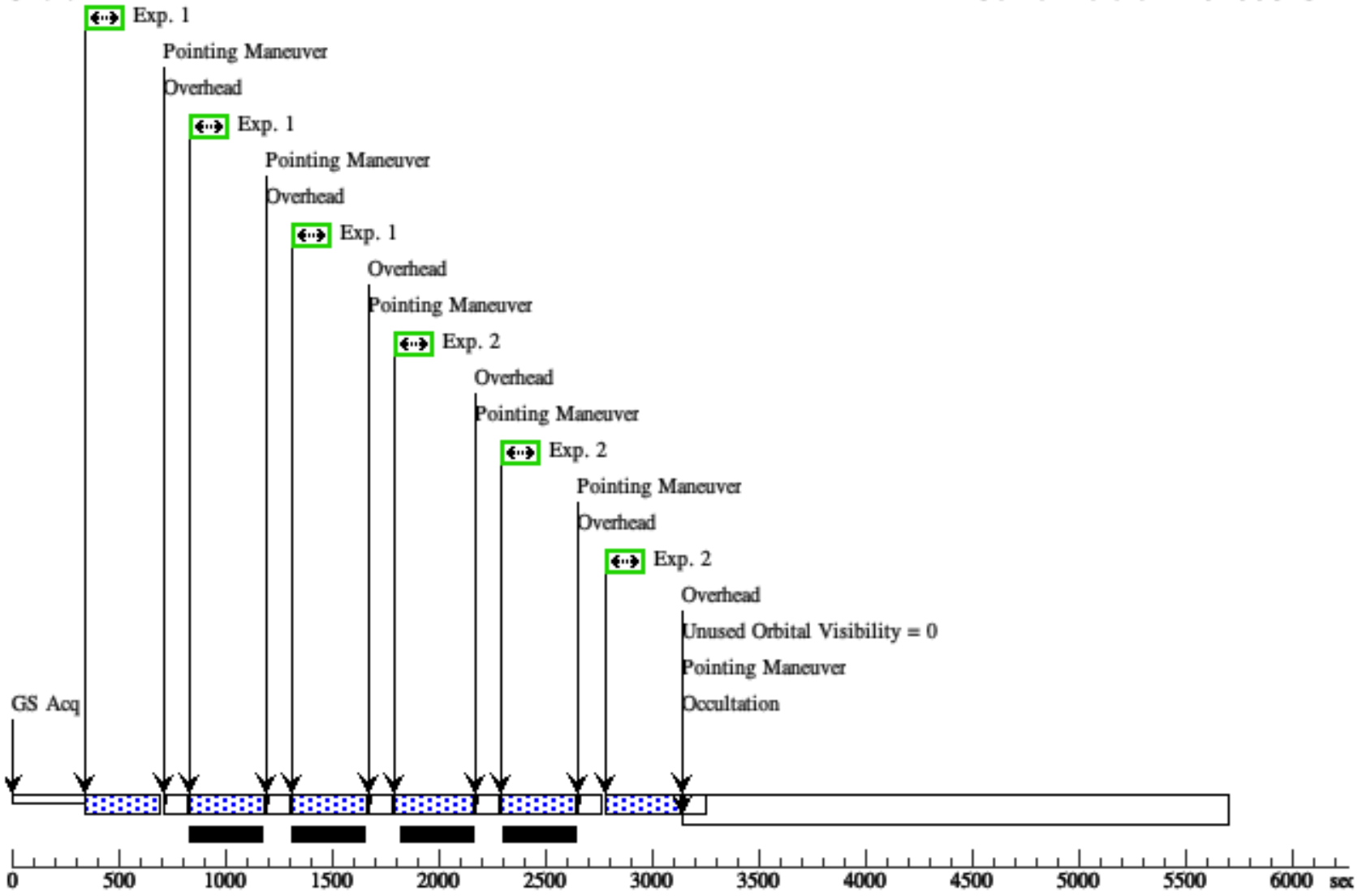
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	JO204	RA: 10 13 49.7263 (153.4571929d)		V=15.2	Reference Frame: ICRS
		Dec: -00 54 35.89 (-.90997d)			
		Equinox: J2000			

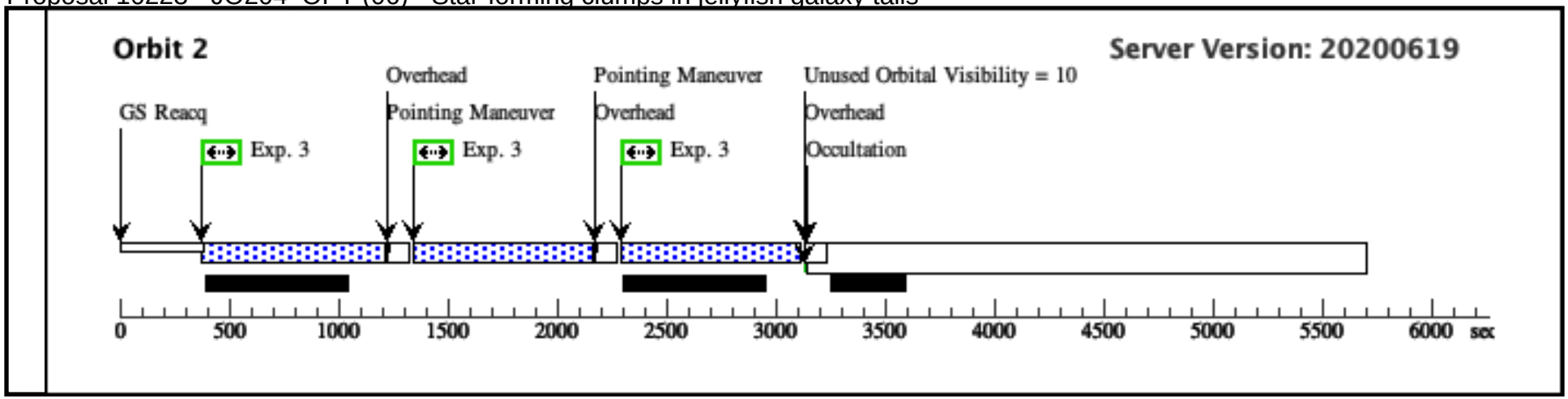
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO204_F606W	(3) JO204	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=6		Pattern 3, Exps 1-1 in JO204_OPT (06) (3)	348 Secs (1015 Secs) *[==>319.0 Secs (Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
2	JO204_F814W	(3) JO204	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JO204_OPT (06) (3)	348 Secs (1044 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
3	JO204_F680N	(3) JO204	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JO204_OPT (06) (3)	500 Secs (2470 Secs) *[==>822.0 Secs (Pattern 1)]* *[==>824.0 Secs (Pattern 2)]* *[==>824.0 Secs (Pattern 3)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Pointing Maneuver
Overhead
Exp. 3
Unused Orbital Visibility = 10
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO201_UV (07), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO201_UV (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JO201_UV (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JO201_F336W (07.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO201_F275W (07.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

