16231 - Witnessing the circumgalactic medium in formation: Imaging OVI in the warm-hot CGM of a record-breaking galactic wind

Cycle: 28, Proposal Category: GO

(Availability Mode: SUPPORTED)

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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) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:17.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
02	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:18.0	yes
52	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:19.0	yes
56	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:20.0	yes
03	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:21.0	yes
04	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:21.0	yes
05	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:22.0	yes
55	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:23.0	yes
57	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:24.0	yes
06	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:25.0	yes
07	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:26.0	yes
08	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:26.0	yes
09	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:27.0	yes
59	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:29.0	yes
10	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:29.0	yes
58	(1) SDSS-J211824.06+001729.4	ACS/SBC	2	27-Apr-2022 15:00:30.0	yes

32 Total Orbits Used

ABSTRACT

The massive, compact galaxy Makani hosts one of the largest [OII] nebulae, and perhaps the largest starburst-driven galactic wind, yet detected. This wind extends well into the CGM of its host (r_wind > 20r_stars) and is a snapshot of the CGM-in-formation. The cool, dense medium of the wind-CGM interface in Makani (traced in emission by [OII], MgII, and CO emission) on scales of 100 kpc show an outflow forming the cool CGM in real time. Much of our knowledge of the CGM in other galaxies is derived from statistical studies of the warm-hot (10^5-10^6 K) phase. The enormous and lumionus oxygen nebula in Makani is the ideal target to *image* the warm-hot CGM, which is difficult in most other sources. We propose to make the first "rebirth picture" of the warm-hot CGM as it is being formed anew by the giant wind in Makani. We will image Makani in OVI 1032, 1038 A with ACS/SBC, a technique that recently yielded the first OVI image of the halo of a starburst galaxy (Hayes et al. 2016). We will apply the same synthetic narrowband technique which is perfectly suited for Makani, whose observed-frame OVI line (at z=0.459) lies at the peak of the

F150LP filter. These observations are optimally-timed to meet simulated images of OVI that are emerging from the latest simulations. The morphology of the OVI image and line flux ratios with [OII] will constrain the physical state of the gas in the nebula through comparison with models and simulations of the wind-CGM interaction and shock+photoionization models.

OBSERVING DESCRIPTION

The goal of our program is to measure the spatially-resolved properties of O VI in Makani with ACS/SBC. Our observing strategy is based on those of successful Cycle 22, 23, 25, and 26 programs to image galaxies/clusters in Lyalpha and O VI with a synthetic narrowband technique (PIDs 13656, 14079, 15298, and 15655). O VI arises at observed-frame 1510 A in Makani, right where the F150LP filter throughput peaks. Because Makani's stellar light is so compact (Sell et al. 2014), we expect that the F150LP and F165LP filters in the extended nebula will be dominated by O VI+Lyalpha and Lyalpha emission, respectively, though continuum will also be present in the inner regions. The synthetic narrowband will be computed as F(O VI) = F150LP - C x F165LP, where C is a continuum scaling. C=1 where no continuum is present.

We estimate the expected brightness of O VI in three ways that produce a consistent answer. (1) First, we scale directly from [O II] 3727, 3729 using the shock models of Allen et al. 2008, which predict that O VI/[O II] is in the range 1-7 for shock+precursor emission. (2) Alternatively, if the emission results from the hot halo that exists around a star-forming galaxy rather than shocked ionized gas, we can scale from the single observation of O VI in a nearby starburst galaxy (Hayes et al. 2016), adjust for cosmological surface brightness dimming, and scale by the star formation rate (Li et al. 2017), which is 10x higher in Makani. (3) Finally, we can use the O VI surface brightness from the simulations of Li & Tonnesen, in prep. Each method points to an expected O VI surface brightness of 10^-16 erg/s/cm^2/arcsec^2 at a distance of a few arcseconds from the galaxy center, which corresponds to wind radii of r < 20 kpc.

The ETC runs in the APT exposure descriptions are for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). To estimate the exposure time for the extended wind (outside of the compact stellar continuum), we note that while O VI contributes signal to the F150LP filter only, we need to estimate the shot noise from Lyalpha which will contribute to both the F150LP and F165LP filters and will be subtracted from the F150LP flux. We assume Lyalpha is 2x the flux of O VI, as would be the case for the measured wind velocities in the extended wind of a few hundred km/s (Allen et al. 2008). In the limiting case that Lyalpha is much more compact than O VI (as in Hayes et al. 2016), its contribution to the signal and noise in these regions will be negligible and the resulting S/N will be slightly higher. We use a 0.15" radius circular aperture, which is well-matched to the seeing-limited ground-based observations of [O II] which have identical pixel sizes. Though this means losing the high spatial resolution of HST, this UV experiment is impossible from the ground and is at the limits of the

capabilities of Hubble. We then use the ETC to estimate count rates and noise levels for O VI+Lyalpha in F150LP and just Lyalpha in F165LP. Combining the expected count rates and noise in each filter, we estimate that we can detect O VI at the expected surface brightness at 3sigma in 25ks (F150LP) and 25ks (F165LP) for average zodiacal, Earth shine, and air glow background. Noise is equally split between the dark current and shot noise from the lines (extended regions) or continuum (innermost regions).

Our visit/orbit/exposure strategy is 10 visits of 2 orbits each. Each orbit will be a 4-dither box pattern in one of the two filters. We use the default 4-point box dither pattern to subsample the PSF by 1/2 pixel within a given orbit. However, we expand the dither by a factor of 5 to prevent overlap of the bad anode among exposures. To mitigate low-frequency flatfielding errors, each of visits 1-9 is centered on one point of a 9-point grid with points spaced by ~3.2". The grid mimics the orientation of the default box pattern but with larger spacing and more points. Visit 10 duplicates visit 1 (the central position of this grid).

As specified in the Phase I proposal, we request that the visits be scheduled so that SBC has been switched off for at least 24 hours prior to reduce the dark current. (The emission from our target may be too large to fit in the SBC-LODARK aperture position, so we keep the default aperture position.) For the same reason, we request that each 2-orbit visit be spaced from the next visit by at least 24 hours, with the SBC turned off in between.

When using the BOT with the GALEX catalog (for which there is full coverage of the field), we find only one source (the target itself) for most exposures, as well as two other, fainter sources for a few exposures, and no bright object warnings.

If HST enters 2-gyro mode, the impact on the implementation of our program will be minimal (aside from the possibility that it may take longer to complete all of the visits). We do not require a particular orientation, and each two-orbit visit could be split into two separate visits of one orbit each to improve schedulability. Any decrease in image quality is not critical because we are focused on faint, extended features.

Visit

Proposal 16231, GRID2_2 (01), completed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

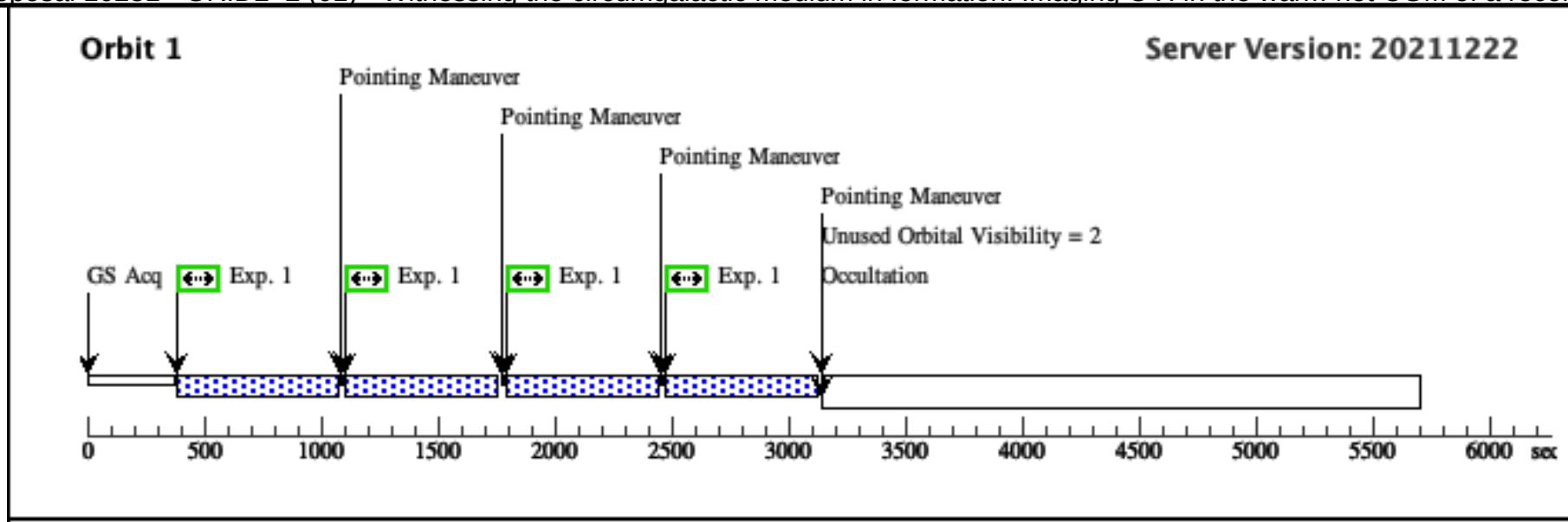
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

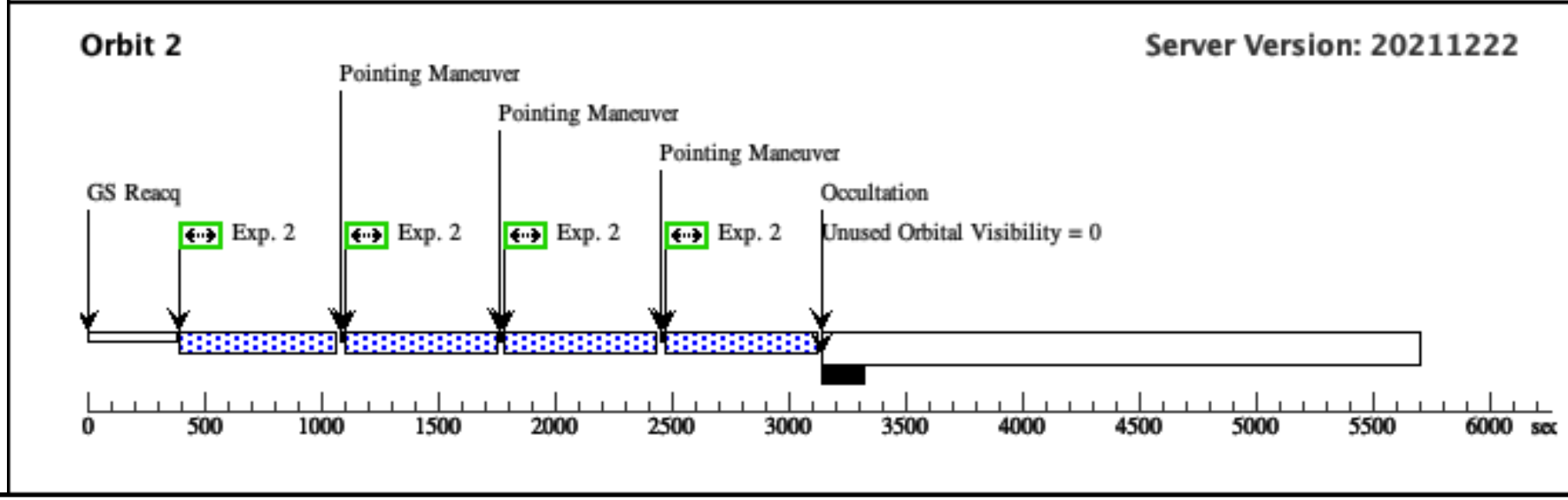
Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID2_2 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 1-1 in GRID2_2 (01) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.									
2	F165LP-GRID2_2 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 2-2 in GRID2_2 (01) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.									

