15837 - The HST follows galactic influencers: a COS UV survey of the most massive O-stars in the SMC

Cycle: 27, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Lida Oskinova (PI) (ESA Member) (Contact)	**Universitat Potsdam**	**lida@astro.physik.uni-potsdam.de**
Dr. Derck L. Massa (CoI) (AdminUSPI)	Space Science Institute	dmassa@spacescience.org
Dr. Wolf-Rainer Hamann (CoI) (ESA Member)	Universitat Potsdam	wrh@astro.physik.uni-potsdam.de
Dr. Raman K. Prinja (CoI) (ESA Member)	University College London	rkp@star.ucl.ac.uk
Mr. Matthew J Rickard (CoI) (ESA Member)	University College London	matthew.rickard.18@ucl.ac.uk
Dr. Rainer Hainich (CoI) (ESA Member)	Universitat Potsdam	rhainich@astro.physik.uni-potsdam.de
Dr. Tomer Shenar (CoI) (ESA Member)	Katholieke Universiteit Leuven	tomer.shenar@kuleuven.be
Dr. Andreas Sander (CoI) (ESA Member)	Armagh Observatory	andreas.sander@armagh.ac.uk
Dr. Varsha Ramachandran (CoI) (ESA Member)	Universitat Potsdam	varsha@astro.physik.uni-potsdam.de
Dr. Helge Todt (CoI) (ESA Member)	Universitat Potsdam	htodt@astro.physik.uni-potsdam.de

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SK-183	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:21.0	yes
02	(2) AZV-435	COS/FUV COS/NUV	1	23-Apr-2020 10:00:22.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
03	(3) DACHS-SMC-3-10	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:23.0	yes
04	(6) NGC-346-SSN25	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:24.0	yes
05	(7) OGLE-J004942.75-731717.7	COS/FUV	1	23-Apr-2020 10:00:25.0	yes
06	(8) AZV-493	COS/FUV COS/NUV	1	23-Apr-2020 10:00:26.0	yes
07	(9) AZV-377	COS/FUV	1	23-Apr-2020 10:00:27.0	yes
08	(10) MOA-J010321.3-720538	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:28.0	yes
09	(12) NGC-346-SSN-15	COS/FUV	1	23-Apr-2020 10:00:29.0	yes
10	(13) BBB-SMC-266	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:30.0	yes
11	(14) OGLE-SMC-SC6-246635	COS/FUV	1	23-Apr-2020 10:00:31.0	yes
12	(15) MPG-396	COS/FUV	1	23-Apr-2020 10:00:32.0	yes
13	(19) LIN-508	COS/FUV	1	23-Apr-2020 10:00:33.0	yes
14	(16) SK-148	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:35.0	yes
15	(18) SK-107	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:35.0	yes
16	(4) SMC-AB8	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:36.0	yes
17	(17) SK-35	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:36.0	yes
18	(11) MPG-342	STIS/CCD STIS/FUV-MAMA	1	23-Apr-2020 10:00:37.0	yes

18 Total Orbits Used

ABSTRACT

We propose to measure the stellar winds of a nearly complete sample of O stars in the SMC with evolutionary masses above 30 Msol. Recent works indicate that stars of such high masses remain largely chemically mixed, hot, and compact during their evolution. This strongly questions the accepted models for gravitational wave progenitors as well as for various types of core-collapse SNe. These models explicitly assume a scaling of stellar mass loss with metallicity, which is not yet verified empirically in the upper mass range. Stellar winds are best studied in the UV, but up to now UV spectra exist for only a handful among the most massive O stars in the SMC. Their analyses revealed serious problems with commonly adopted mass loss recipes, but the existing sample of UV spectra is highly insufficient.

We will obtain excellent quality UV COS spectra of 18 O-type stars with evolutionary masses above 30 Msol, dramatically increasing (by a factor of 3) and largely completing the existing sample. The COS spectra will be analyzed using highly advanced non-LTE stellar atmosphere models. We will determine stellar wind mass loss rates, velocity fields, clumping properties, abundances, and rotation rates. On this basis, empirical recipes for the dependence of the stellar mass-loss rate on metallicity will be derived and compared to theoretical predictions. The analyses of spectral lines and spectral energy distribution will provide hints on binary status. As the result, each star will be well characterized. The comparison with single and binary star evolutionary models will disrupt the current understanding of massive star lives and deaths at low metallicities.

OBSERVING DESCRIPTION

For the majority of targets, the coordinates are from GAIA DR2 ctalog, unless commented otherwise. Proper motions of the SMC stars are negligible. Whenever possible, the positions and crowding were checked using the HST, XMM OM, and SWIFT UV and optical images.

The target list is updated. Four targets, LIN-78, SK-32, MA93-1694, and SK-101, were substituted to avoid target duplication with proposal 15629. Instead, alternative targets with similar spectral types and lacking previous high-resolution UV spectrosocpy were selected. In addition, one target, LHA-115-N-9, was substituted after it was discovered that this object is significanly reddened (E(B-V)=0.9). One more target, MA93-1125, was substituted because a star with exactly the same spectral type but one magntide brighter was identified. All new targets are fully in the framework of the proposal - O stars with high initial masses. The new targets are commented in the apt.

We adopted different observing strategies depending on the target brightness. For the targets with V<14 we use STIS E140M single exposure. The

desired S/N will be achieved by binning 3-7 spectral resolution elements which is sufficient for O type stars.

For the targets with V>14 we use COS. For stars with earlier spectral type, we use G130M with cenwave 1291 with two allowed FP-POS, and G160M cenwave 1611 with ALL FP-POS. For stars with later spectral types, we use G160M cenwave 1533 and cenwave 1611 using ALL FP-POS.

Visit

Proposal 15837, Sk 183 (01), scheduled Thu Apr 23 14:00:37 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

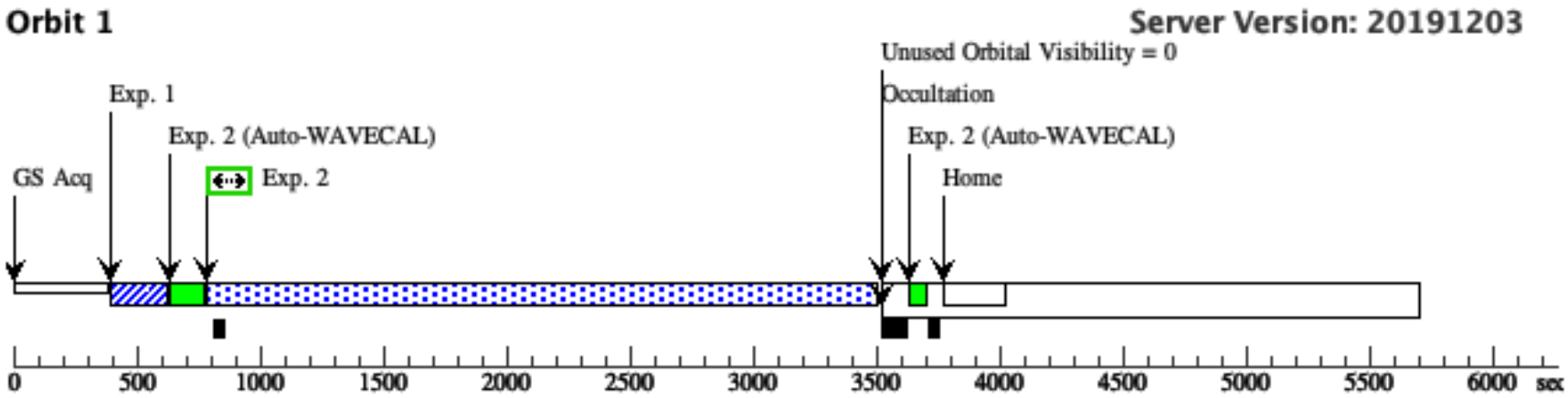
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SK-183	RA: 01 29 24.5480 (22.3522833d) Dec: -73 33 16.35 (-73.55454d) Equinox: J2000	Proper Motion RA: 2.109954936341287E-4 sec of time/yr Proper Motion Dec: -0.0013509999007510487 arcsec/yr Epoch of Position: 2015.5	V=13.8	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq (STIS.ta.1370801)	(1) SK-183	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	STIS (STIS.sp.1370807)	(1) SK-183	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2710 Secs (2707 Secs) *[==>2707.0 Secs]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, AzV 435 (02), implementation Thu Apr 23 14:00:37 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Fixed Targets