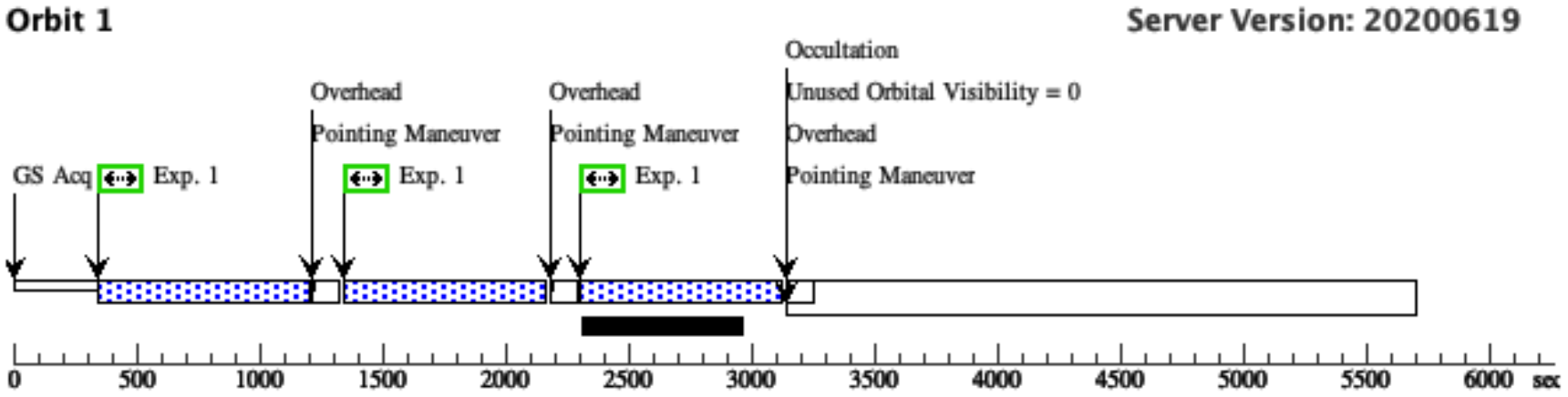
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	JO201	RA: 00 41 32.5521 (10.3856338d)		V=14.8	Reference Frame: ICRS
		Dec: -09 15 59.25 (-9.26646d)			
		Equinox: J2000			

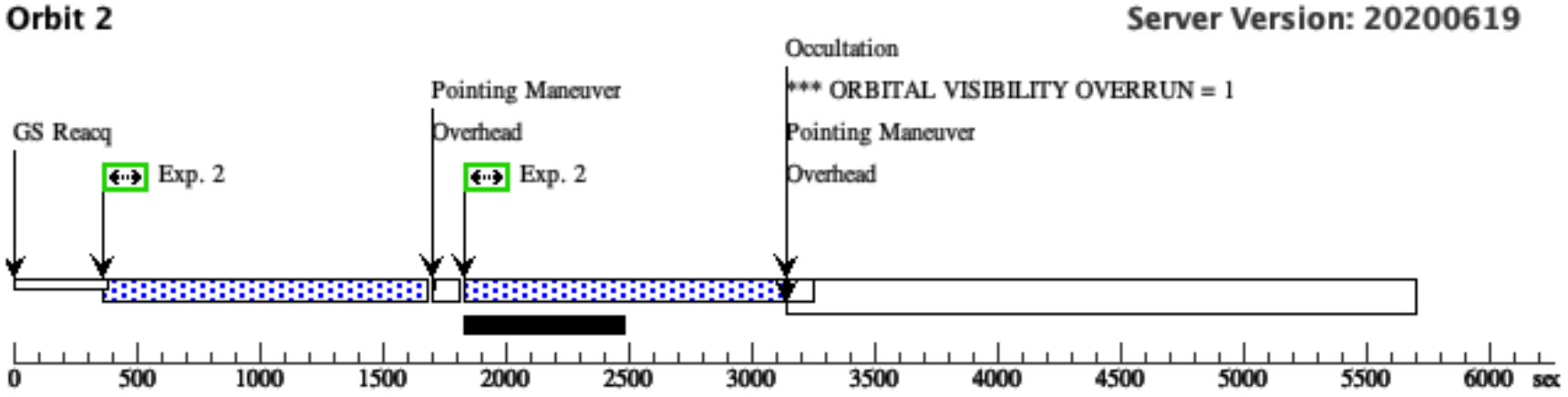
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

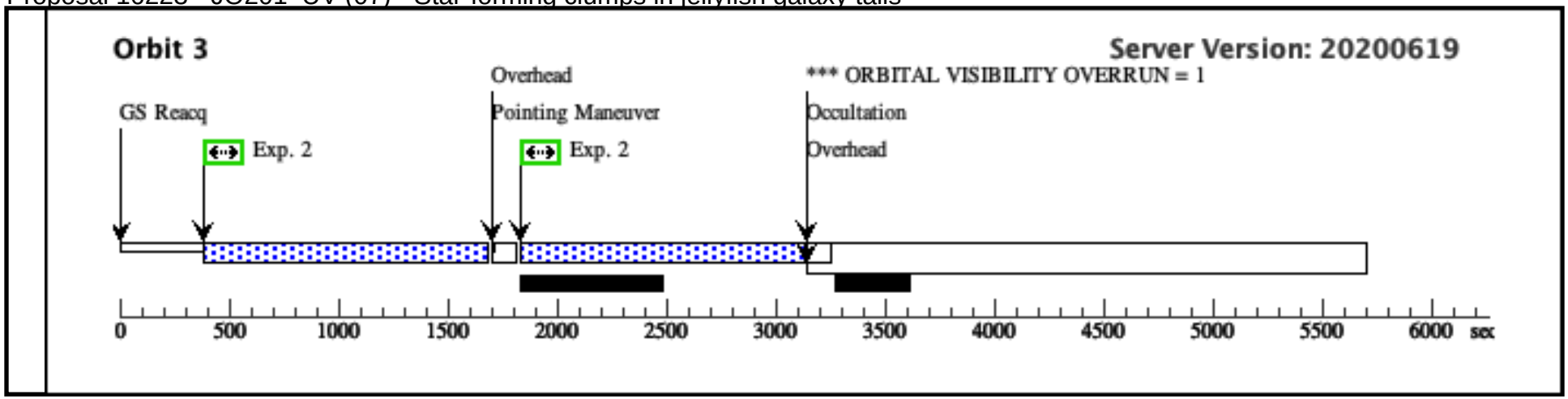
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO201_F336W	(4) JO201	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=18		Pattern 3, Exps 1-1 in JO201_UV (07) (3)	800 Secs (2478 Secs)	
								[==>826.0 Secs (Pattern 1)]	***[1]***
								[==>826.0 Secs (Pattern 2)]	
								[==>826.0 Secs (Pattern 3)]	
2	JO201_F275W	(4) JO201	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JO201_UV (07) (4)	1000 Secs (5216 Secs)	
								[==>1304.0 Secs (Pattern 1)]	***[2]***
								[==>1304.0 Secs (Pattern 2)]	
								[==>1304.0 Secs (Pattern 3)]	***[3]***
								[==>1304.0 Secs (Pattern 4)]	

Orbit Structure






Orbit 3
Server Version: 20200619
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
*** ORBITAL VISIBILITY OVERRUN = 1
Occultation
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO201_OPT (08), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO201_F606W (08.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO201_F814W (08.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO201_F680N (08.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