Orbit Structure





Visit

Proposal 16231, GRID1_1 (02), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID1_1 (02.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID1_1 (02.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

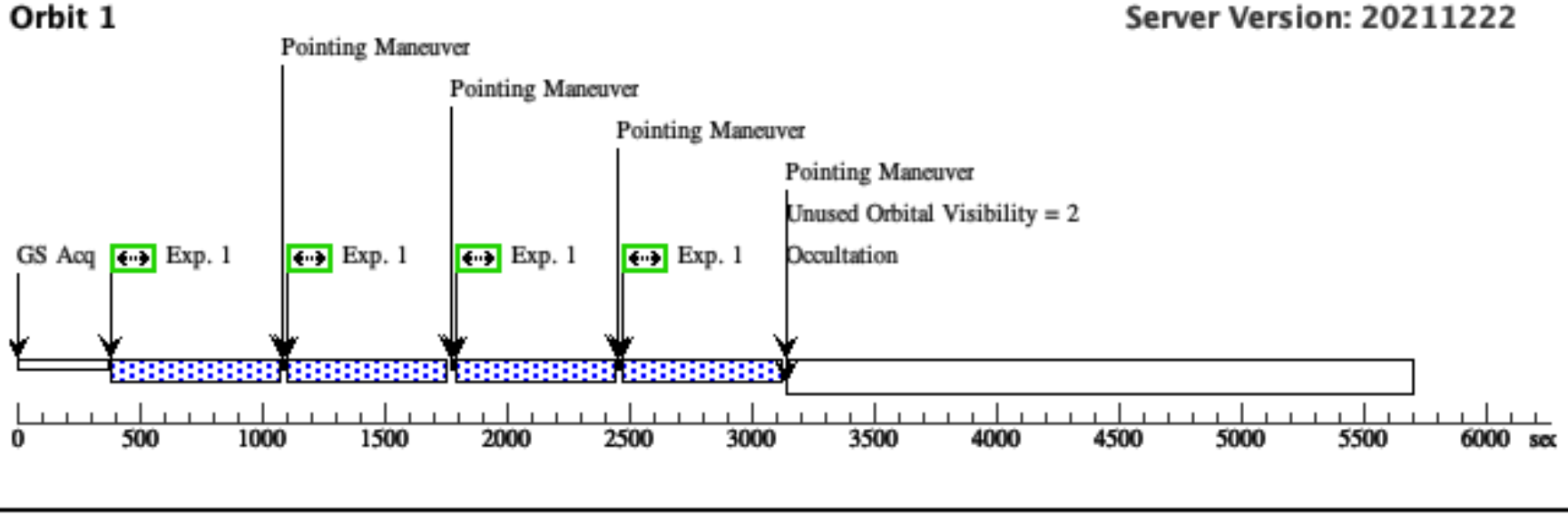
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID1_1 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 1-1 in GRID1_1 (02) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

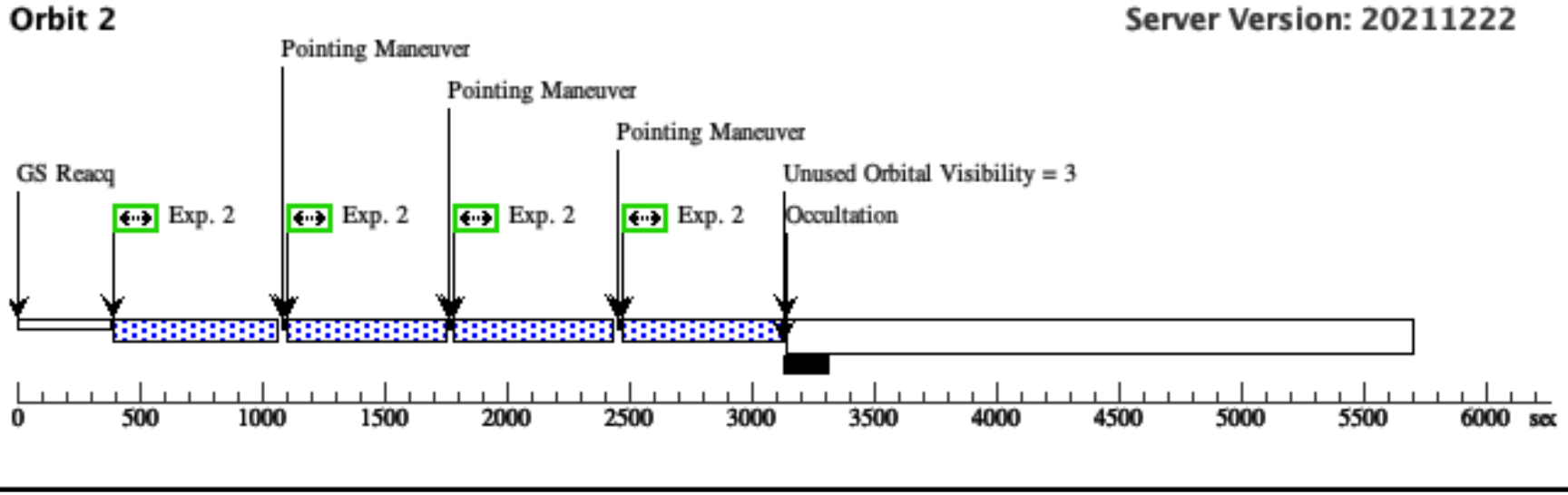
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F150LP-GRID1_1 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 2-2 in GRID1_1 (02) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID1_1 (52), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID1_1 (52.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID1_1 (52.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

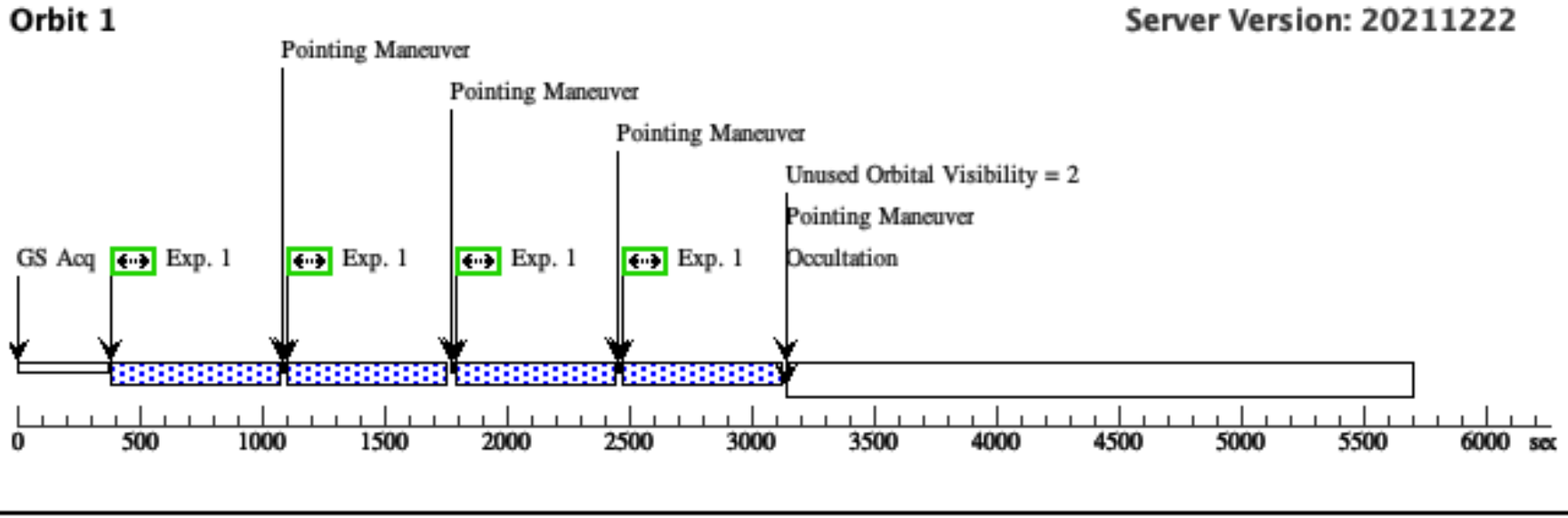
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID1_1 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 1-1 in GRID1_1 (52) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

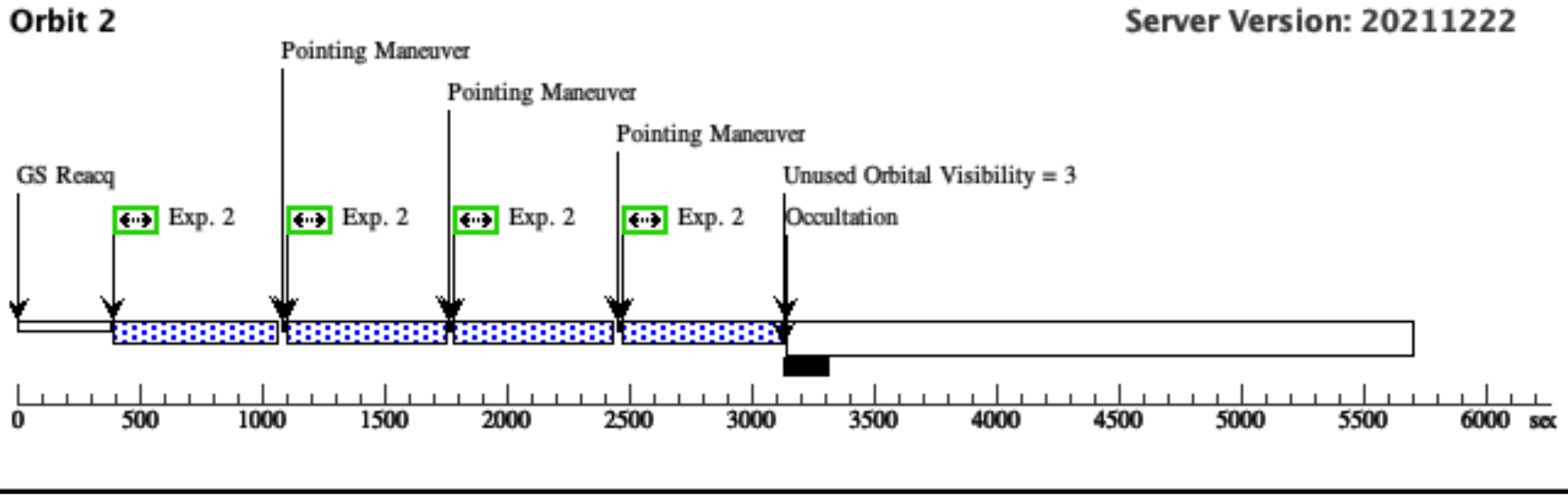
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F150LP-GRID1_1 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 2-2 in GRID1_1 (52) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID1_1 (56), completed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID1_1 (56.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID1_1 (56.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