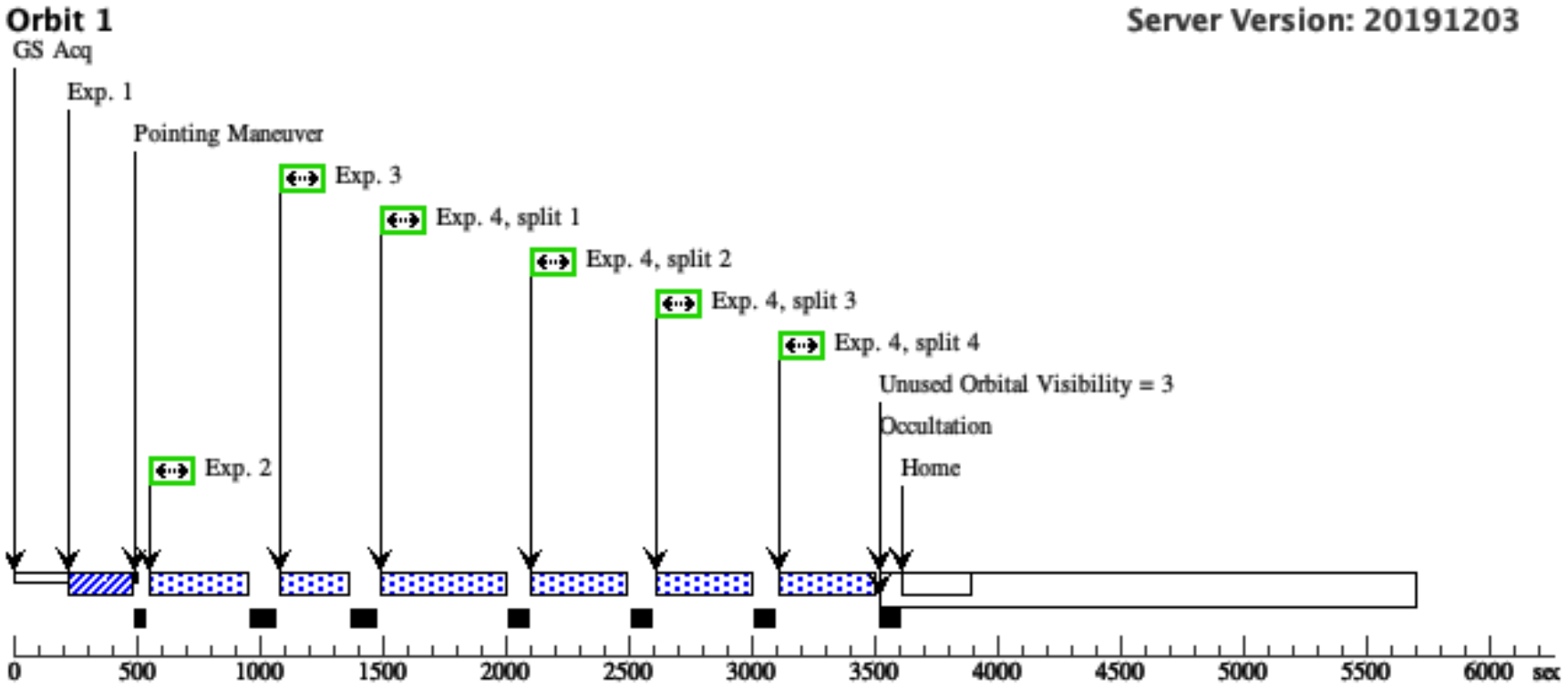
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	AZV-435	RA: 01 08 17.9022 (17.0745925d) Dec: -71 59 54.47 (-71.99846d) Equinox: J2000	Proper Motion RA: 1e-4 mas/yr Proper Motion Dec: 1e-4 mas/yr Epoch of Position: 2015.5	V=14.1	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. The object has large parallax in Gaia DR2 catalog, taking it as a face value this would imply a foreground star. Howevere, the astrometric error indicated for thisw object in DR2 catalog is very large, letting us to conclude that the GAIA parallax is an error. Simalrly, the GAIA's proper motion is discarded. Arbitray value, is included in the apt form. The coordinates, the error, and the V magnitude are from the UCAC4 catalog.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq (COS.ta.1369394)	(2) AZV-435	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				15 Secs (15 Secs) *[==>]*	*[1]*
2	G130M-1291 (COS.sp.1370167)	(2) AZV-435	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=2300; FLASH=YES			170 Secs (227 Secs) *[==>227.0 Secs]*	*[1]*
3	G130M-1291 (COS.sp.1370064)	(2) AZV-435	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=2300; FLASH=YES			170 Secs (227 Secs) *[==>227.0 Secs]*	*[1]*
4	G160M-1611 (COS.sp.1370065)	(2) AZV-435	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=4500; FLASH=YES			284 Secs (1364 Secs) *[==>341.0 Secs (Split 1)]* *[==>341.0 Secs (Split 2)]* *[==>341.0 Secs (Split 3)]* *[==>341.0 Secs (Split 4)]*	*[1]*

Orbit Structure



Visit

Proposal 15837, AzV 476 (03), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

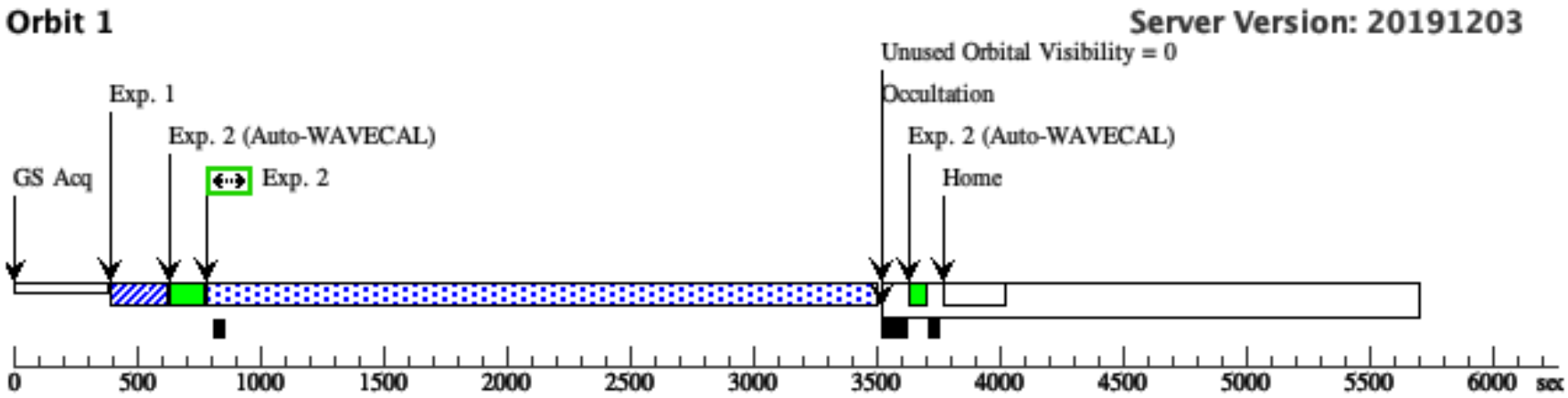
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	DACHS-SMC-3-10	RA: 01 13 42.4532 (18.4268883d) Dec: -73 17 29.54 (-73.29154d) Equinox: J2000	Proper Motion RA: 2.4417223108678E-4 sec of time/yr Proper Motion Dec: -0.0013189998981033568 arcsec/yr Epoch of Position: 2015.5	V=13.48	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq (COS.im.13 70090)	(3) DACHS-SMC-3-10	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	STIS (STIS.sp.13 70825)	(3) DACHS-SMC-3-10	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, NGC-346-SSN25 (04), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

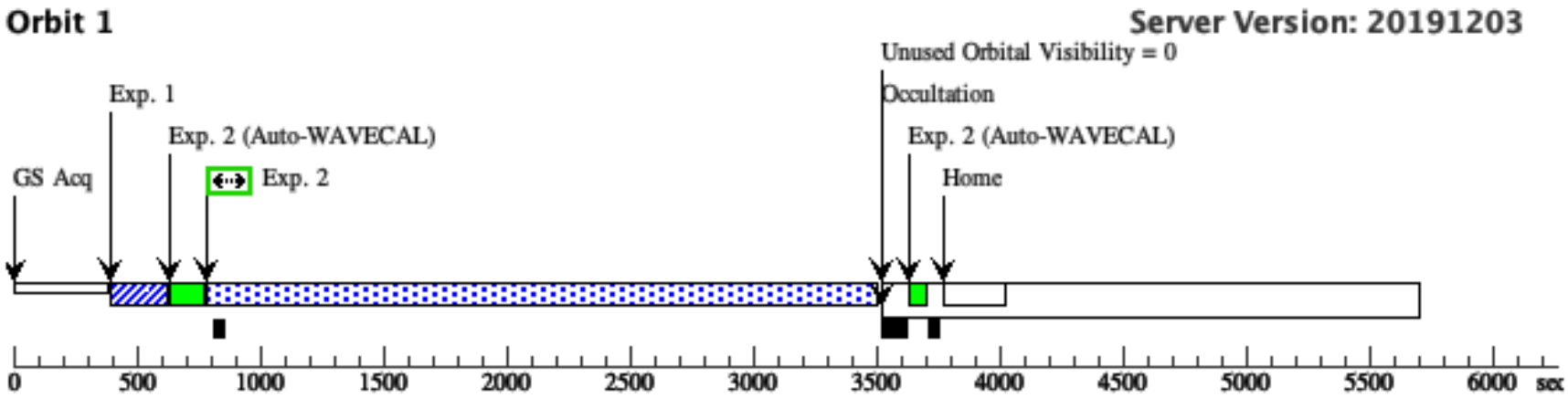
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	NGC-346-SSN25	RA: 00 59 12.3000 (14.8012500d) Dec: -72 11 7.90 (-72.18553d) Equinox: J2000	Proper Motion RA: 1.8744298571698347E-4 sec of time/yr Proper Motion Dec: -0.0010789999805638217 arcsec/yr Epoch of Position: 2015.5	V=14.7	Reference Frame: ICRS