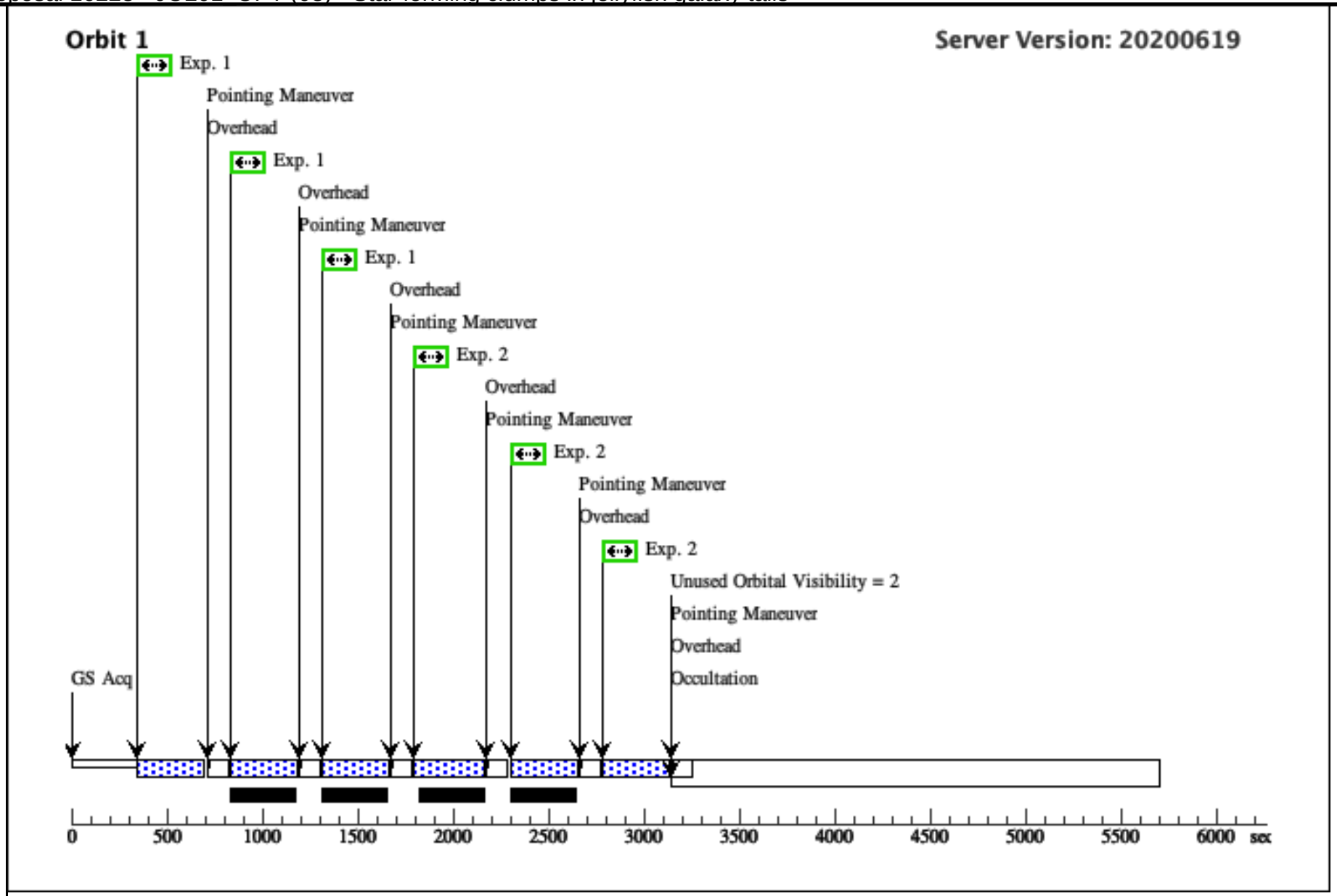
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	JO201	RA: 00 41 32.5521 (10.3856338d)		V=14.8	Reference Frame: ICRS
		Dec: -09 15 59.25 (-9.26646d)			
		Equinox: J2000			

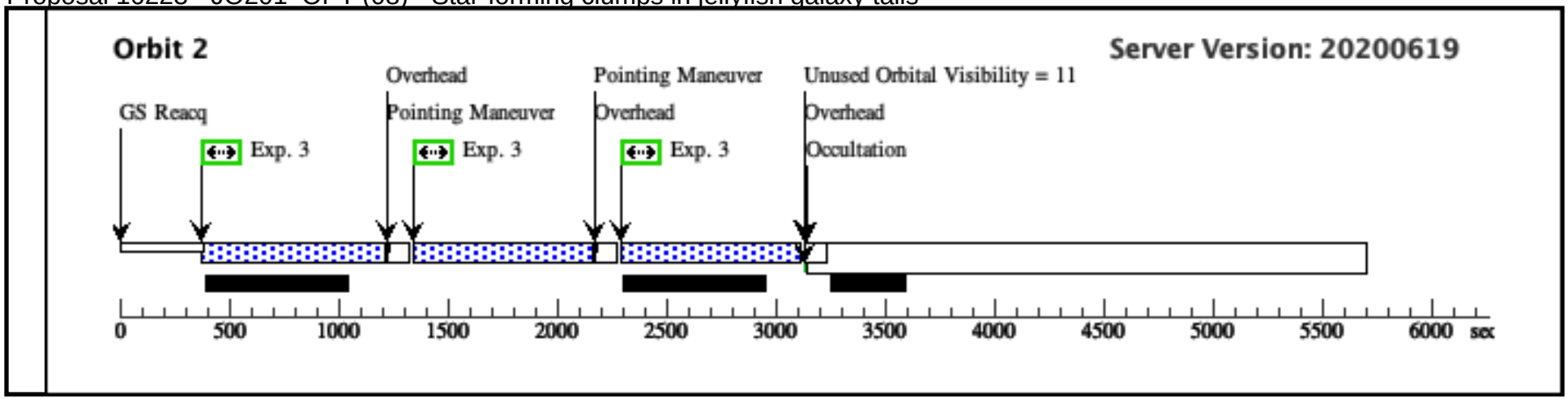
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO201_F606W	(4) JO201	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=6		Pattern 3, Exps 1-1 in JO201_OPT (08) (3)	348 Secs (1016 Secs) *[==>320.0 Secs (Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
2	JO201_F814W	(4) JO201	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JO201_OPT (08) (3)	348 Secs (1044 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
3	JO201_F680N	(4) JO201	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JO201_OPT (08) (3)	500 Secs (2472 Secs) *[==>824.0 Secs (Pattern 1)]* *[==>824.0 Secs (Pattern 2)]* *[==>824.0 Secs (Pattern 3)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Pointing Maneuver
Overhead
Exp. 3
Unused Orbital Visibility = 11
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO206_UV (09), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO206_F336W (09.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO206_F275W (09.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