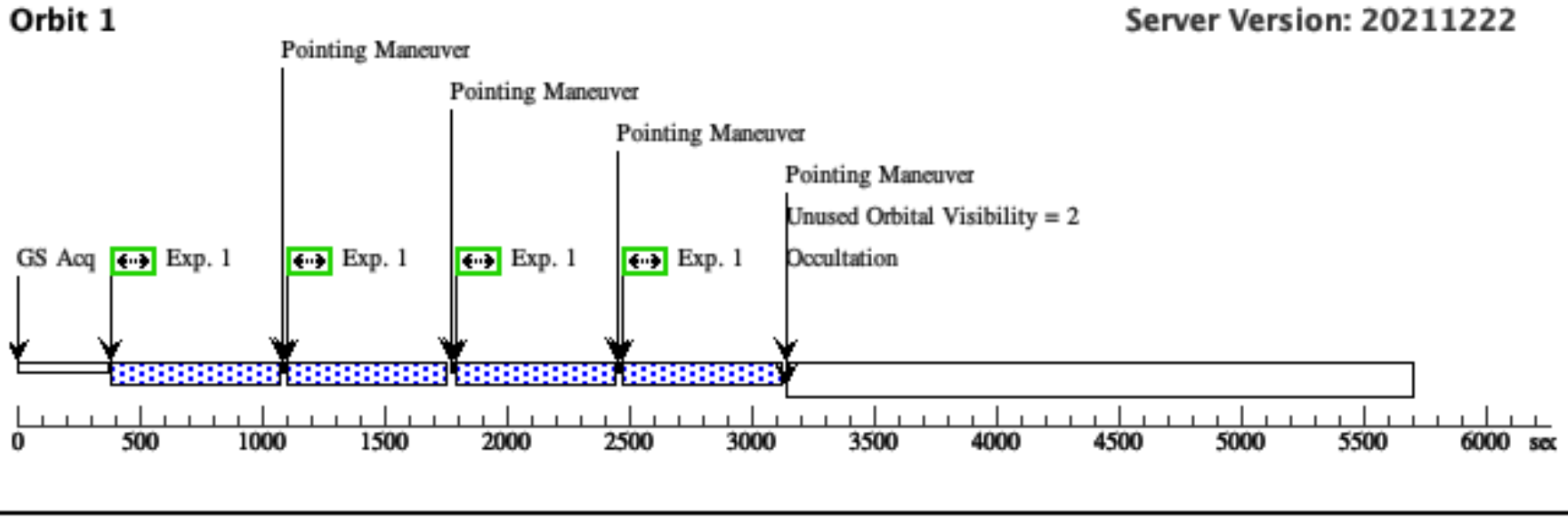
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID1_1 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 1-1 in GRID1_1 (56) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

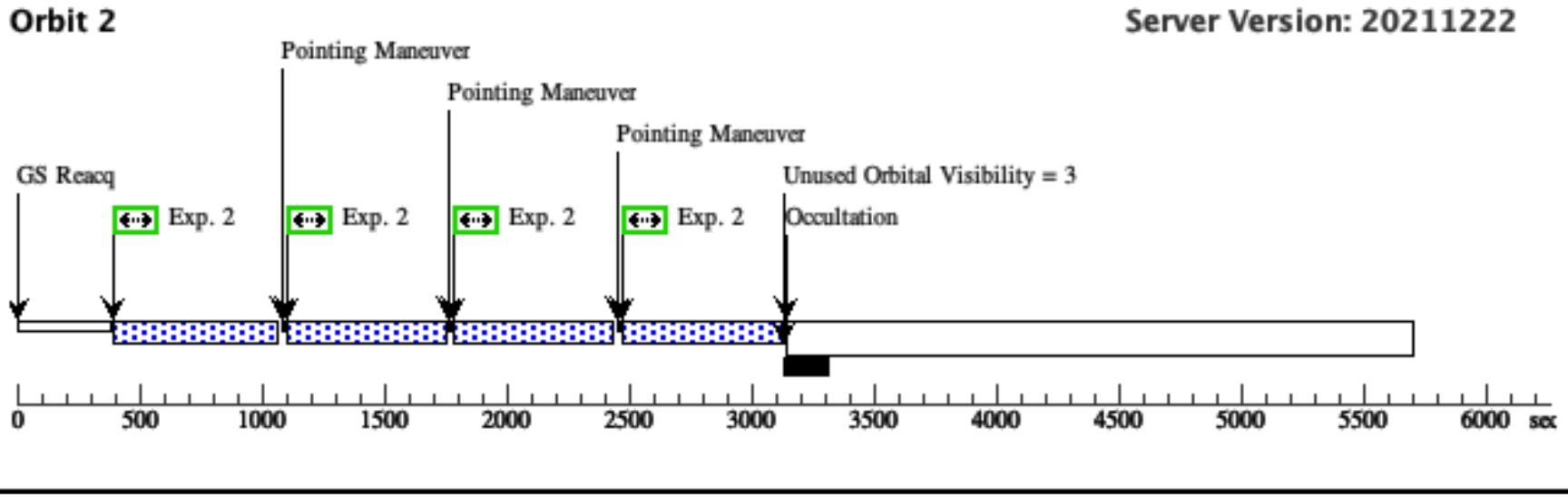
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

2	F150LP-GRID1_1 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -1.5960, -2.7303	Pattern 1, Exps 2-2 in GRID1_1 (56) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID3_3 (03), completed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID3_3 (03.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_3 (03.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

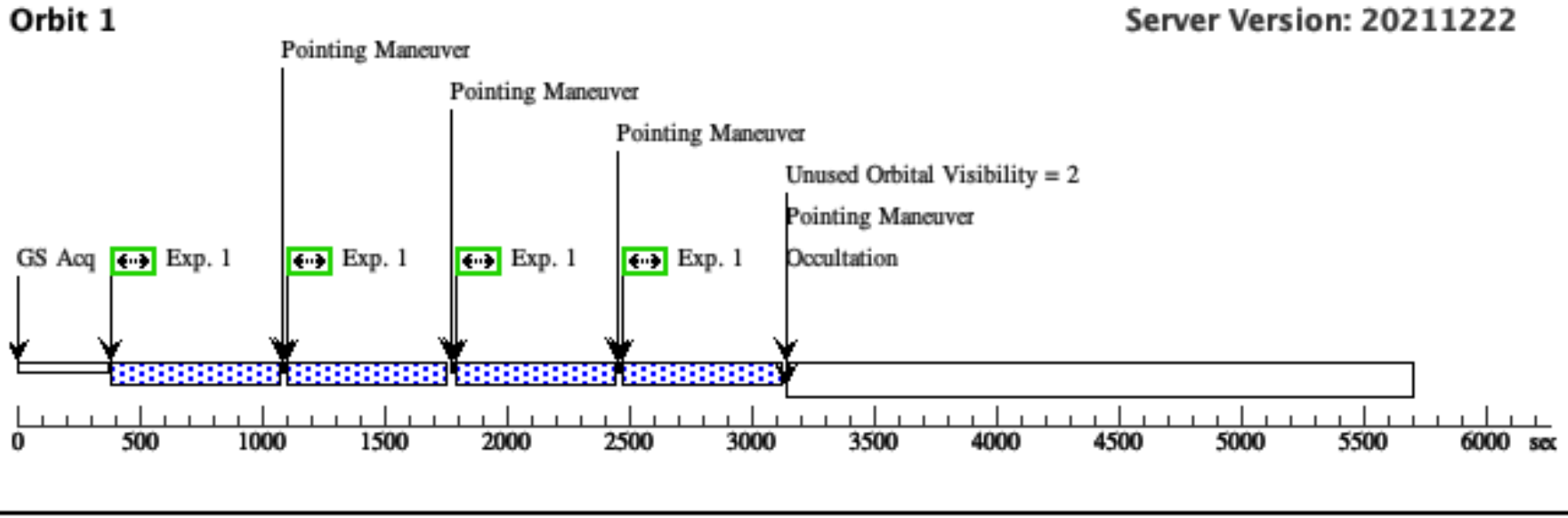
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID3_3 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 1.5960,2.7303	Pattern 1, Exps 1-1 in GRID3_3 (03) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

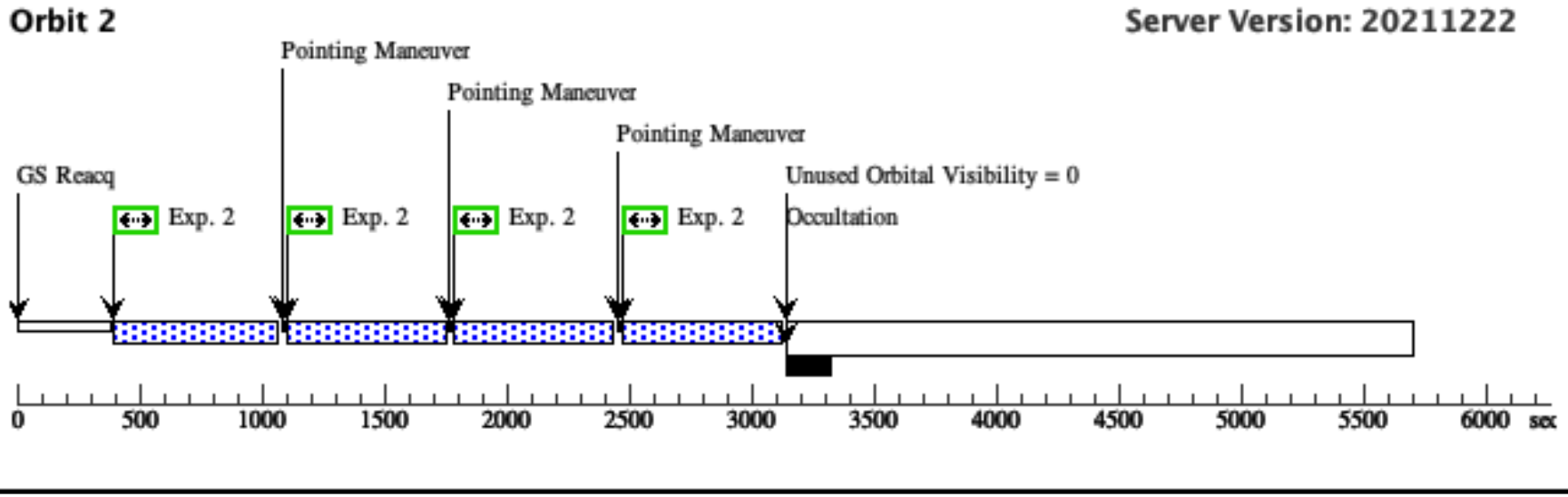
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_3 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 1.5960,2.7303	Pattern 1, Exps 2-2 in GRID3_3 (03) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID1_3 (04), completed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID1_3 (04.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID1_3 (04.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