Comments: This target substitutes the target LIN-508 which has high reddening. The new target SSN-25 is less reddened, 1.5 magnitides brighter, has SpType O6V and no previous high-resolution UV spectroscopy
Category=STAR
Description=[GIANT O, MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371732)	(6) NGC-346-SSN25	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	STIS (STIS.sp.1371733)	(6) NGC-346-SSN25	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, OGLE-J004942.75-731717.7 (05), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

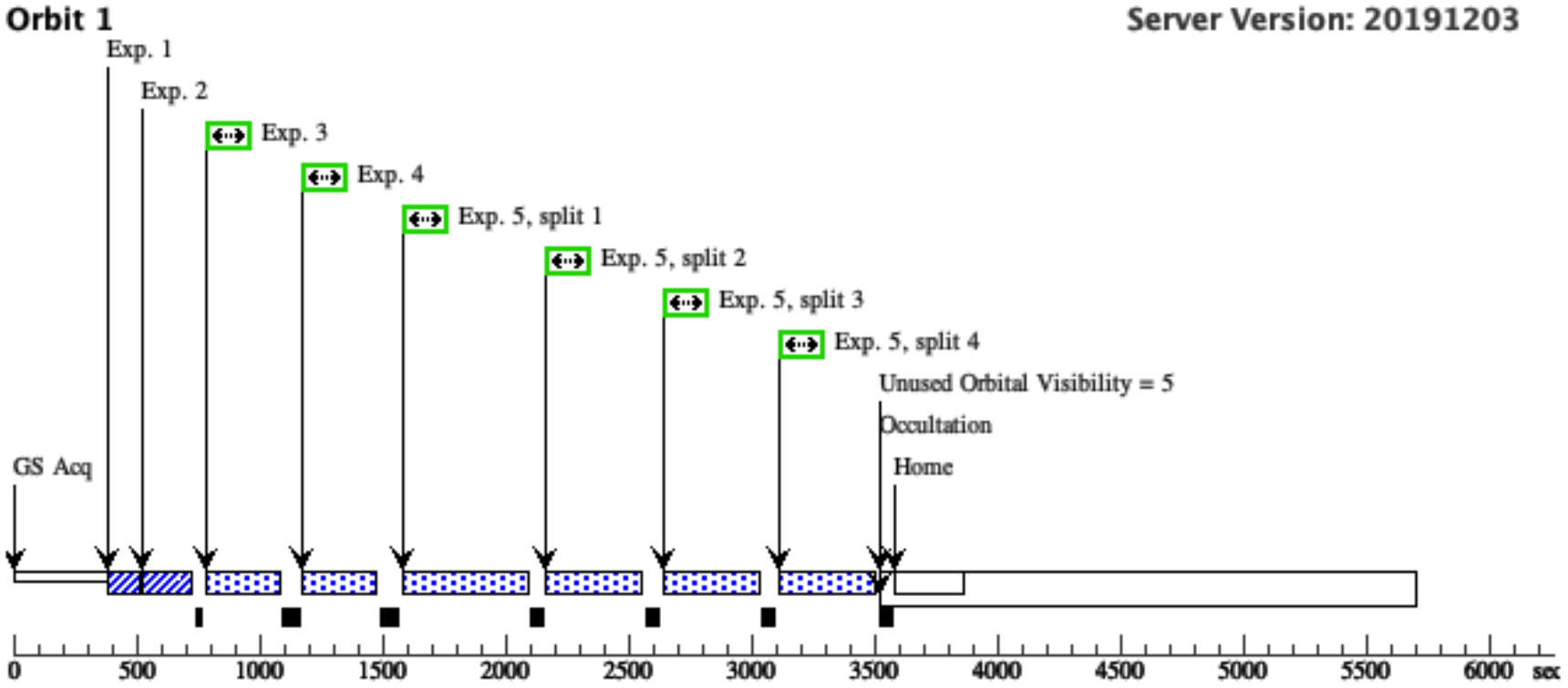
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	OGLE-J004942.75-731717.7	RA: 00 49 42.7445 (12.4281021d) Dec: -73 17 18.18 (-73.28838d) Equinox: J2000	Proper Motion RA: 8.253502226274038E-5 sec of time/yr Proper Motion Dec: -0.0010959999372062157 arcsec/yr Epoch of Position: 2015.5	V=14.453	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (1438273)	(7) OGLE-J004942.75-731717.7	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				10 Secs (10 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1438092)	(7) OGLE-J004942.75-731717.7	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=0.9; NUM-POS=5; SEGMENT=BOTH; CENTER=FLUX-WT-FLR			10 Secs (10 Secs) *[==>]*	***[1]***
3	G130M-1291 (COS.sp.1370318)	(7) OGLE-J004942.75-731717.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=430; FLASH=YES			315 Secs (248 Secs) *[==>248.0 Secs]*	***[1]***
4	G130M-1291 (COS.sp.1370318)	(7) OGLE-J004942.75-731717.7	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=430; FLASH=YES			315 Secs (248 Secs) *[==>248.0 Secs]*	***[1]***
5	G160M-1611 (COS.sp.1370320)	(7) OGLE-J004942.75-731717.7	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=782; FLASH=YES			350 Secs (1356 Secs) *[==>339.0 Secs (Split 1)]* *[==>339.0 Secs (Split 2)]* *[==>339.0 Secs (Split 3)]* *[==>339.0 Secs (Split 4)]*	***[1]***

Orbit Structure



Visit

Proposal 15837, AZV-493 (06), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Fixed Targets

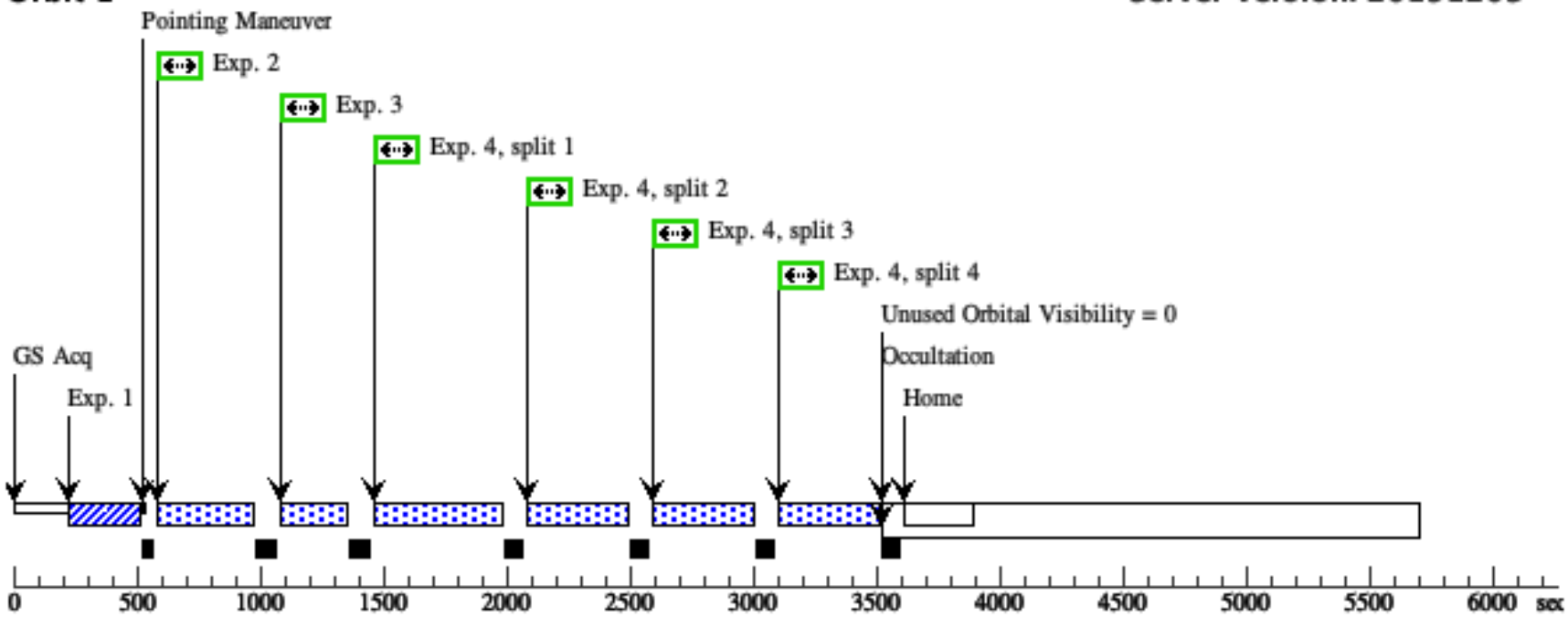
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	AZV-493	RA: 01 17 18.4860 (19.3270250d) Dec: -73 17 52.61 (-73.29795d) Equinox: J2000	Proper Motion RA: 2.0738028160846936E-4 sec of time/yr Proper Motion Dec: -0.0012890000107290689 arcsec/yr Epoch of Position: 2015.5	V=14.1	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq (COS.ta.1370342)	(8) AZV-493	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				30 Secs (30 Secs) *[==>]*	*[1]*
2	G130M-1291 (COS.sp.1370350)	(8) AZV-493	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=320; FLASH=YES			230 Secs (216 Secs) *[==>216.0 Secs]*	*[1]*
3	G130M-1291 (COS.sp.1370350)	(8) AZV-493	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=320; FLASH=YES			230 Secs (216 Secs) *[==>216.0 Secs]*	*[1]*
4	G160M-1611 (COS.sp.1370346)	(8) AZV-493	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=600; FLASH=YES			370 Secs (1424 Secs) *[==>356.0 Secs (Split 1)]* *[==>356.0 Secs (Split 2)]* *[==>356.0 Secs (Split 3)]* *[==>356.0 Secs (Split 4)]*	*[1]*