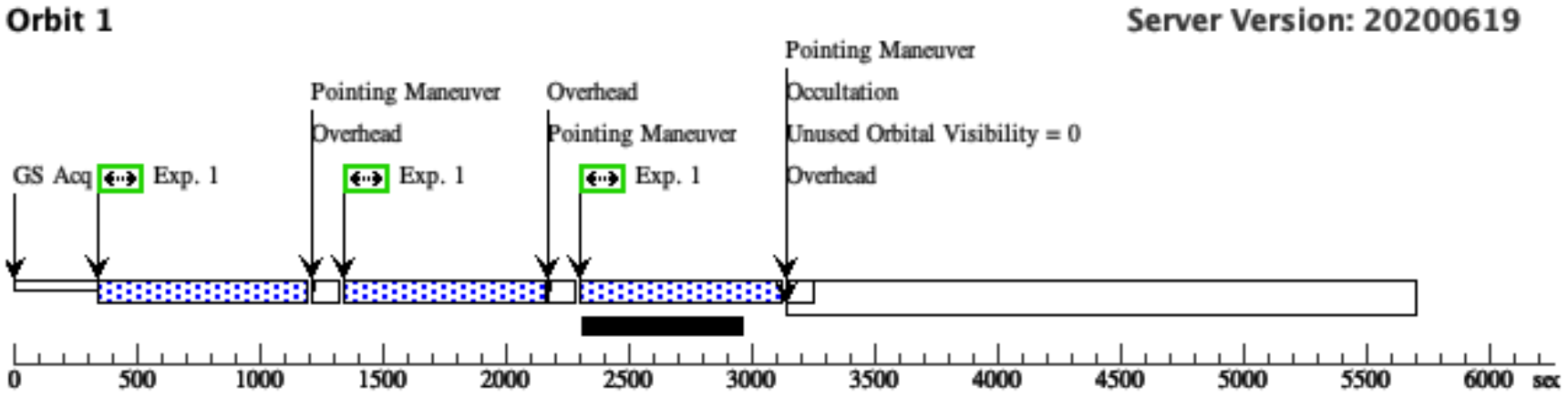
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	JO206	RA: 21 13 44.8701 (318.4369587d)		V=15.5	Reference Frame: ICRS
		Dec: +02 28 15.77 (2.47105d)			
		Equinox: J2000			

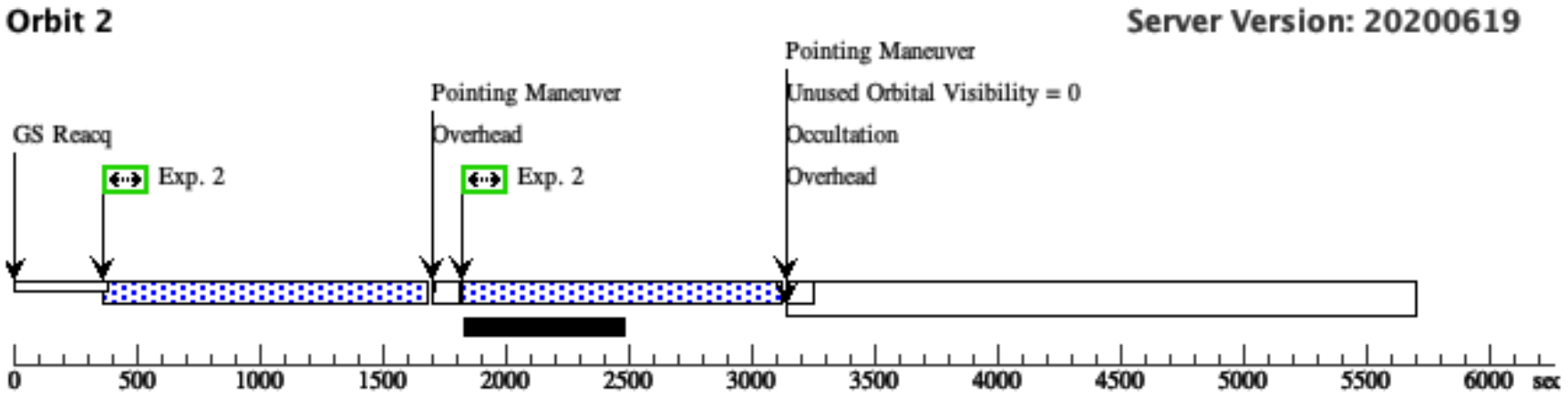
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

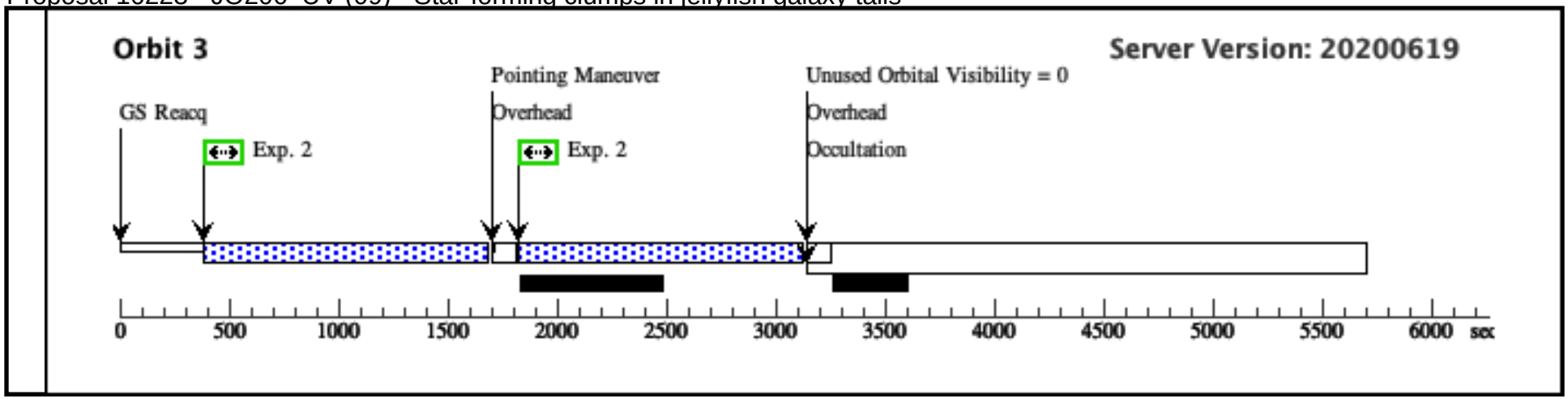
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO206_F336W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=18		Pattern 3, Exps 1-1 in JO206_UV (09) (3)	800 Secs (2475 Secs)	
								[==>825.0 Secs (Pattern 1)]	***[1]***
								[==>825.0 Secs (Pattern 2)]	
								[==>825.0 Secs (Pattern 3)]	
2	JO206_F275W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JO206_UV (09) (4)	1000 Secs (5208 Secs)	
								[==>1302.0 Secs (Pattern 1)]	***[2]***
								[==>1302.0 Secs (Pattern 2)]	
								[==>1302.0 Secs (Pattern 3)]	***[3]***
								[==>1302.0 Secs (Pattern 4)]	

Orbit Structure






Orbit 3
Server Version: 20200619
Pointing Maneuver
Unused Orbital Visibility = 0
GS Reacq
Overhead
Overhead
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO206_OPT (10), failed Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JO206_F606W (10.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO206_F814W (10.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO206_F680N (10.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