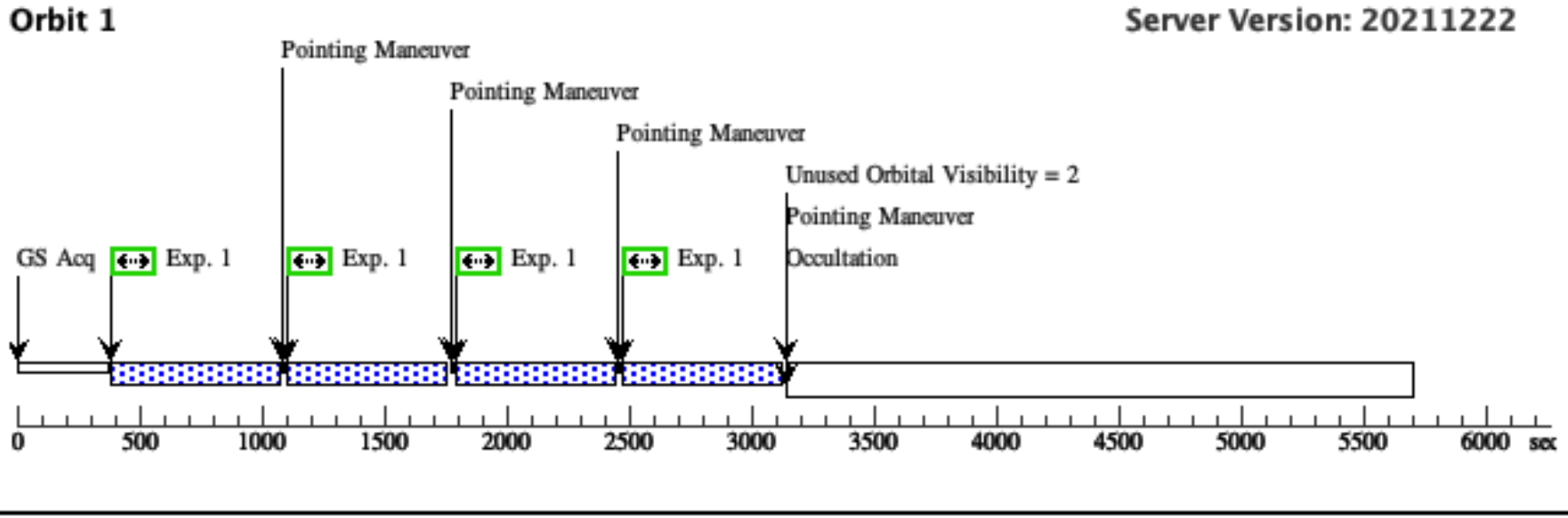
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID1_3 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -4.7880, 0.3876	Pattern 1, Exps 1-1 in GRID1_3 (04) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

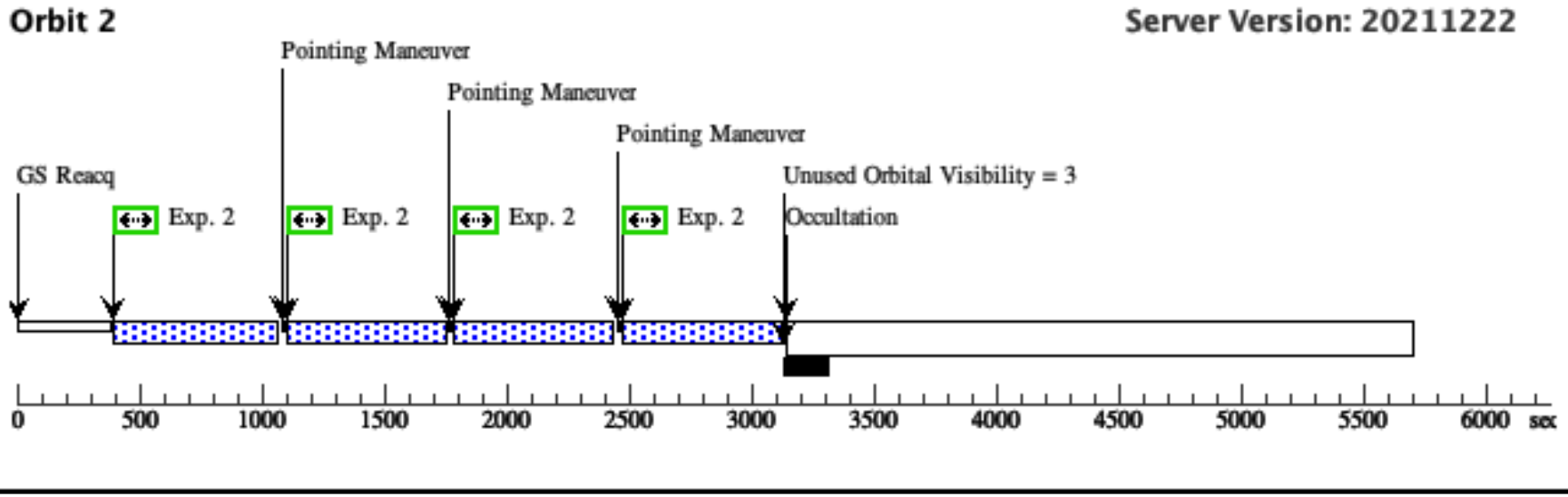
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F150LP-GRID1_3 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -4.7880, 0.3876	Pattern 1, Exps 2-2 in GRID1_3 (04) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID3_1 (05), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID3_1 (05.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_1 (05.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

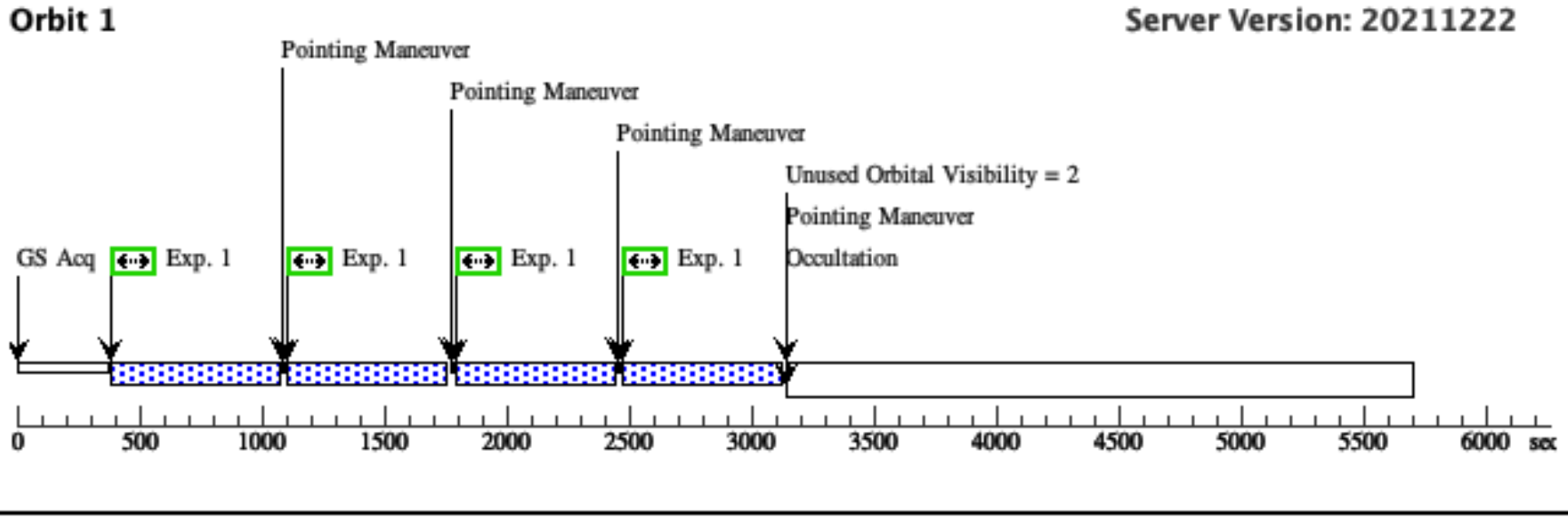
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID3_1 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 1-1 in GRID3_1 (05) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

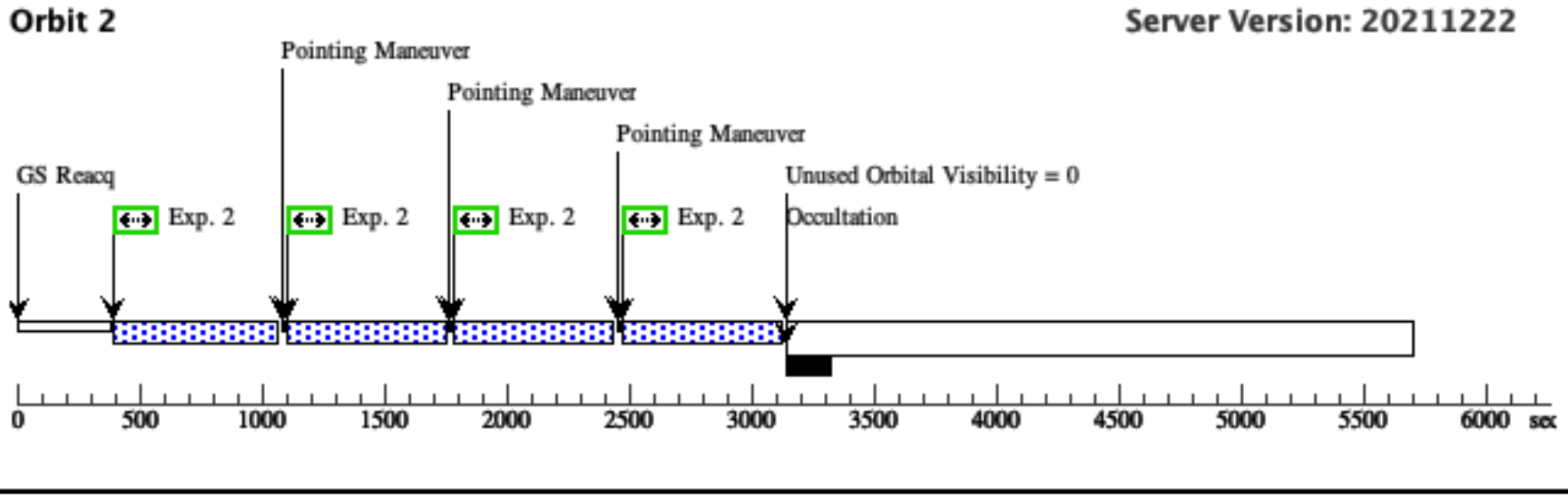
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_1 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 2-2 in GRID3_1 (05) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID3_1 (55), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID3_1 (55.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_1 (55.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