Orbit Structure



Visit

Proposal 15837, AZV-377 (07), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

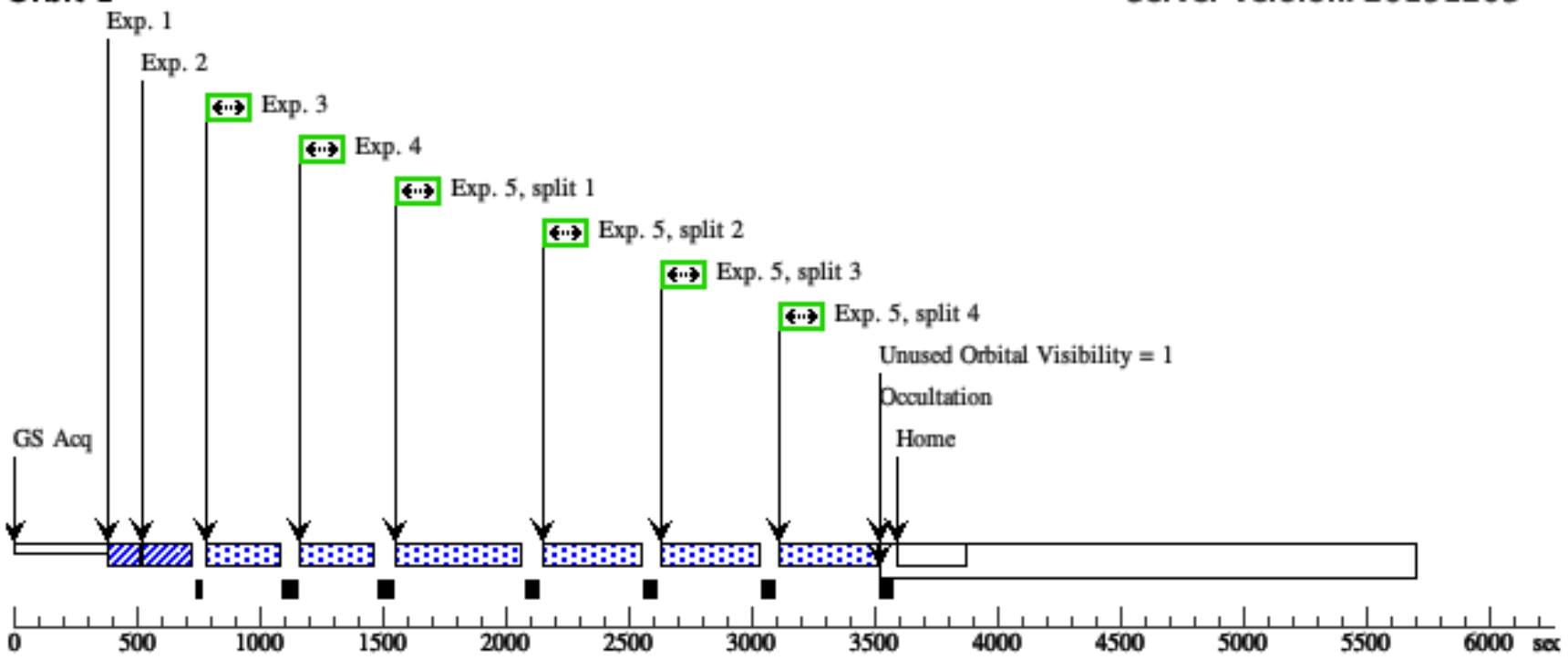
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	AZV-377	RA: 01 05 7.3822 (16.2807592d) Dec: -72 48 18.71 (-72.80520d) Equinox: J2000	Proper Motion RA: 1.693608319375526E-4 sec of time/yr Proper Motion Dec: -0.0013210000133767608 arcsec/yr Epoch of Position: 2015.5	V=14.59	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (1438273)	(9) AZV-377	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				10 Secs (10 Secs) *[==>]*	*[1]*
2	ACQ/PEAKD (1438273)	(9) AZV-377	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=0.9; NUM-POS=5; SEGMENT=BOTH; CENTER=FLUX-WT-FLR			10 Secs (10 Secs) *[==>]*	*[1]*
3	G130M-1291 (COS.sp.1370363)	(9) AZV-377	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4900; FLASH=YES			300 Secs (246 Secs) *[==>246.0 Secs]*	*[1]*
4	G130M-1291 (COS.sp.1370350)	(9) AZV-377	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4900; FLASH=YES			300 Secs (246 Secs) *[==>246.0 Secs]*	*[1]*
5	G160M-1611 (COS.sp.1370370)	(9) AZV-377	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=8900; FLASH=YES			400 Secs (1384 Secs) *[==>346.0 Secs (Split 1)]* *[==>346.0 Secs (Split 2)]* *[==>346.0 Secs (Split 3)]* *[==>346.0 Secs (Split 4)]*	*[1]*

Orbit Structure



Visit

Proposal 15837, MOA-J010321.3-720538 (08), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

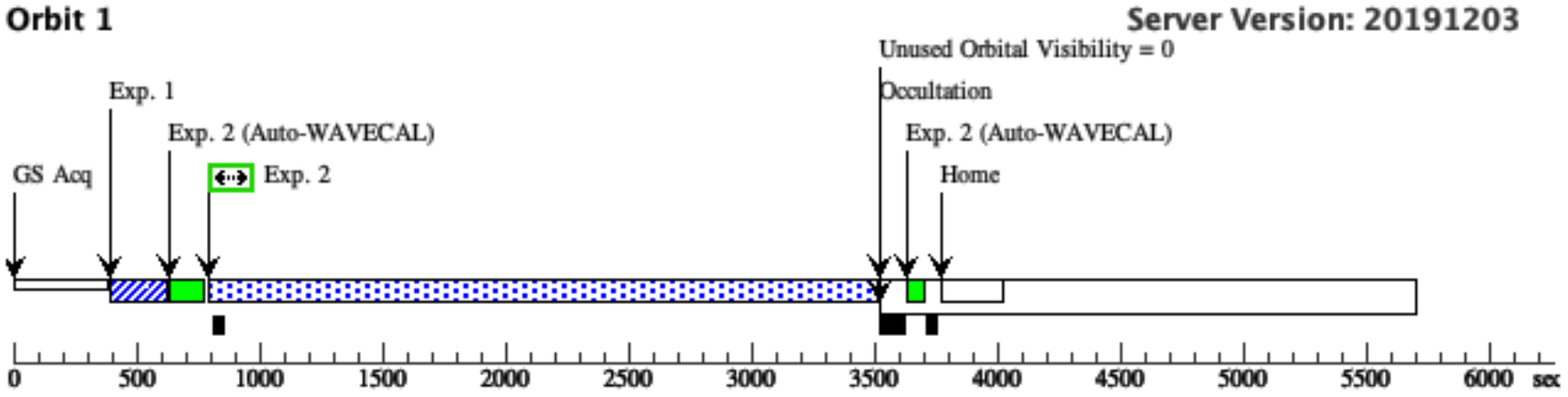
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	MOA-J010321.3-720538	RA: 01 03 21.3038 (15.8387658d) Dec: -72 05 38.18 (-72.09394d) Equinox: J2000	Proper Motion RA: 2.0360551365276161E-4 sec of time/yr Proper Motion Dec: -0.0013430000535663567 arcsec/yr Epoch of Position: 2015.5	V=13.36	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[GIANT O]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ	(10) MOA-J010321.3-720538	STIS/CCD, ACQ, F28X50LP	MIRROR				1 Secs (1 Secs)	
								[==>]	***[1]***
2	STIS (STIS.sp.13 70832)	(10) MOA-J010321.3-720538	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2705 Secs (2705 Secs)	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 15837, NGC-346-SSN-15 (09), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

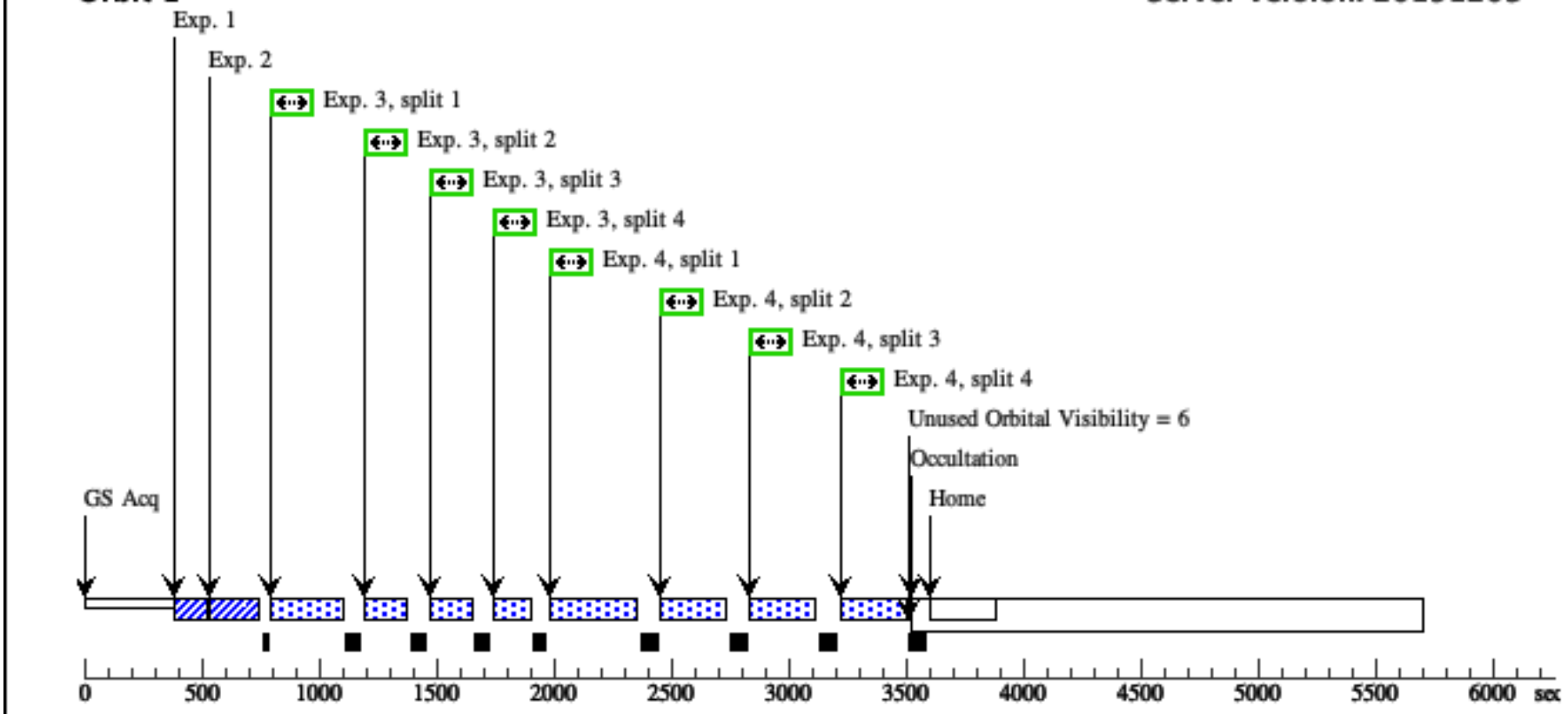
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	NGC-346-SSN-15	RA: 00 59 1.7990 (14.7574958d) Dec: -72 10 31.23 (-72.17534d) Equinox: J2000	Proper Motion RA: 0.007139822705849618 sec of time/yr Proper Motion Dec: 0.0391 arcsec/yr Epoch of Position: 2015.5	V=14.18	Reference Frame: ICRS

Comments: The target substitutes the proposed target MA93-1125. The new target has identical spectral type, O5.5V, but is one magnitude brighter. The target has no previous UV spectroscopic observations.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.ta.1371728)	(12) NGC-346-SSN-15	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				12 Secs (12 Secs) *[==>]*	 ***[1]***
2	ACQ/PEAKD (1438273)	(12) NGC-346-SSN-15	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=0.9; NUM-POS=5; SEGMENT=BOTH			12 Secs (12 Secs) *[==>]*	 ***[1]***
3	G160M (COS.sp.1371730)	(12) NGC-346-SSN-15	COS/FUV, TIME-TAG, PSA	G160M 1533 A	FLASH=YES; FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=270			150 Secs (500 Secs) *[==>132.0 Secs (Split 1)]* *[==>132.0 Secs (Split 2)]* *[==>132.0 Secs (Split 3)]* *[==>104.0 Secs (Split 4)]*	 ***[1]***
4	G160M (COS.sp.1371731)	(12) NGC-346-SSN-15	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=400; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			250 Secs (920 Secs) *[==>230.0 Secs (Split 1)]* *[==>230.0 Secs (Split 2)]* *[==>230.0 Secs (Split 3)]* *[==>230.0 Secs (Split 4)]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, BBB-SMC-266 (10), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

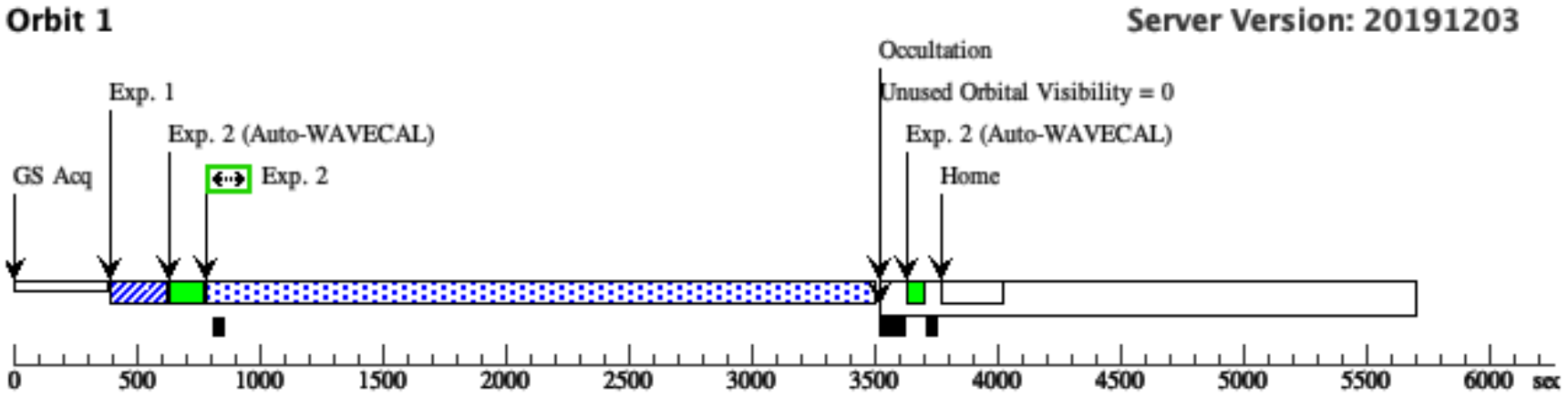
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	BBB-SMC-266 Alt Name1: AZV-26	RA: 00 47 50.0480 (11.9585333d) Dec: -73 08 21.05 (-73.13918d) Equinox: J2000	Proper Motion RA: 2.1398777760527914E-4 sec of time/yr Proper Motion Dec: -0.001251000071533781 arcsec/yr Epoch of Position: 2015.5	V=12.55	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	BBB-SMC-266 (STIS.ta.1371223)	(13) BBB-SMC-266	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2	STIS (STIS.sp.1371224)	(13) BBB-SMC-266	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15837, OGLE-SMC-SC6-246635 (11), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

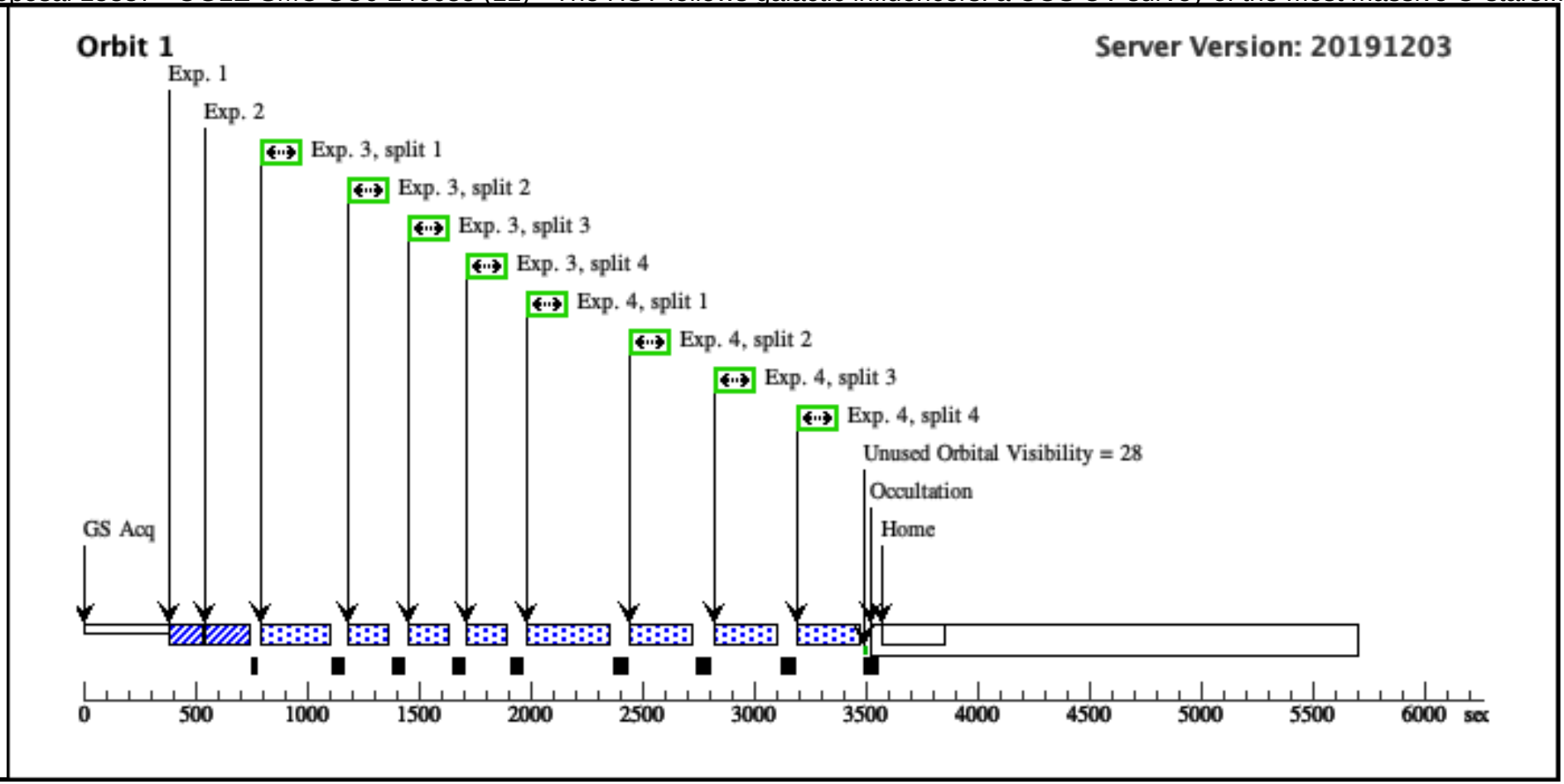
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	OGLE-SMC-SC6-246635 Alt Name1: 2DFS-5066	RA: 00 53 12.8532 (13.3035550d) Dec: -72 36 59.96 (-72.61666d) Equinox: J2000	Proper Motion RA: 1.530754821780746E-4 sec of time/yr Proper Motion Dec: -0.0012120000747017912 arcsec/yr Epoch of Position: 2015.5	V=14.14	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (1438273)	(14) OGLE-SMC-SC6-246635	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				15 Secs (15 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (1438273)	(14) OGLE-SMC-SC6-246635	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	STEP-SIZE=0.9; NUM-POS=5; SEGMENT=BOTH; CENTER=FLUX-WT-FLR			10 Secs (10 Secs) *[==>]*	***[1]***
3	G160M 1533 (COS.sp.1371237)	(14) OGLE-SMC-SC6-246635	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=297; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			100 Secs (528 Secs) *[==>132.0 Secs (Split 1)]* *[==>132.0 Secs (Split 2)]* *[==>132.0 Secs (Split 3)]* *[==>132.0 Secs (Split 4)]*	***[1]***
4	G160M 1611 (COS.sp.1371238)	(14) OGLE-SMC-SC6-246635	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=436; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			200 Secs (928 Secs) *[==>232.0 Secs (Split 1)]* *[==>232.0 Secs (Split 2)]* *[==>232.0 Secs (Split 3)]* *[==>232.0 Secs (Split 4)]*	***[1]***

Orbit Structure



Visit

Proposal 15837, MPG 396 (12), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

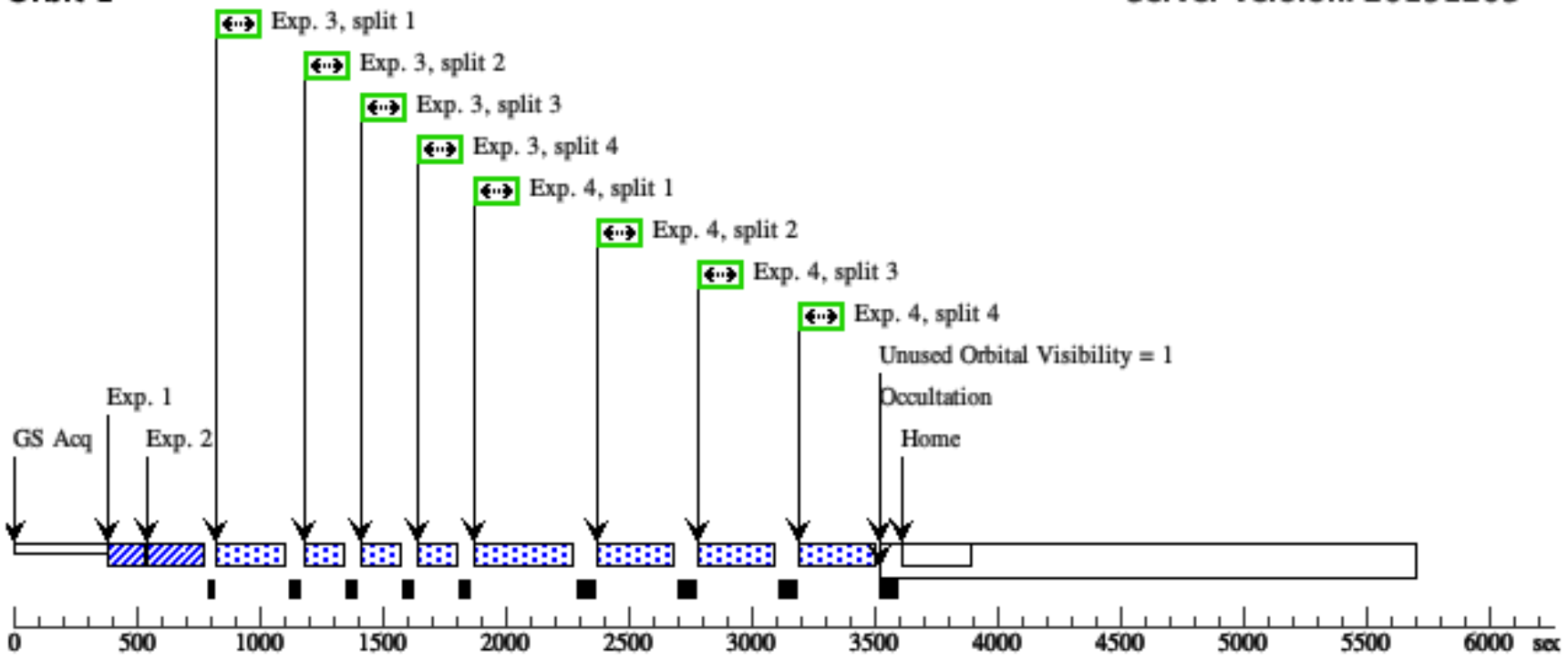
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	MPG-396	RA: 00 59 2.9000 (14.7620833d) Dec: -72 10 34.93 (-72.17637d) Equinox: J2000	Proper Motion RA: 2.1249883448708212E-4 sec of time/yr Proper Motion Dec: -0.0012890000107290689 arcsec/yr Epoch of Position: 2015.5	V=14.4	Reference Frame: ICRS

Comments: This target substitutes MA93-1694 which was approved as a target for the Cycle 26 propsal 15629. To avoid target duplication we now use NGC 346 MPG 396 (V=14.39) which has a similar spectral type, O7, and no previous high-resolution UV spectroscoy. The coordinates are from the UCAC4 catalogue.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (1438253)	(15) MPG-396	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				16 Secs (16 Secs) *[==>]*	*[1]*
2	ACQ/PEAKD (1438253)	(15) MPG-396	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; STEP-SIZE=0.9; CENTER=FLUX-WT-FLR; NUM-POS=5			16 Secs (16 Secs) *[==>]*	*[1]*
3	G160M 1533 (COS.sp.1371411)	(15) MPG-396	COS/FUV, TIME-TAG, PSA	G160M 1533 A	BUFFER-TIME=376; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			100 Secs (428 Secs) *[==>107.0 Secs (Split 1)]* *[==>107.0 Secs (Split 2)]* *[==>107.0 Secs (Split 3)]* *[==>107.0 Secs (Split 4)]*	*[1]*
4	G160M 1611 (COS.sp.1371412)	(15) MPG-396	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=436; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			200 Secs (1032 Secs) *[==>258.0 Secs (Split 1)]* *[==>258.0 Secs (Split 2)]* *[==>258.0 Secs (Split 3)]* *[==>258.0 Secs (Split 4)]*	*[1]*

Orbit Structure



Visit

Proposal 15837, LIN 508 (13), implementation Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: (none)

Fixed Targets

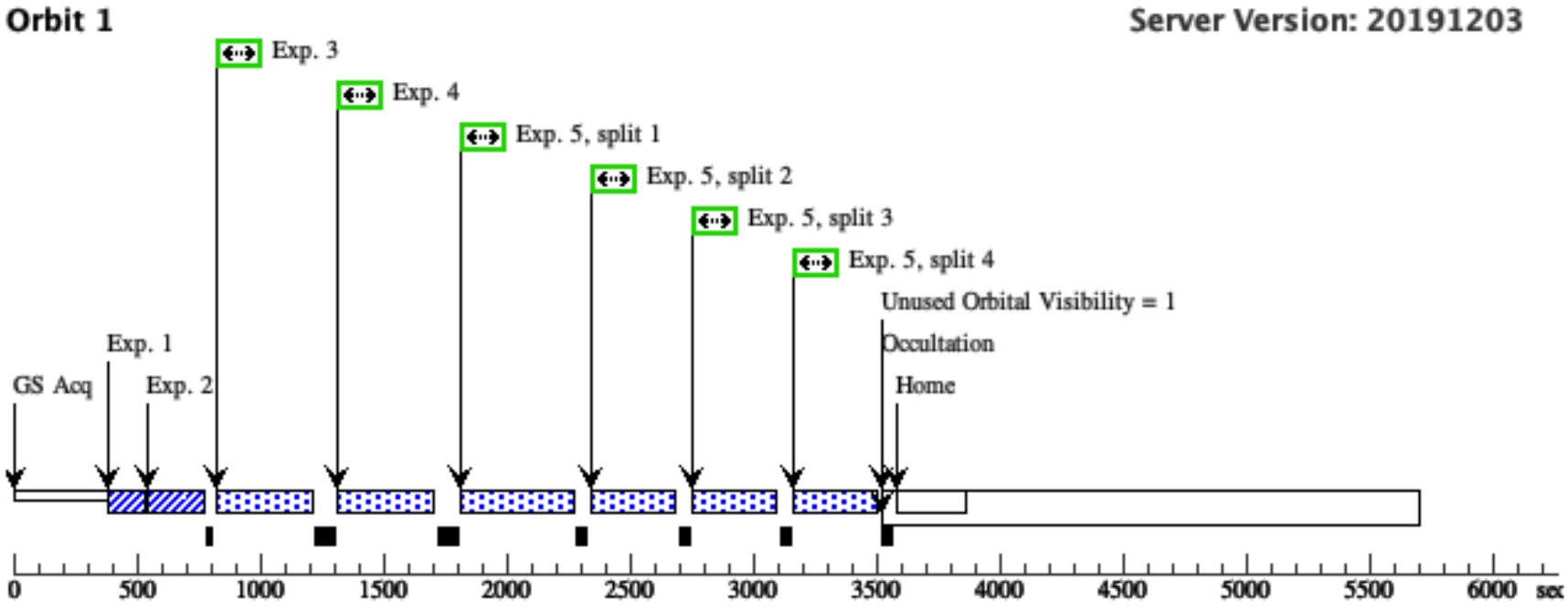
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(19)	LIN-508	RA: 01 14 55.0188 (18.7292450d) Dec: -72 21 38.10 (-72.36058d) Equinox: J2000	Proper Motion RA: 1.8744298571698347E-4 sec of time/yr Proper Motion Dec: -0.0010789999805638217 arcsec/yr Epoch of Position: 2015.5	V=14.8	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[MAIN SEQUENCE O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq/PEAKXD (1438296)	(19) LIN-508	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				15 Secs (15 Secs) *[==>]*	*[1]*
2	Acq/PEAKD (1438296)	(19) LIN-508	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; SEGMENT=BOTH; STEP-SIZE=0.9; NUM-POS=5			15 Secs (15 Secs) *[==>]*	*[1]*
3	G130M-1291 (COS.sp.1370308)	(19) LIN-508	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; SEGMENT=BOTH; BUFFER-TIME=4600; FLASH=YES			350 Secs (338 Secs) *[==>338.0 Secs]*	*[1]*
4	G130M-1291 (COS.sp.1370308)	(19) LIN-508	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; SEGMENT=BOTH; BUFFER-TIME=4600; FLASH=YES			350 Secs (338 Secs) *[==>338.0 Secs]*	*[1]*
5	G160M-1611 (COS.sp.1370312)	(19) LIN-508	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; SEGMENT=BOTH; BUFFER-TIME=8900; FLASH=YES			300 Secs (1152 Secs) *[==>288.0 Secs (Split 1)]* *[==>288.0 Secs (Split 2)]* *[==>288.0 Secs (Split 3)]* *[==>288.0 Secs (Split 4)]*	*[1]*

Orbit Structure



Visit

Proposal 15837, Sk 148 (14), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

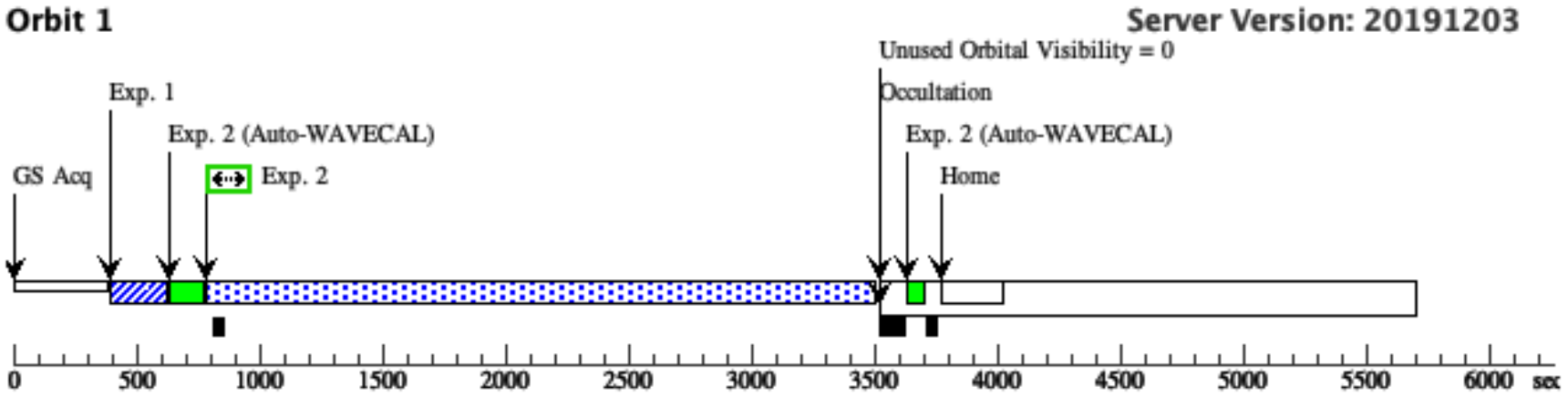
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	SK-148	RA: 01 12 29.0069 (18.1208621d) Dec: -72 29 29.05 (-72.49140d) Equinox: J2000	Proper Motion RA: 3.326145062637477E-4 sec of time/yr Proper Motion Dec: -0.0015999999277482857 arcsec/yr Epoch of Position: 2015.5	V=13.176	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371243)	(16) SK-148	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	*[1]*
2	E140M STIS (STIS.sp.1371244)	(16) SK-148	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15837, Sk 107 (15), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

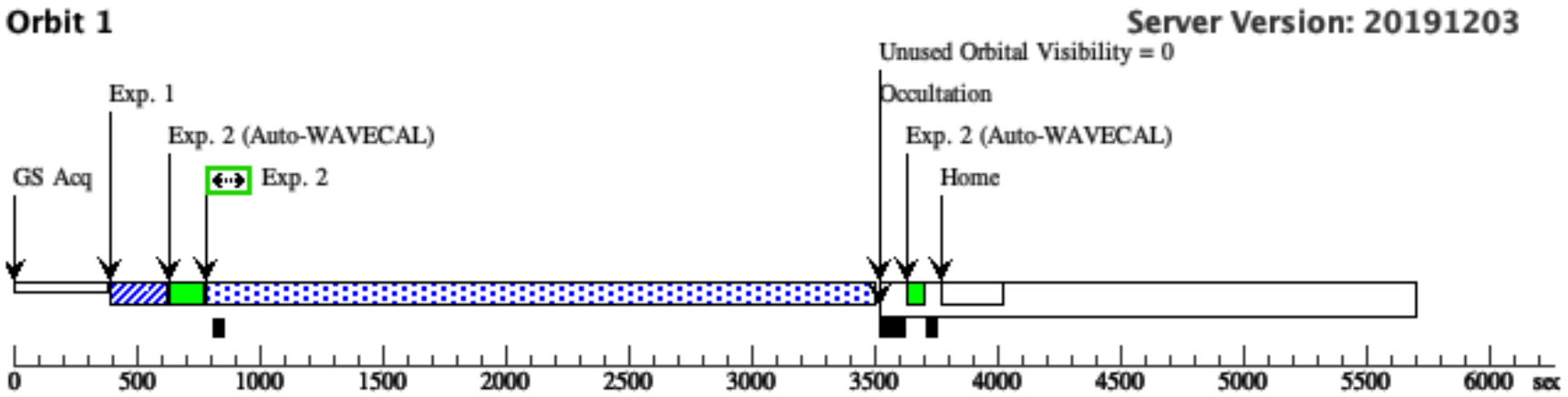
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(18)	SK-107	RA: 01 02 51.9501 (15.7164588d) Dec: -71 48 24.79 (-71.80689d) Equinox: J2000	Proper Motion RA: 1.80214432861094E-4 sec of time/yr Proper Motion Dec: -0.001272000054086675 arcsec/yr Epoch of Position: 2015.5	V=12.936	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=STAR
Description=[SUPERGIANT O]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371345)	(18) SK-107	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	E140M STIS (STIS.sp.1371346)	(18) SK-107	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, AB8 (16), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

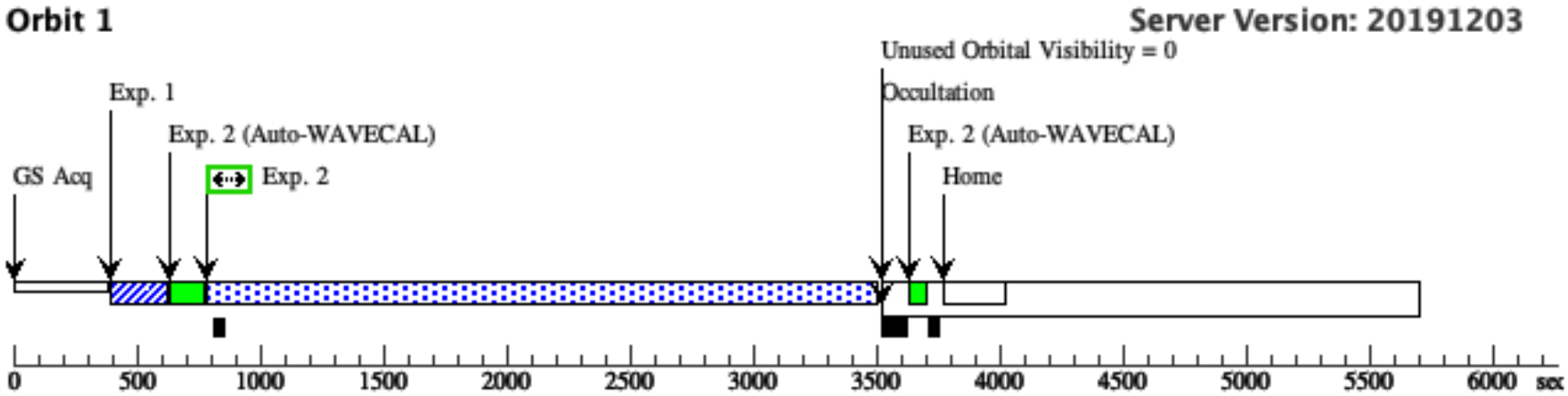
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SMC-AB8	RA: 01 31 4.1367 (22.7672362d)	Proper Motion RA: 1e-4 mas/yr	V=12.9	Reference Frame: ICRS
		Dec: -73 25 3.79 (-73.41772d)	Proper Motion Dec: 1e-4 mas/yr		
		Equinox: J2000	Epoch of Position: 2015.5		

Comments: This target substitutes LIN-78. LIN-78 was approved as a target for the Cycle 26 propsal 15629. To avoid target duplication we now choose this O4+WO star, where the secondary has a similar type to LIN 78 (O4) and no previous high-resolution UV spectra exist.
Category=STAR
Description=[MAIN SEQUENCE O, WOLF RAYET]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371376)	(4) SMC-AB8	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs)	
								[==>]	***[1]***
2	STIS (STIS.sp.1371378)	(4) SMC-AB8	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs)	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 15837, Sk-35 (17), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

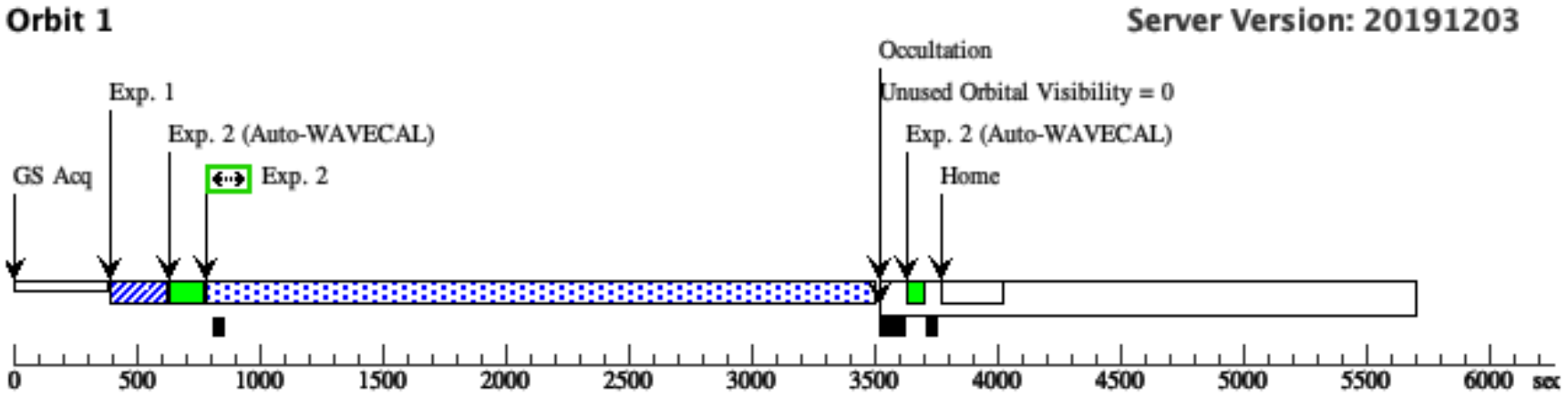
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(17)	SK-35	RA: 00 50 18.1231 (12.5755129d) Dec: -72 38 10.03 (-72.63612d) Equinox: J2000	Proper Motion RA: 1.608290742820157E-4 sec of time/yr Proper Motion Dec: -0.0013189998981033568 arcsec/yr Epoch of Position: 2015.5	V=12.4	Reference Frame: ICRS

Comments: This target substitutes Sk 101 which was approved as a target for the Cycle 26 propsal 15629. To avoid target duplication we now use Sk 35 which is a supergiant with a similar spectral type, O9, and no previous high-resolution UV spectra exist
Category=STAR
Description=[SUPERGIANT O]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371376)	(17) SK-35	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	STIS (STIS.sp.1371413)	(17) SK-35	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 15837, MPG-342 (18), scheduling Thu Apr 23 14:00:38 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	MPG-342	RA: 00 59 0.0528 (14.7502200d) Dec: -72 10 37.96 (-72.17721d) Equinox: J2000	Proper Motion RA: 1.1508930879559994E-4 sec of time/yr Proper Motion Dec: -0.0011900000345121953 arcsec/yr Epoch of Position: 2015.5	V=13.13	Reference Frame: ICRS

Comments: This target substitutes SK-32. SK-32 was approved as a target for the Cycle 26 propsal 15629. To avoid target duplication we now use NGC 346 MPG 342 (V=13.1) which has a similar spectral type, O5, and no previous high-resolution UV spectra exist.
Category=STAR
Description=[MAIN SEQUENCE O]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (STIS.ta.1371376)	(11) MPG-342	STIS/CCD, ACQ, F28X50LP	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	 ***[1]***
2	STIS (STIS.sp.1371388)	(11) MPG-342	STIS/FUV-MAMA, ACCUM, 0.2X0.2	E140M 1425 A				2707 Secs (2707 Secs) *[==>]*	 ***[1]***

Orbit Structure