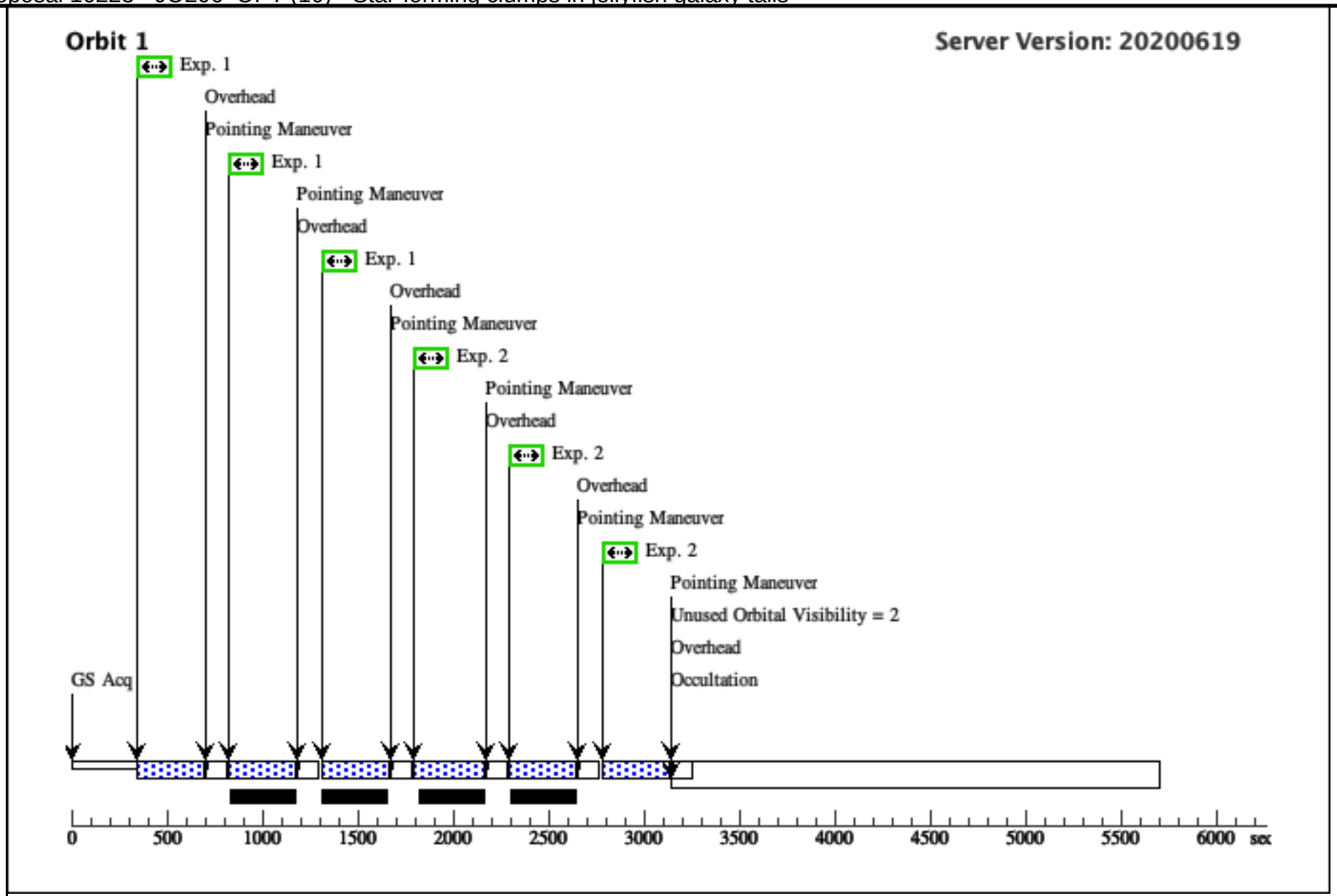
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	JO206	RA: 21 13 44.8701 (318.4369587d)		V=15.5	Reference Frame: ICRS
		Dec: +02 28 15.77 (2.47105d)			
		Equinox: J2000			

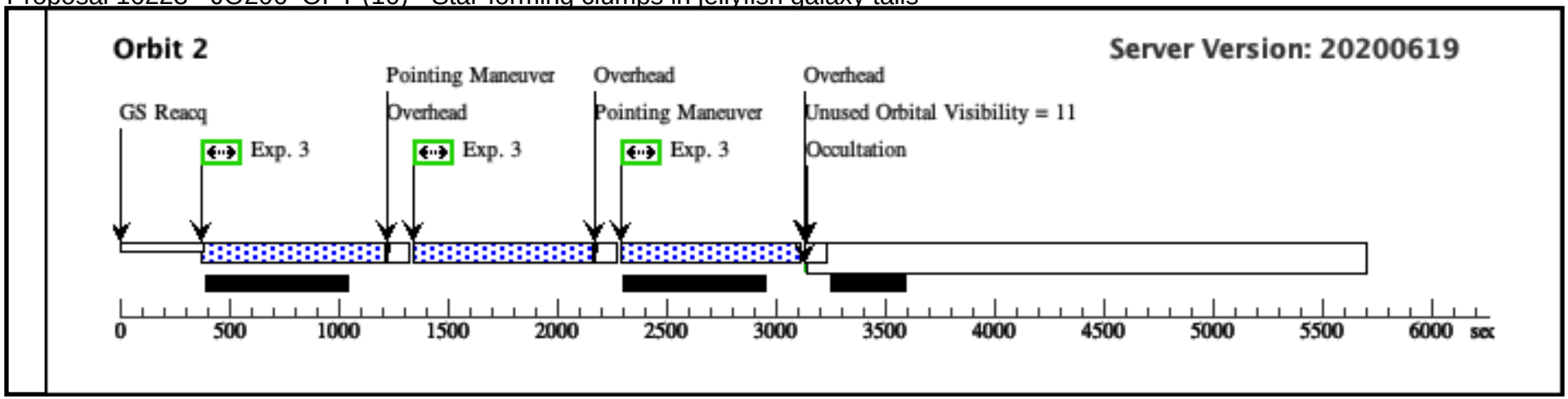
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO206_F606W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=6		Pattern 3, Exps 1-1 in JO206_OPT (10) (3)	348 Secs (1013 Secs) *[==>317.0 Secs (Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
2	JO206_F814W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JO206_OPT (10) (3)	348 Secs (1044 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
3	JO206_F680N	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JO206_OPT (10) (3)	500 Secs (2469 Secs) *[==>823.0 Secs (Pattern 1)]* *[==>823.0 Secs (Pattern 2)]* *[==>823.0 Secs (Pattern 3)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Pointing Maneuver
Overhead
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Overhead
Unused Orbital Visibility = 11
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JO206_OPT (50) Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Comments: Repeat of Visit 10

Diagnostics

(JO206_F606W (50.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO206_F814W (50.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JO206_F680N (50.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