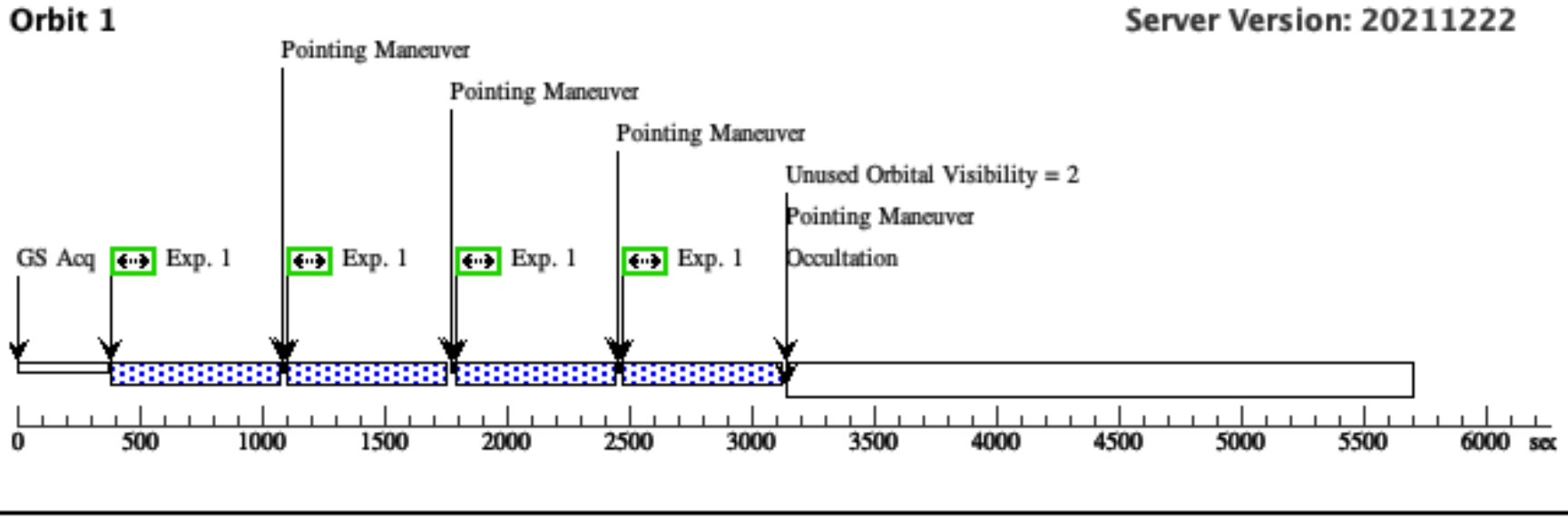
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID3_1 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 1-1 in GRID3_1 (55) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

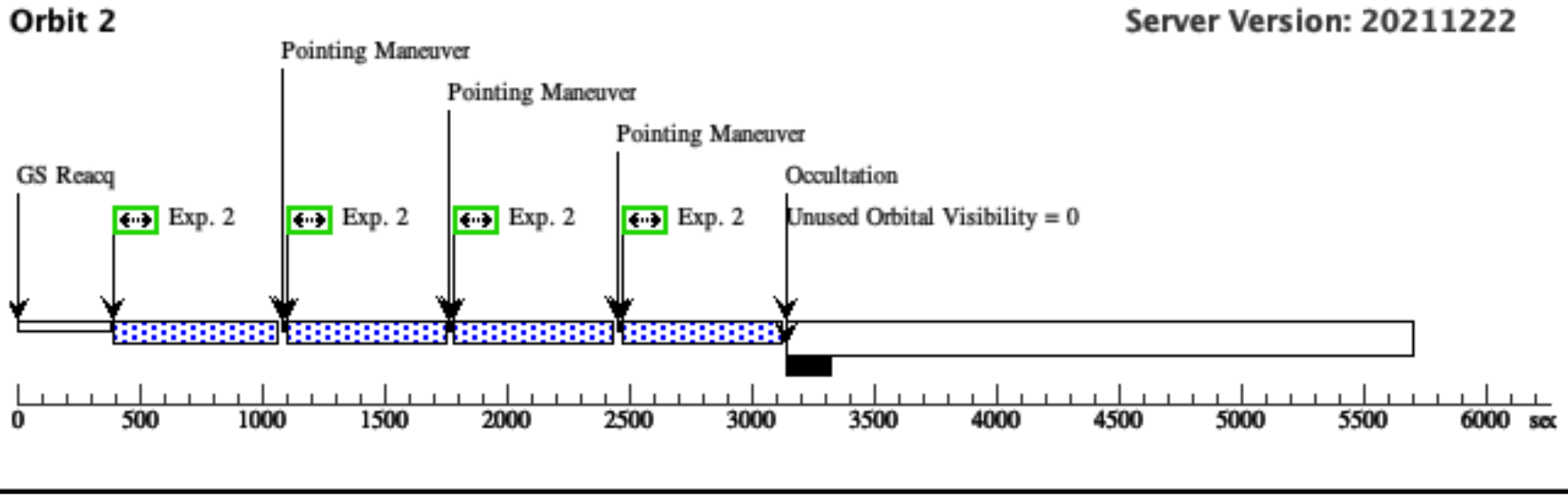
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_1 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 2-2 in GRID3_1 (55) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID3_1 (57), completed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID3_1 (57.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_1 (57.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

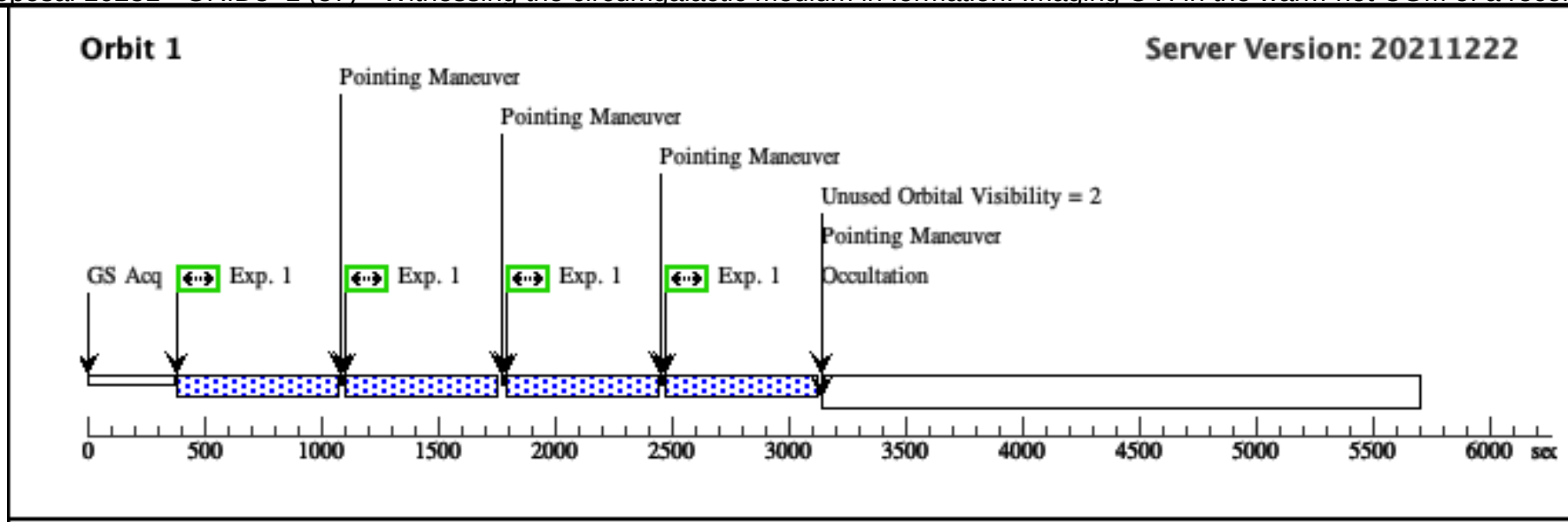
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID3_1 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 1-1 in GRID3_1 (57) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

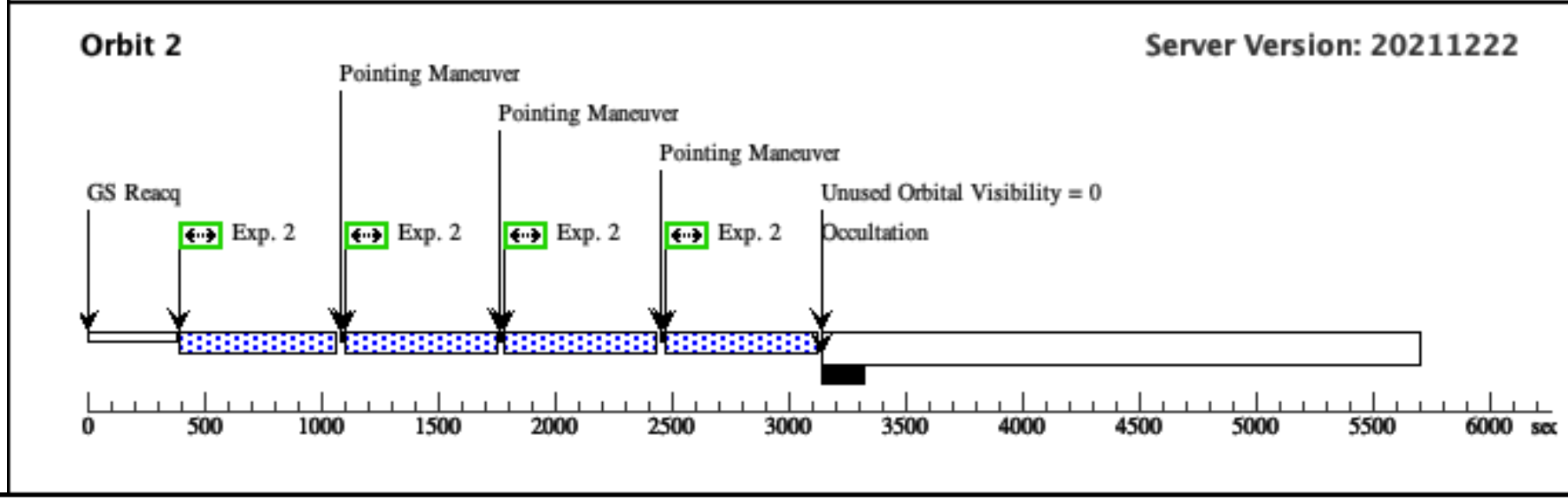
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_1 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 4.7880,-0.3876	Pattern 1, Exps 2-2 in GRID3_1 (57) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID1_2 (06), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID1_2 (06.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID1_2 (06.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

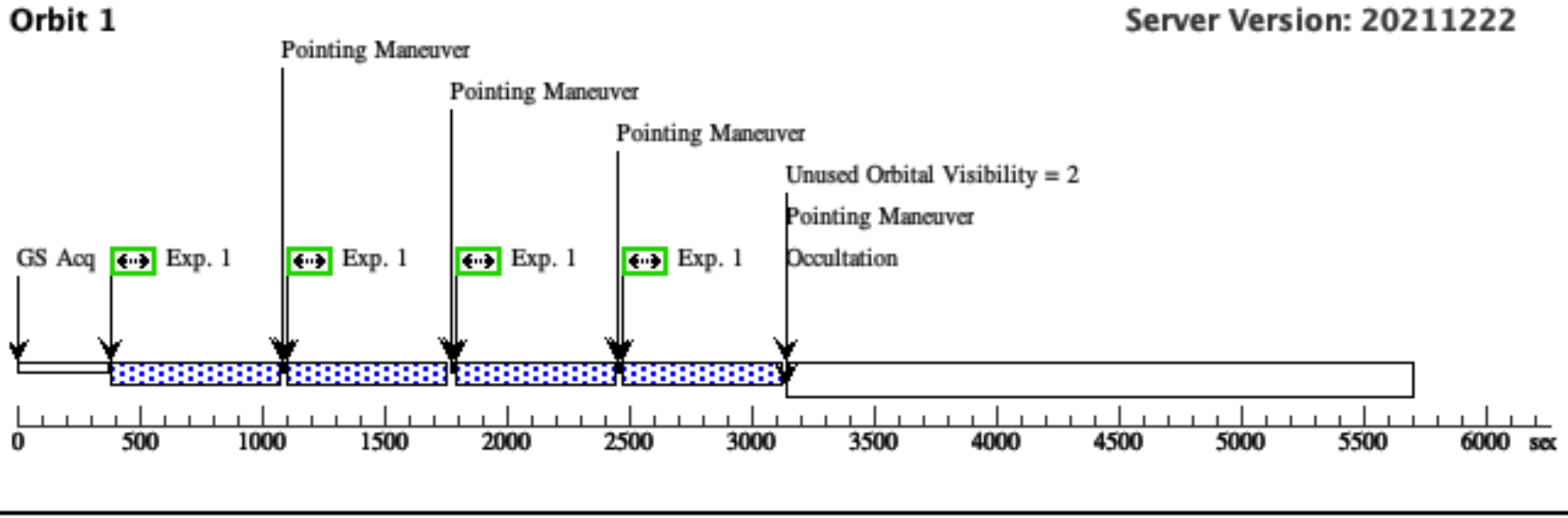
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID1_2 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -3.1920, -1.17135	Pattern 1, Exps 1-1 in GRID1_2 (06) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