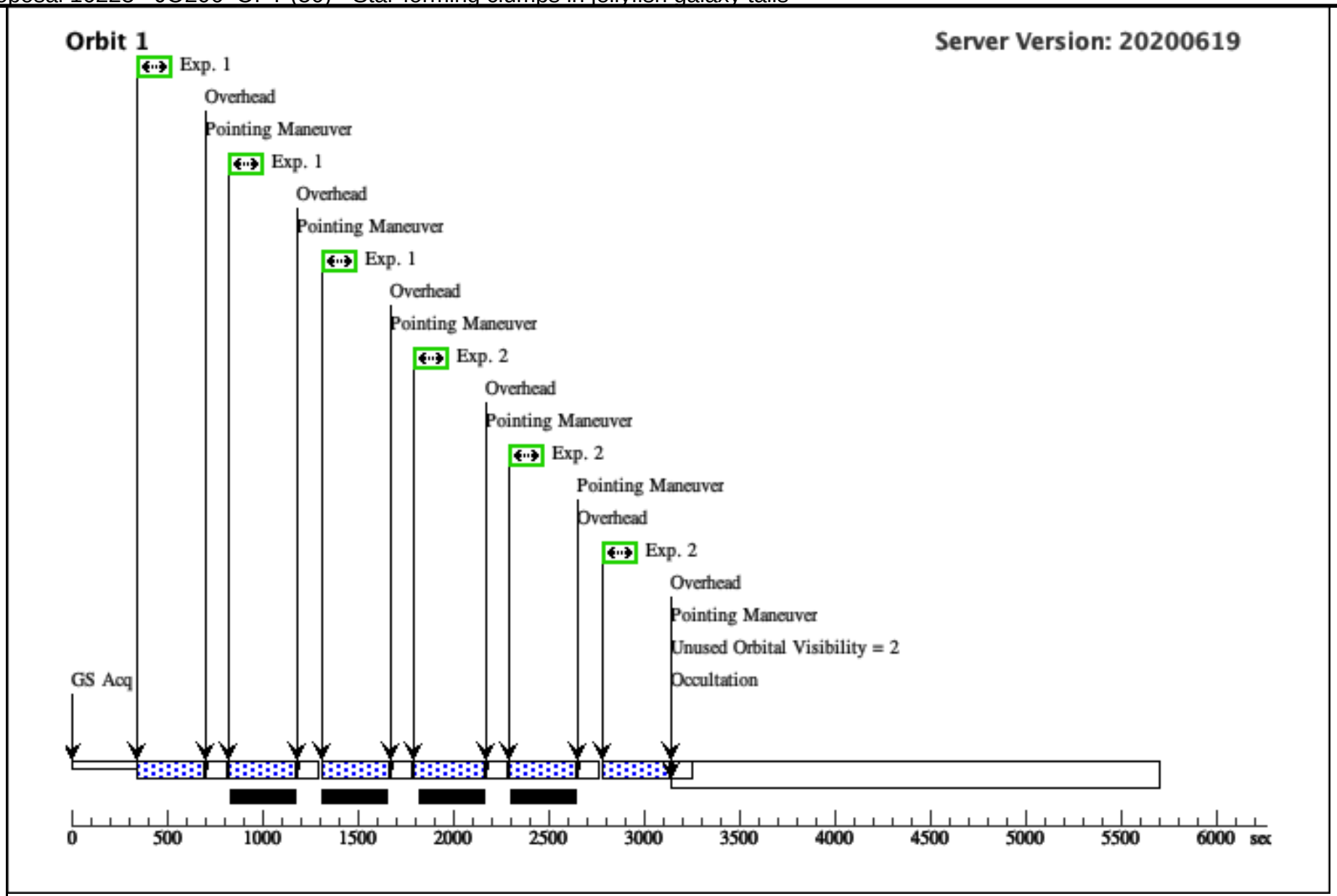
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	JO206	RA: 21 13 44.8701 (318.4369587d)		V=15.5	Reference Frame: ICRS
		Dec: +02 28 15.77 (2.47105d)			
		Equinox: J2000			

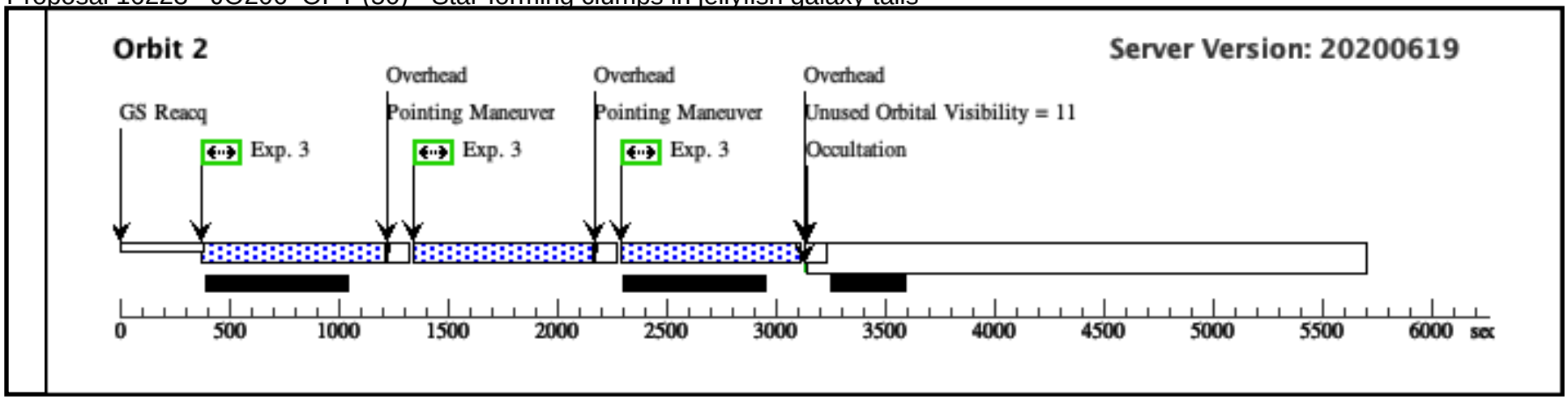
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JO206_F606W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=6		Pattern 3, Exps 1-1 in JO206_OPT (50) (3)	348 Secs (1013 Secs)	
								[==>317.0 Secs (Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
2	JO206_F814W	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JO206_OPT (50) (3)	348 Secs (1044 Secs)	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	
								[==>(Pattern 3)]	
3	JO206_F680N	(5) JO206	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JO206_OPT (50) (3)	500 Secs (2469 Secs)	
								[==>823.0 Secs (Pattern 1)]	***[2]***
								[==>823.0 Secs (Pattern 2)]	
								[==>823.0 Secs (Pattern 3)]	

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Overhead
Unused Orbital Visibility = 11
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JW100_UV (11), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JW100_UV (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JW100_UV (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(JW100_F336W (11.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW100_F275W (11.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			
(4)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(2)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