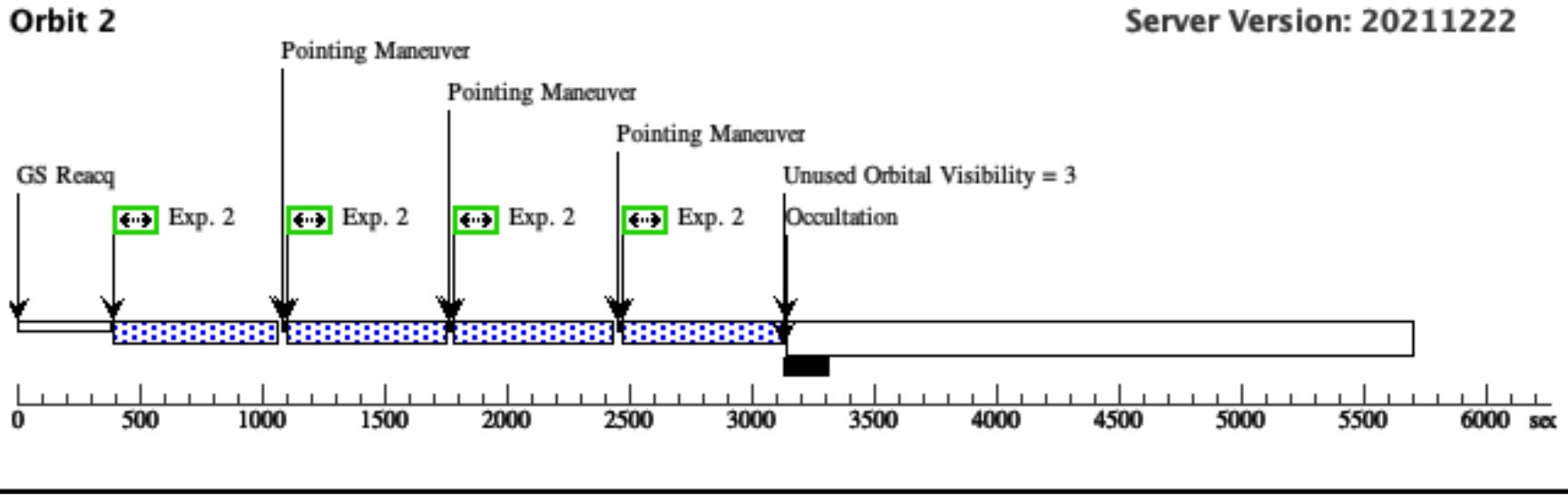
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F150LP-GRID1_2 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -3.1920, -1.17135	Pattern 1, Exps 2-2 in GRID1_2 (06) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID3_2 (07), failed Wed Apr 27 19:00:31 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID3_2 (07.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_2 (07.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

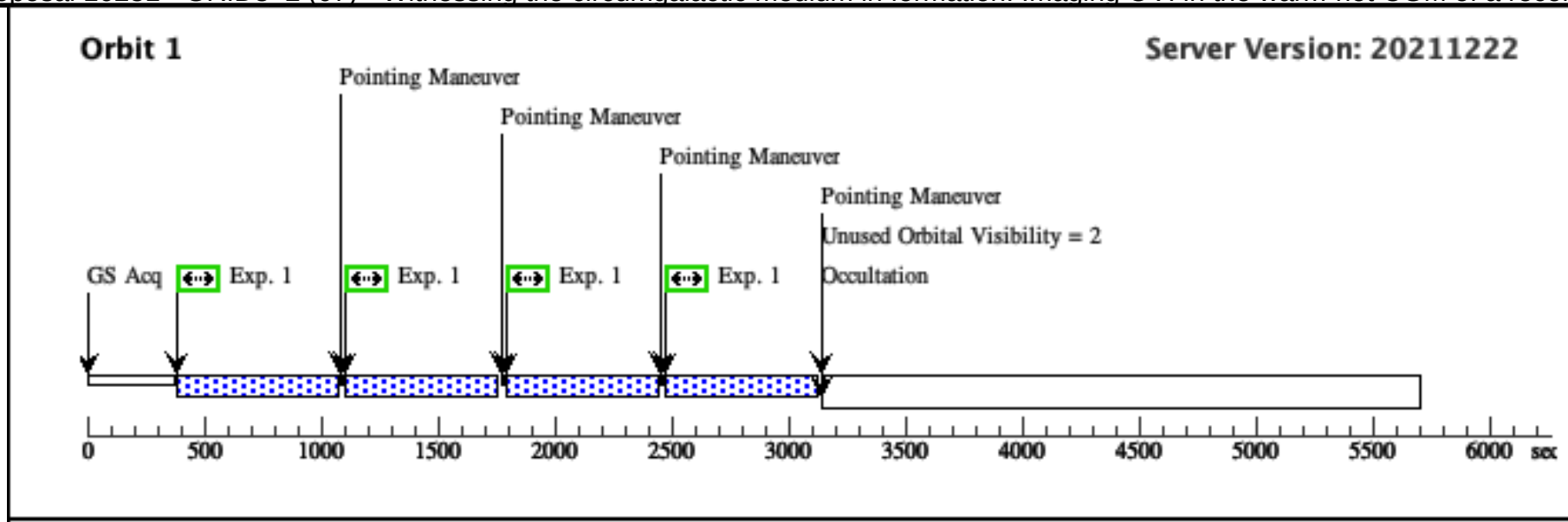
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID3_2 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 3.1920,1 .17135	Pattern 1, Exps 1-1 in GRID3_2 (07) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

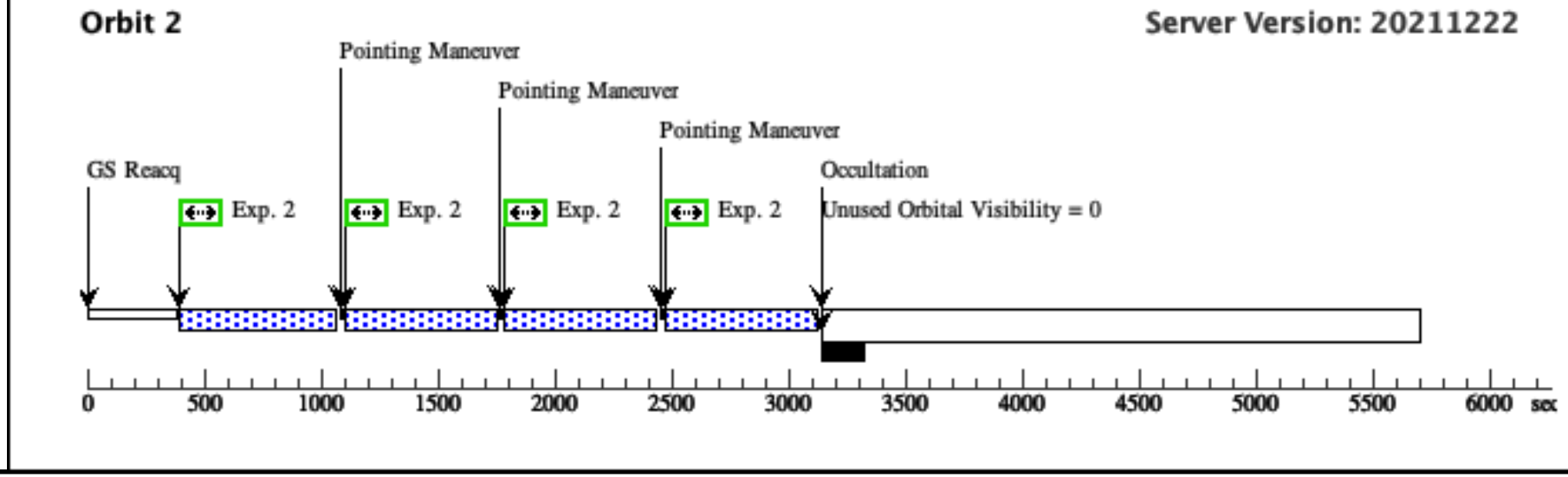
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_2 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 3.1920,1 .17135	Pattern 1, Exps 2-2 in GRID3_2 (07) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID2_1 (08), completed Wed Apr 27 19:00:32 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F165LP-GRID2_1 (08.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F150LP-GRID2_1 (08.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

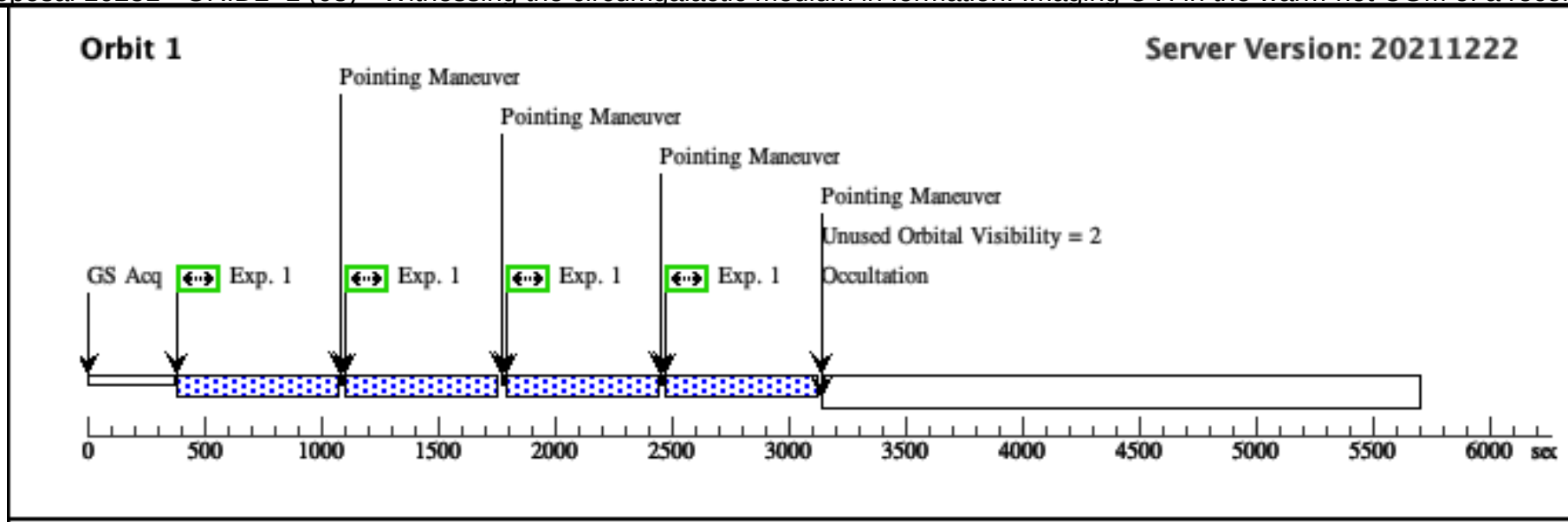
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID2_1 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 1.5960,-1.55895	Pattern 1, Exps 1-1 in GRID2_1 (08) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

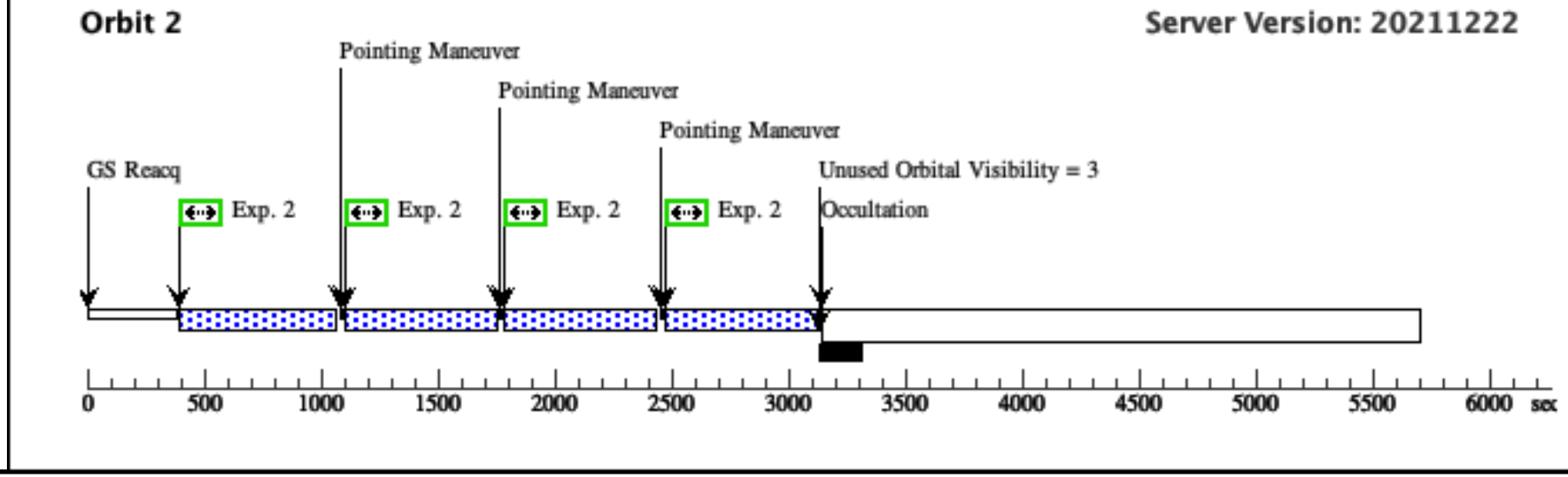
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F150LP-GRID2_1 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 1.5960,-1.55895	Pattern 1, Exps 2-2 in GRID2_1 (08) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID2_3 (09), failed Wed Apr 27 19:00:32 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID2_3 (09.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID2_3 (09.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

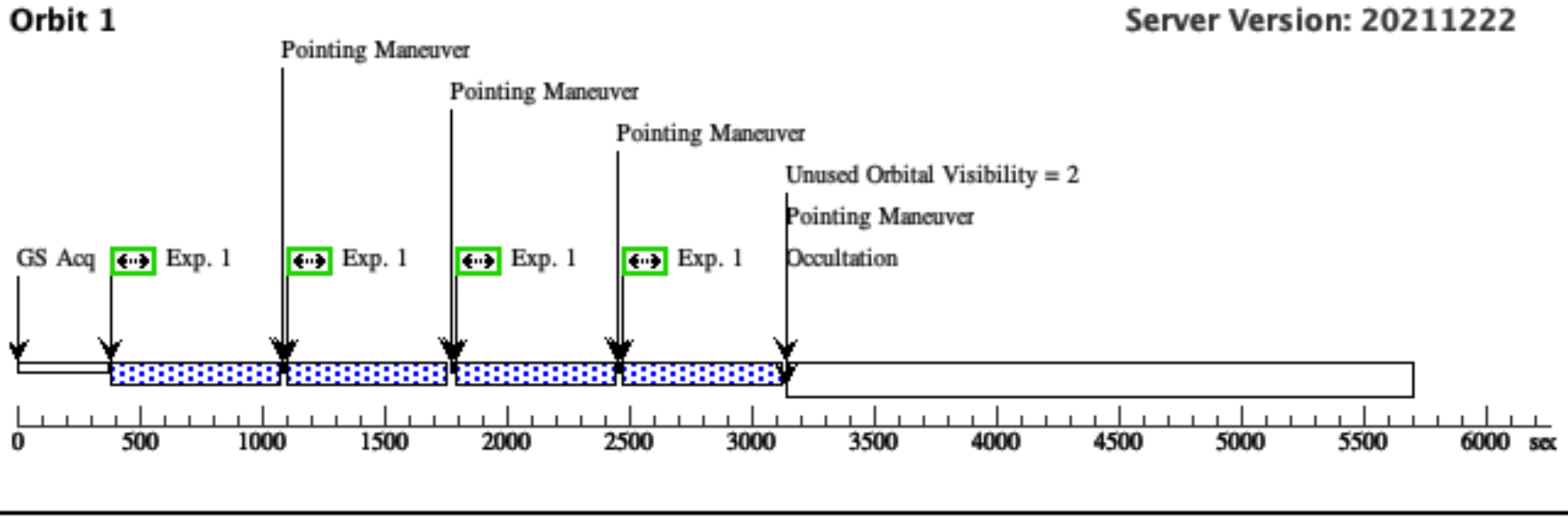
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID2_3 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -1.5960, 1.55895	Pattern 1, Exps 1-1 in GRID2_3 (09) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

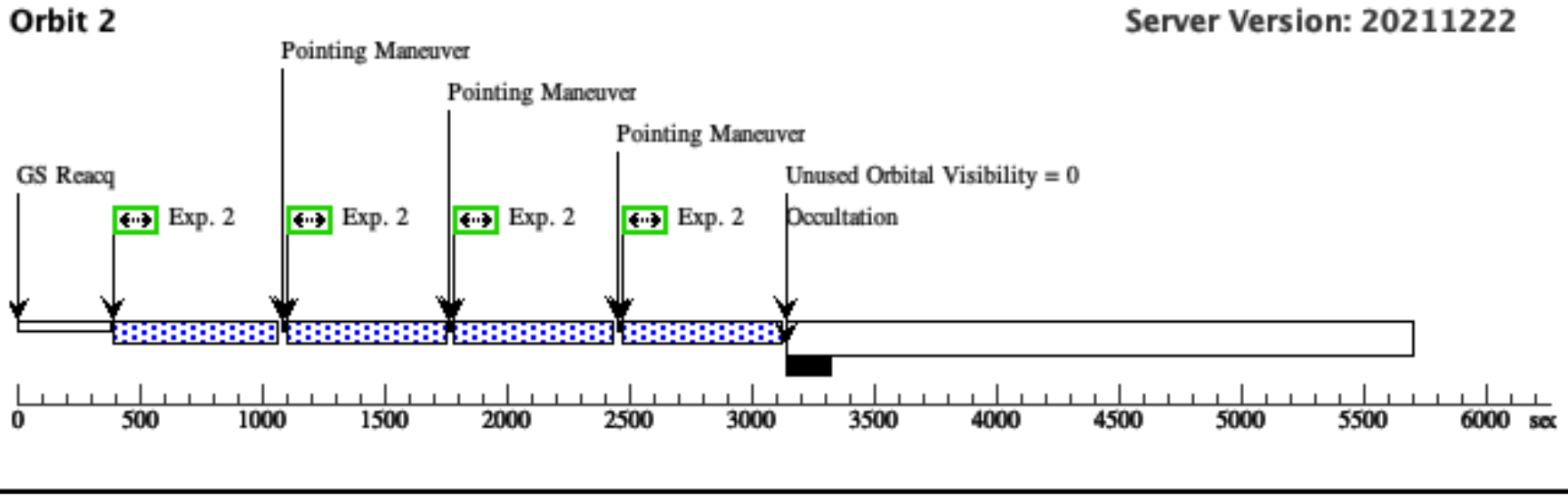
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

2	F165LP-GRID2_3 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -1.5960, 1.55895	Pattern 1, Exps 2-2 in GRID2_3 (09) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID2_3 (59) Wed Apr 27 19:00:32 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Diagnostics

(F150LP-GRID2_3 (59.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID2_3 (59.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

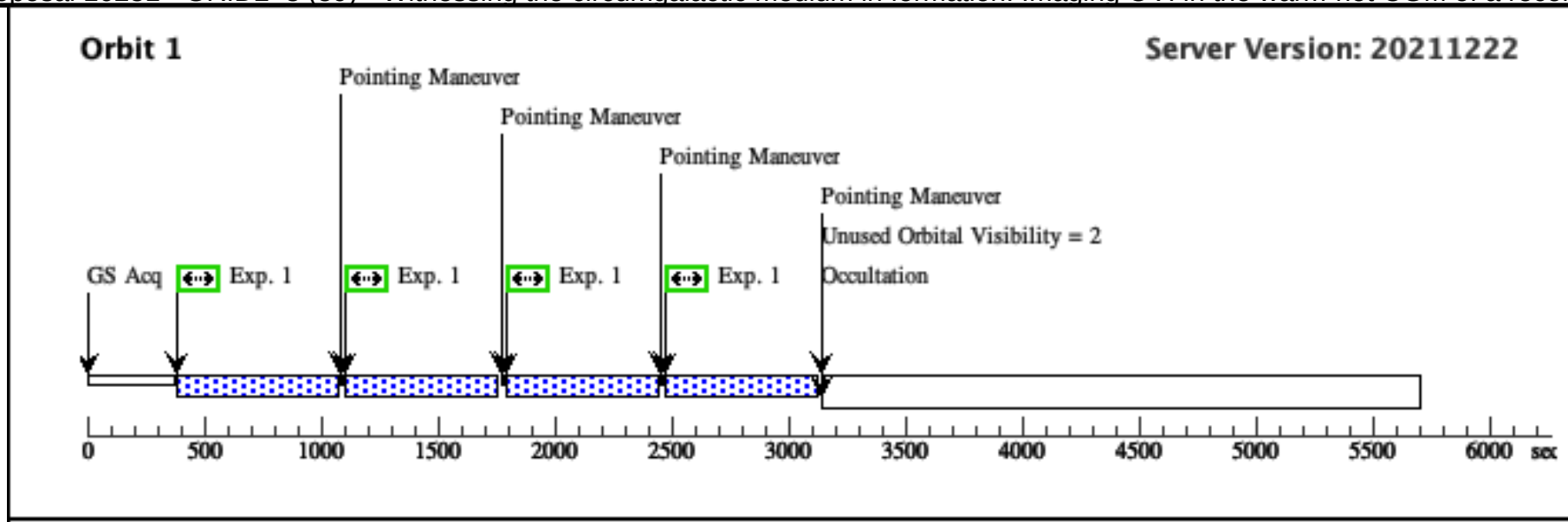
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID2_3 (ACS.im.14 50007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -1.5960, 1.55895	Pattern 1, Exps 1-1 in GRID2_3 (59) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

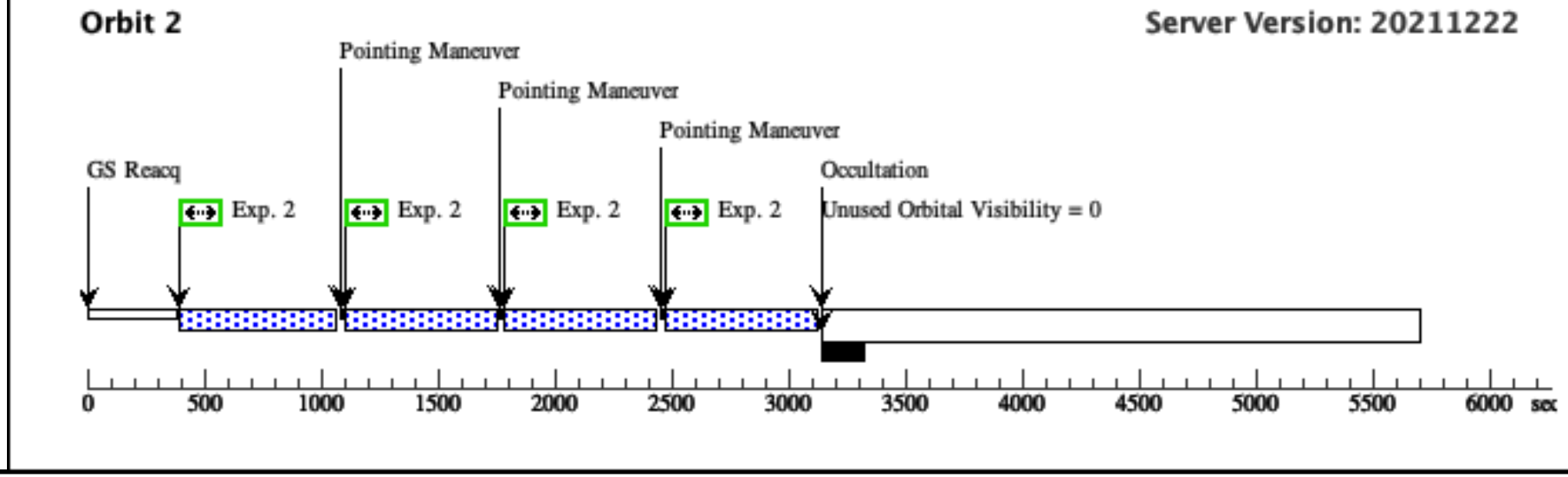
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID2_3 (ACS.im.14 50015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG -1.5960, 1.55895	Pattern 1, Exps 2-2 in GRID2_3 (59) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, GRID2_2 (10), completed Wed Apr 27 19:00:32 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

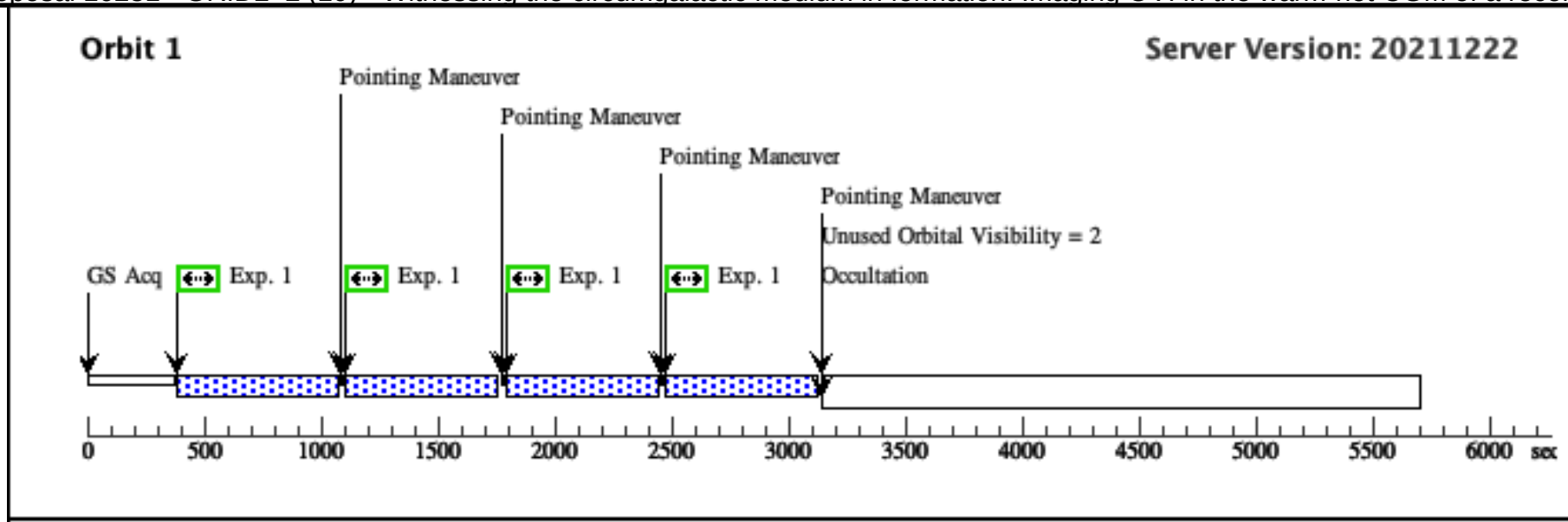
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F165LP-GRID2_2 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP			Pattern 1, Exps 1-1 in GRID2_2 (10) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

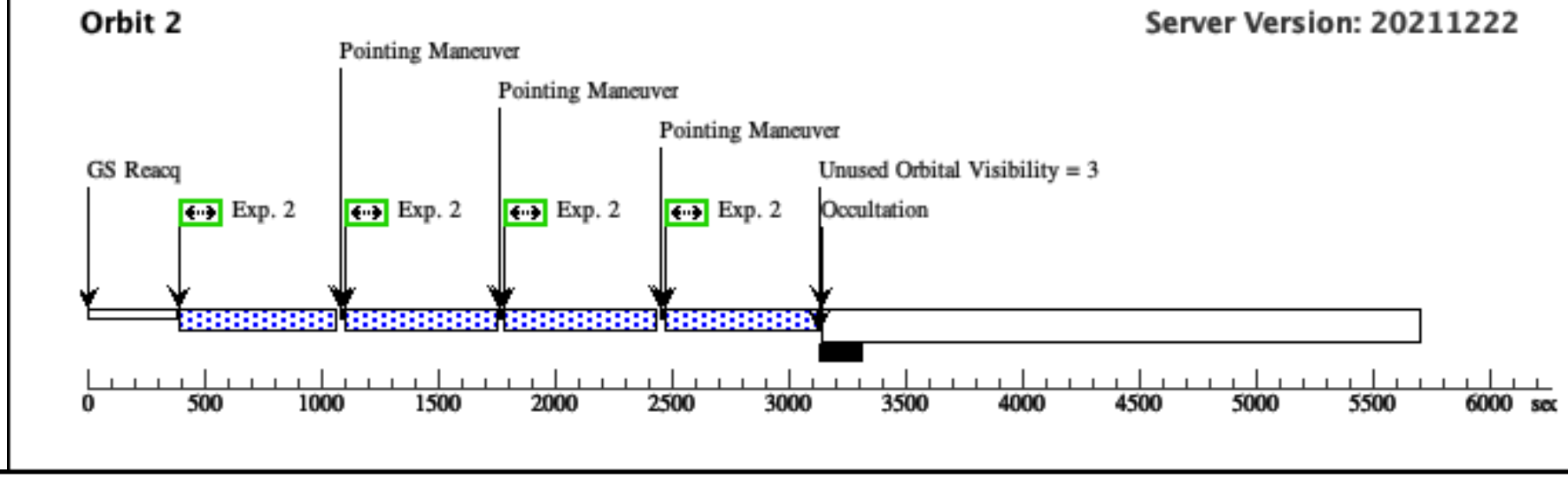
Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

2	F150LP-GRID2_2 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP			Pattern 1, Exps 2-2 in GRID2_2 (10) (1)	616 Secs (2504 Secs) *[==>626.0 Secs (Pattern 1)]* *[==>626.0 Secs (Pattern 2)]* *[==>626.0 Secs (Pattern 3)]* *[==>626.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure





Visit

Proposal 16231, REPEAT OF F150LP-GRID1_2 + F165LP-GRID3_2 (58), scheduling Wed Apr 27 19:00:32 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: ACS/SBC

Special Requirements: (none)

Comments: To minimize the dark current, please schedule after the SBC has been switched off for 24 hours. Similarly, consecutive visits should be spaced by at least 24 hours, with the SBC switched off in between.

Repeat of second orbit in visits 06 and 07

Diagnostics

(F150LP-GRID1_2 (58.001) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(F165LP-GRID3_2 (58.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.894773 Line Spacing=0.587116	Coordinate Frame=POS-TARG Pattern Orientation=20.151333 Angle Between Sides=64.478514 Center Pattern=true		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS-J211824.06+001729.4 Alt Name1: MAKANI	RA: 21 18 24.0600 (319.6002500d) Dec: +00 17 29.40 (.29150d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Epoch of Position: 2000.0 Redshift: 0.459	V=19.66 GALEX FUV = 22.49	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[INTERACTING GALAXY, STARBURST, WIND]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F150LP-GRID1_2 (ACS.im.1450007)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F150LP		POS TARG -3.1920, -1.17135	Pattern 1, Exps 1-1 in REPEAT OF F150LP-GRID1_2 + F165LP-GRID3_2 (58) (1)	616 Secs (2496 Secs) *[==>624.0 Secs (Pattern 1)]* *[==>624.0 Secs (Pattern 2)]* *[==>624.0 Secs (Pattern 3)]* *[==>624.0 Secs (Pattern 4)]*	***[1]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	F165LP-GRID3_2 (ACS.im.1450015)	(1) SDSS-J211824.06+001729.4	ACS/SBC, ACCUM, SBC	F165LP		POS TARG 3.1920,1.17135	Pattern 1, Exps 2-2 in REPEAT OF F150LP-GRID1_2 + F165LP-GRID3_2 (58) (1)	616 Secs (2508 Secs) *[==>627.0 Secs (Pattern 1)]* *[==>627.0 Secs (Pattern 2)]* *[==>627.0 Secs (Pattern 3)]* *[==>627.0 Secs (Pattern 4)]*	***[2]***

Comments: The ETC run is for the continuum only, where we assume a point source with the given GALXEX FUV AB mag (22.49 from the Medium Imaging Survey). Exposure times based on detecting the extended low surface-brightness emission are detailed in the Observing Description.

Orbit Structure