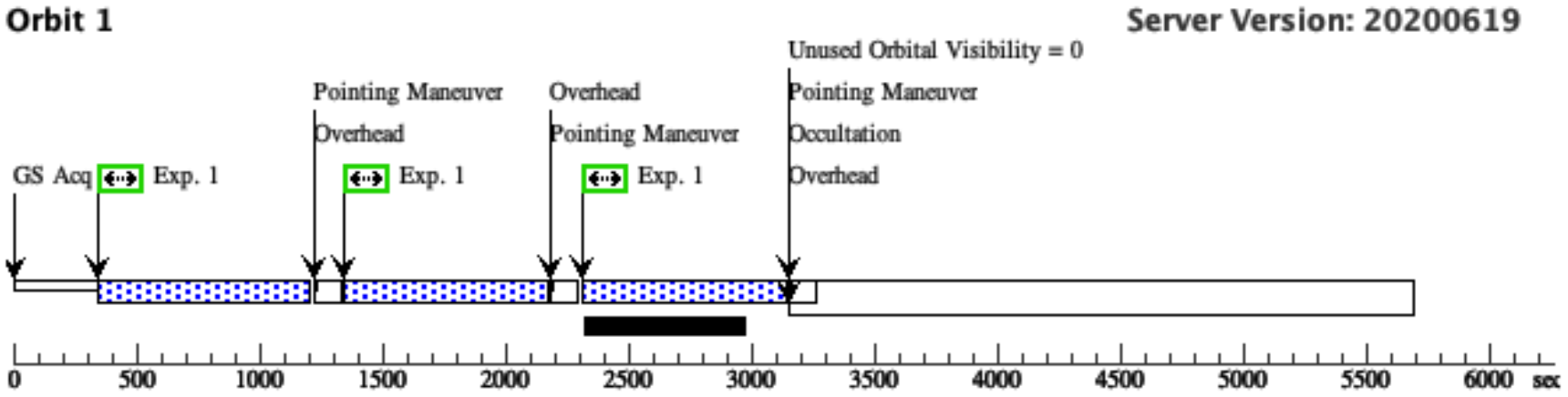
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	JW100	RA: 23 36 26.1032 (354.1087633d)		V=14.7	Reference Frame: ICRS
		Dec: +21 08 37.16 (21.14366d)			
		Equinox: J2000			

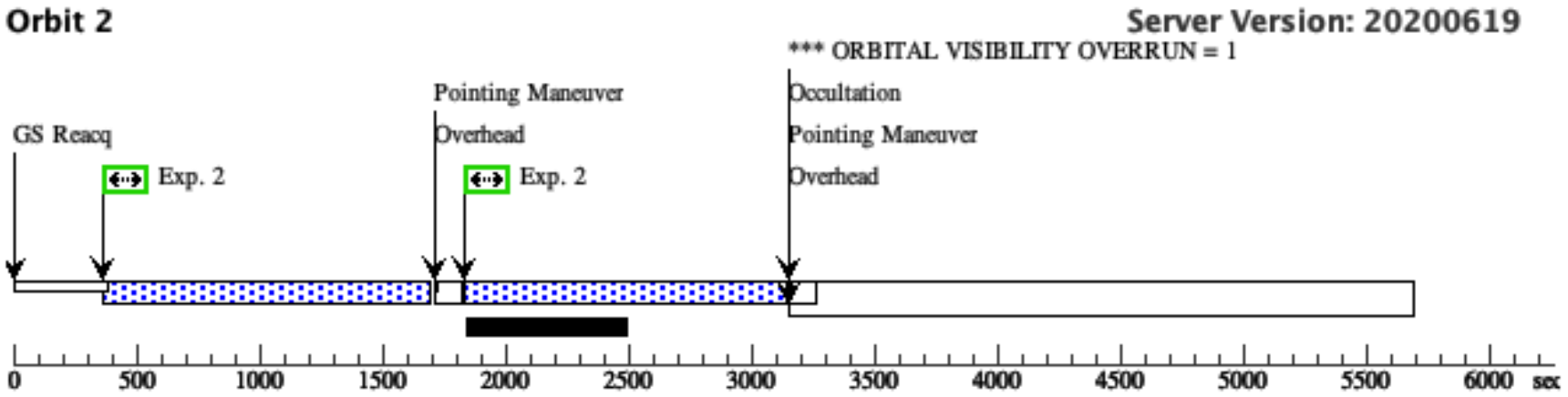
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

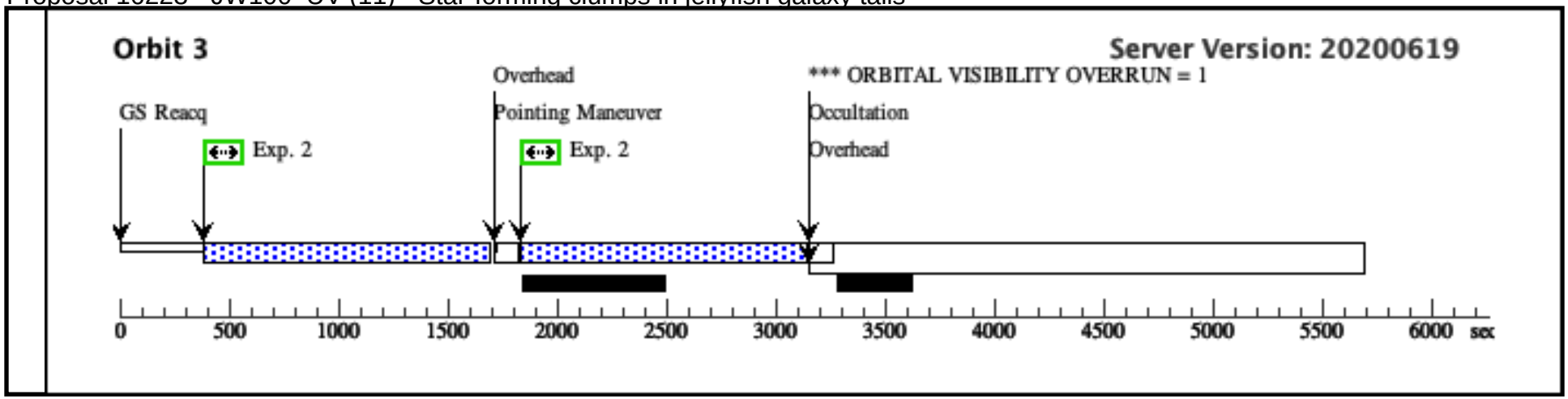
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JW100_F336W	(6) JW100	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=18		Pattern 3, Exps 1-1 in JW100_UV (11) (3)	800 Secs (2490 Secs)	
								[==>830.0 Secs (Pattern 1)]	***[1]***
								[==>830.0 Secs (Pattern 2)]	
								[==>830.0 Secs (Pattern 3)]	
2	JW100_F275W	(6) JW100	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=17		Pattern 4, Exps 2-2 in JW100_UV (11) (4)	1000 Secs (5240 Secs)	
								[==>1310.0 Secs (Pattern 1)]	***[2]***
								[==>1310.0 Secs (Pattern 2)]	
								[==>1310.0 Secs (Pattern 3)]	***[3]***
								[==>1310.0 Secs (Pattern 4)]	

Orbit Structure






Orbit 3
Server Version: 20200619
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
*** ORBITAL VISIBILITY OVERRUN = 1
Occultation
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 16223, JW100_OPT (12), scheduling Tue Sep 29 15:00:37 GMT 2020

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(JW100_F606W (12.001)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW100F814W (12.002)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

(JW100_F680N (12.003)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-GAP-LINE	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=MOSAIC	Pattern Orientation=85.759		
	Number Of Points=3	Angle Between Sides=		
	Point Spacing=2.414	Center Pattern=true		
	Line Spacing=			

Fixed Targets

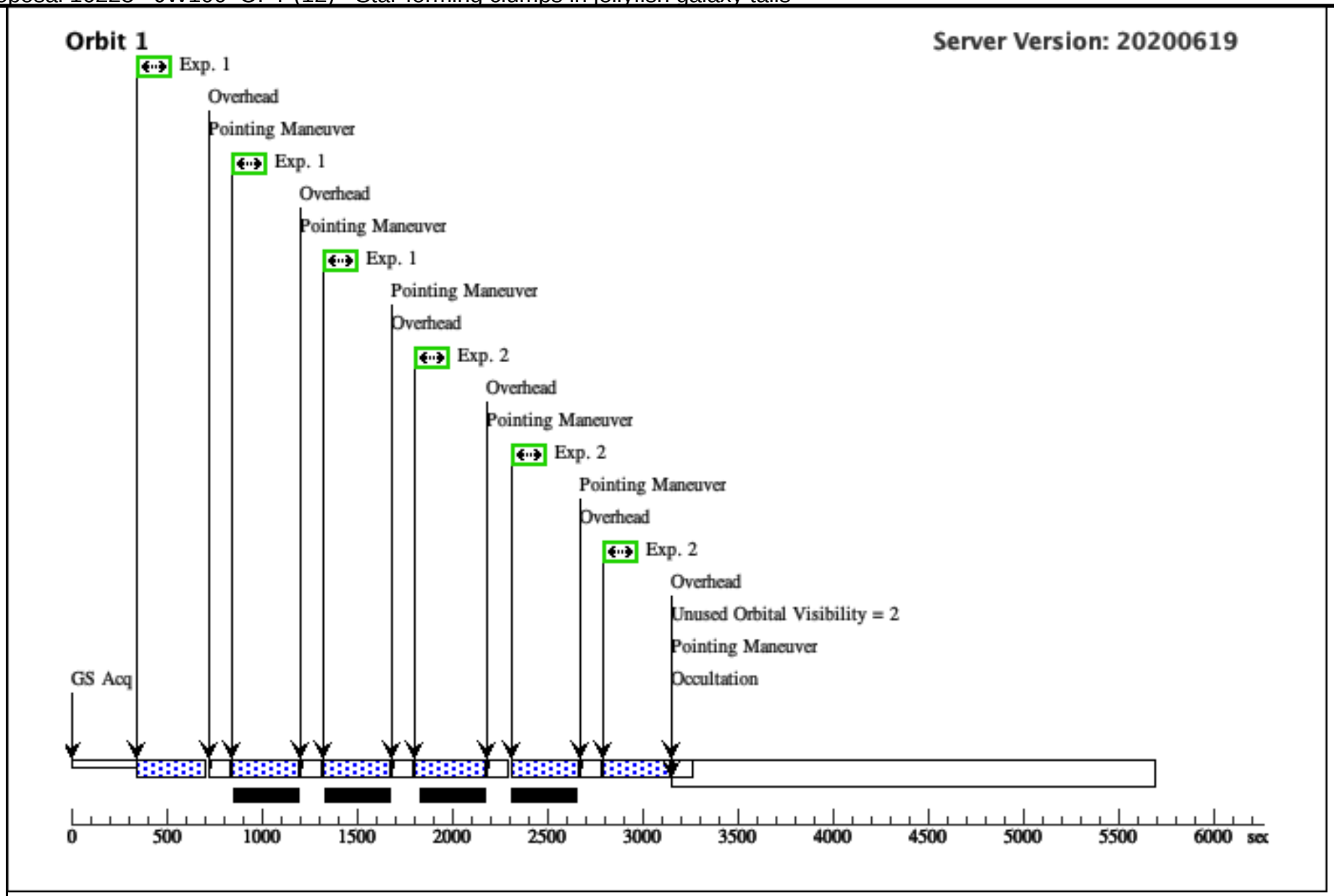
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	JW100	RA: 23 36 26.1032 (354.1087633d)		V=14.7	Reference Frame: ICRS
		Dec: +21 08 37.16 (21.14366d)			
		Equinox: J2000			

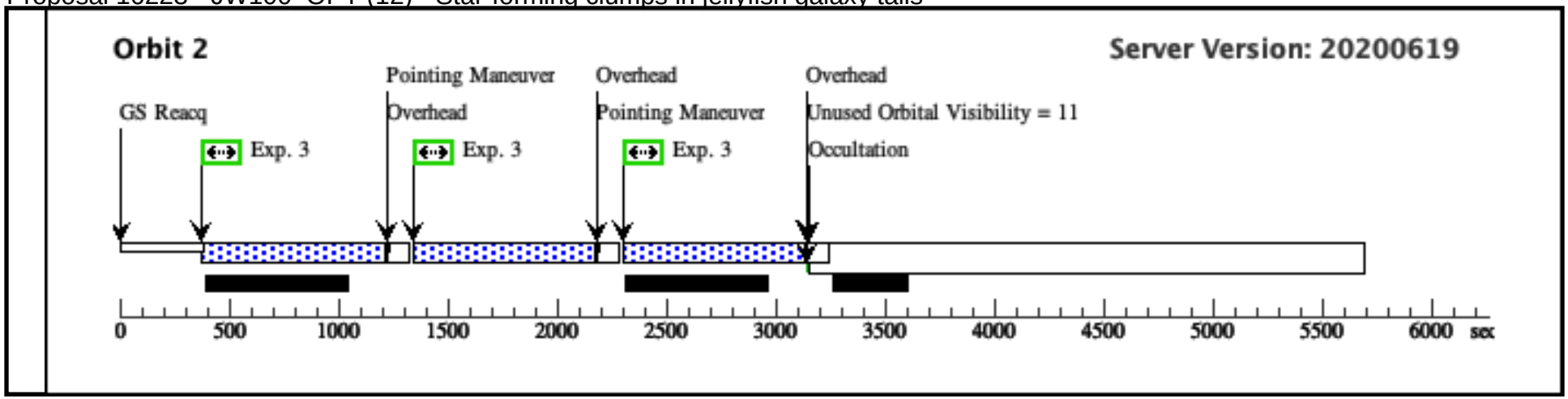
Comments: integrated galaxy Vmag from Varela et al. (2009)
Category=GALAXY
Description=[SPIRAL]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	JW100_F606W	(6) JW100	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=6		Pattern 3, Exps 1-1 in JW100_OPT (12) (3)	348 Secs (1028 Secs)	
								[==>332.0 Secs (Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
2	JW100F814W	(6) JW100	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12		Pattern 3, Exps 2-2 in JW100_OPT (12) (3)	348 Secs (1044 Secs)	
								[==>(Pattern 1)]	
								[==>(Pattern 2)]	***[1]***
								[==>(Pattern 3)]	
3	JW100_F680N	(6) JW100	WFC3/UVIS, ACCUM, UVIS-CENTER	F680N	FLASH=14		Pattern 3, Exps 3-3 in JW100_OPT (12) (3)	500 Secs (2484 Secs)	
								[==>828.0 Secs (Pattern 1)]	
								[==>828.0 Secs (Pattern 2)]	***[2]***
								[==>828.0 Secs (Pattern 3)]	

Orbit Structure




Orbit 2
Server Version: 20200619
GS Reacq
Exp. 3
Pointing Maneuver
Overhead
Exp. 3
Overhead
Pointing Maneuver
Exp. 3
Overhead
Unused Orbital Visibility = 11
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec