16803 - ULLYSES SMC O6 Giants - COS

Cycle: 29, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) 2DFS-2553	COS/FUV COS/NUV	3	23-Mar-2022 16:02:00.0	yes
1D	(1) 2DFS-2553	COS/FUV COS/NUV	2	23-Mar-2022 16:02:01.0	yes

5 Total Orbits Used

ABSTRACT

The Space Telescope Science Institute (STScI) Director has decided to devote up to 1000 orbits of Director's Discretionary time in observing Cycles 27-29 to a new Hubble Ultraviolet Legacy program focused on star formation and associated stellar physics. This new program, ULLYSES (UV Legacy Library of Young Stars as Essential Standards), will provide a UV spectroscopic reference sample of young (< 10 Myr) high- and low-mass stars. It will target over ~150 OB stars in the Magellanic Clouds and lower metallicity galaxies in the Local Group, and ~40 T Tauri stars and brown dwarfs in the Milky Way. In addition, ULLYSES will monitor 4 typical T Tauri stars over different rotational phases through at least three rotation periods, and over timescales of months to years. The resulting library will provide template spectra of massive stars at metallicities substantially below the well studied, while the low mass sample will cover a wide range of ages, accretion rates, and masses, including objects down to well below 0.5 M_sun. The legacy of this large UV dataset on the first 10 Myr of stellar evolution will be enhanced by complementary datasets obtained by the

scientific community. In addition to the core goals of the program related to stellar astrophysics of low and high mass stars, this data will also enable exciting science in the fields of ISM, CGM, jets, and exoplanets. ULLYSES will be modeled after the Frontier Fields program: all data obtained will be non-proprietary. The implementation team at STScI is developing high-level science data products and a sophisticated database and website for disseminating data from the ULLYSES program and ancillary datasets for the ULLYSES target sample from space and ground-based facilities.

OBSERVING DESCRIPTION

This proposal includes a subset of the massive ULLYSES stars being observed in the Magellanic clouds.

Depending on target brightness, the main FUV spectral range will generally use either the STIS E140M setting or the combination of the COS c1291 + c1611 settings. Sufficiently bright stars without good FUSE data in the archive will also be observed with the COS c1096 setting to provide coverage at shorter wavelengths. Where time permits, stars of type O9 or later will also be observed with STIS E230M/1978, while for supergiants of spectral type B5 or later E230M/2707 may also be included. Where possible, targets of a given spectral type were selected to span both a range in extinction and in rotation rates to support a variety of stellar and ISM studies.

Signal-to-noise requirements used to determine the desired exposures times were defined as follows:
COS/G130M/c1096: 20 / nine-pixel resel at 1080 A
COS/G130M/c1291: 30 / six-pixel resel at 1150 A
COS/G160M/c1611: 30 / six-pixel resel at 1590 A
COS/G185M/c1953: 30 / three-pixel resel at 1860 A
COS/G185M/c1986: 30 / three-pixel resel at 1980 A
STIS/E140M/c1425: 20 / two-pixel resel at 1200 A
STIS/E230M/c1978: 20 / two-pixel resel at 1800 A
STIS/E230M/c2707: 20 / two-pixel resel at 2800 A
The actual implemented exposure times may be adjusted to efficiently use HST orbits, but should always provide at least 80% of the desired time as defined by the above requirements.

Additional details about the scientific motivation and technical implementation strategy of the ULLYSES observations can be found at http://www.stsci.edu/stsci-research/research-topics-and-programs/ullyses. The ULLYSES program is based on the recommendations of a working group led by Sally Oey; the full text of that group's report can be found at http://www.stsci.edu/files/live/sites/www/files/home/stsci-

research/research-topics-and-programs/ullyses/_documents/HSTUV-report-ULLYSES.pdf.

Visit

Proposal 16803, 2DFS-2553-COS (1C) Wed Mar 23 20:02:02 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; 2DFS-2553; P/COS approved for submission; P/RP 22/03/22 ; intrev: complete ; P/AF 22/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-2553 ; COS ; RP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Yes ... BOA/MIRRORA
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; No ... ACQ has 3 flags, but all should be safe based on their Fpg values ...
Additionally, we checked the Gaia colors when available. We believe the associated Gaia names to be:
- Gaia EDR3 4687154675500285568 which is consistent with a G1 V star
- Gaia EDR3 4687154606780812416 which is consistent with an A0 V - A2 V star
- Gaia EDR3 4687154679787022976 which was too faint to have enough color information
Finally, all 3 stars have comparatively large proper motions and/or parallaxes, which indicates that they are faint foreground objects.
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS-2553	RA: 01 09 21.9526 (17.3414692d)	Proper Motion RA: 0.9257353438 mas/yr	V=14.95	Reference Frame: ICRS
	Alt Name1: MA93-1694	Dec: -73 15 41.94 (-73.26165d)	Proper Motion Dec: -1.305567343 mas/yr	SpT=O6.5 III((f))e_2_; E(B-V)= 0.14; U=13.82; B=14.82; V=14. 95; F1160=1.820e-13; F1360=1. 320e-13; F1700=8.630e-14	
		Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2016		

Comments: 2DFS-2553 : 2dFS 2553
Previous name : [2dFS]-2553
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*SpT = O6.5 III((f))e_2_*
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:53:44, v0.9
---
tstatus; 2DFS-2553; P/COS approved for submission; S/ins not started; P/RP 08/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; 2DFS-2553 & MA93-1694 on Simbad; 4687154611082066304 gaia DR3
tcheck; Target info verification status?; Yes
tcheck; Coordinates & P.M. verified, epoch checked?; Yes ... Verified & updated with gaia DR3
tcheck; Adopted SED compared to Observations?; Yes ... The model has been adapted to use the O6 model instead of O6.5 with an extinction of 0.07, normalized to the STIS flux at 1160A.
Category=STAR
Description=[GIANT O, OF, OE]
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/Image (COS.ta.1723922)	(1) 2DFS-2553	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				20.0 Secs (20 Secs) *[==>]*	*[1]*
	Comments: Expected S/N ~ 32 with updated model								
2	G130M/1096-1 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=1			2202 Secs (2202 Secs) *[==>]*	*[1]*
	Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O6.5 III((f))e_2_* *SED = 2DFS-2553_COS_G130M_c1096_sed.fits* *For exptime=12790.5 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2233.7 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:53:50, v0.9* --- *An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.* *The expected combined S/N is ~18.8 per resel at 1080A.* *The orbits were optimized to balance the four FP-POS:* *FP-POS 1: 2902s* *FP-POS 2: 2800s* *FP-POS 3: 2907s* *FP-POS 4: 2907s*								
3	G130M/1096-1 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=1			700 Secs (700 Secs) *[==>]*	*[2]*
	Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O6.5 III((f))e_2_* *SED = 2DFS-2553_COS_G130M_c1096_sed.fits* *For exptime=12790.5 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2233.7 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:53:50, v0.9* --- *An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.* *The expected combined S/N is ~18.8 per resel at 1080A.* *The orbits were optimized to balance the four FP-POS:* *FP-POS 1: 2902s* *FP-POS 2: 2800s* *FP-POS 3: 2907s* *FP-POS 4: 2907s*								

4	G130M/109 6-2 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=829; FP-POS=2	1661 Secs (1661 Secs) *[==>]*	***[2]***

Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*Spectral type: O6.5 III((f))e_2_*
SED = 2DFS-2553_COS_G130M_c1096_sed.fits
For exptime=12790.5 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2233.7 cts/s/segment
brightest pixel: 0.044 cts/s/pix at 1227.0 A
Calculation performed 2021-10-25T00:53:50, v0.9

An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.

The expected combined S/N is ~18.8 per resel at 1080A.

The orbits were optimized to balance the four FP-POS:
FP-POS 1: 2902s
FP-POS 2: 2800s
FP-POS 3: 2907s
FP-POS 4: 2907s

5	G130M/109 6-2 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=829; FP-POS=2	1139 Secs (1139 Secs) *[==>]*	***[3]***

Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*Spectral type: O6.5 III((f))e_2_*
SED = 2DFS-2553_COS_G130M_c1096_sed.fits
For exptime=12790.5 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2233.7 cts/s/segment
brightest pixel: 0.044 cts/s/pix at 1227.0 A
Calculation performed 2021-10-25T00:53:50, v0.9

An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.

The expected combined S/N is ~18.8 per resel at 1080A.

The orbits were optimized to balance the four FP-POS:
FP-POS 1: 2902s
FP-POS 2: 2800s
FP-POS 3: 2907s
FP-POS 4: 2907s

6	G130M/109 6-3 (COS.sp.173 4654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=829; FP-POS=3	1260 Secs (1260 Secs) *[==>]*	***[3]***

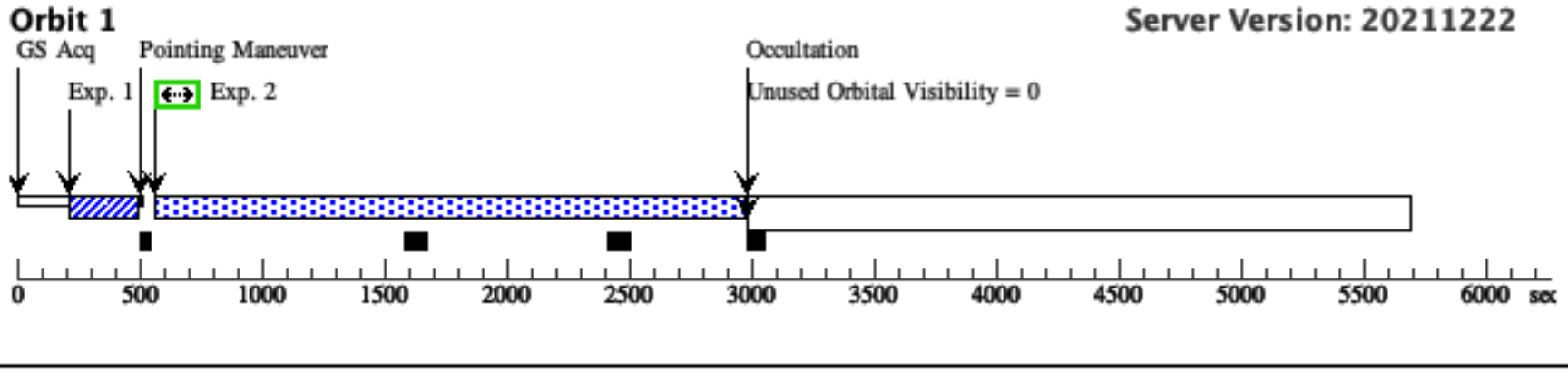
Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*Spectral type: O6.5 III((f))e_2_*
SED = 2DFS-2553_COS_G130M_c1096_sed.fits
For exptime=12790.5 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2233.7 cts/s/segment
brightest pixel: 0.044 cts/s/pix at 1227.0 A
Calculation performed 2021-10-25T00:53:50, v0.9

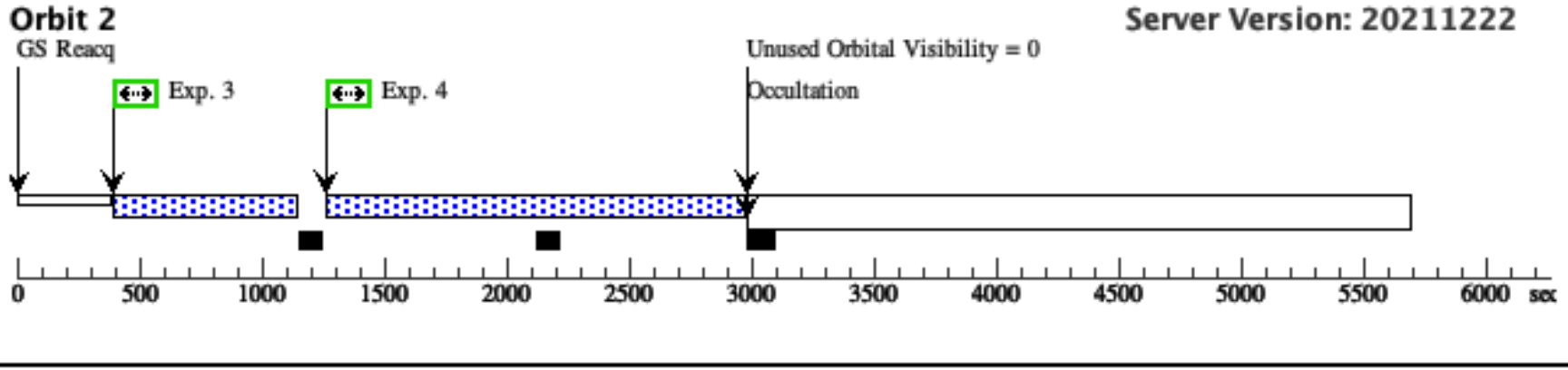
An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.

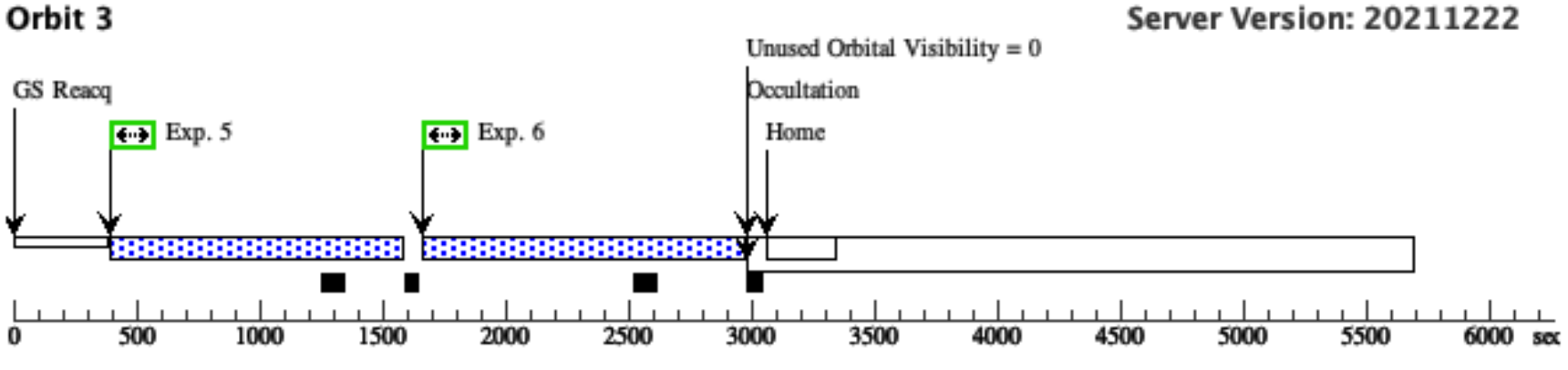
The expected combined S/N is ~18.8 per resel at 1080A.

The orbits were optimized to balance the four FP-POS:
FP-POS 1: 2902s
FP-POS 2: 2800s
FP-POS 3: 2907s
FP-POS 4: 2907s

Orbit Structure







Visit

Proposal 16803, 2DFS-2553-COS (1D) Wed Mar 23 20:02:02 GMT 2022

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%

Comments: vstatus; 1D; 2DFS-2553; P/COS approved for submission; P/RP 22/03/22 ; intrev: complete ; P/AF 22/03/22
vcheck; Enter targ name & Inst. & Resp. Sci.; 2DFS-2553 ; COS ; RP
vcheck; ETC numbers entered in APT?; Yes
vcheck; Any screening violations?; No
vcheck; S/N ETC calcs done & documented?; Yes
vcheck; Field images checked & saved?; Yes
vcheck; Selected ACQ strategy?; Yes ... BOA/MIRRORA
vcheck; Possible ACQ or Sci spoilers?; No
vcheck; Field BOT clear?; No ... ACQ has 3 flags, but all should be safe based on their Fpg values ...
Additionally, we checked the Gaia colors when available. We believe the associated Gaia names to be:
- Gaia EDR3 4687154675500285568 which is consistent with a G1 V star
- Gaia EDR3 4687154606780812416 which is consistent with an A0 V - A2 V star
- Gaia EDR3 4687154679787022976 which was too faint to have enough color information
Finally, all 3 stars have comparatively large proper motions and/or parallaxes, which indicates that they are faint foreground objects.
vcheck; Visual BOT check for stars not in catalog?; Yes
vcheck; Orbit packing finalized?; Yes
vcheck; Buffer times optimized?; Yes
vcheck; Verify visit grouping correct; N/A
vcheck; Is visit ready for int. review?; Yes
Allocated COS orbits = 5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	2DFS-2553	RA: 01 09 21.9526 (17.3414692d)	Proper Motion RA: 0.9257353438 mas/yr	V=14.95	Reference Frame: ICRS
	Alt Name1: MA93-1694	Dec: -73 15 41.94 (-73.26165d)	Proper Motion Dec: -1.305567343 mas/yr	SpT=O6.5 III((f))e_2_; E(B-V)= 0.14; U=13.82; B=14.82; V=14. 95; F1160=1.820e-13; F1360=1. 320e-13; F1700=8.630e-14	
		Equinox: J2000	Parallax: 0"		
			Epoch of Position: 2016		

Comments: 2DFS-2553 : 2dFS 2553
Previous name : [2dFS]-2553
Input file: ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*SpT = O6.5 III((f))e_2_*
COS/G130M/c1096 : rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam)
Coordinate pedigree: Gaia DR2
Calculation performed 2021-10-25T00:53:44, v0.9
---
tstatus; 2DFS-2553; P/COS approved for submission; S/ins not started; P/RP 08/03/22; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; 2DFS-2553 & MA93-1694 on Simbad; 4687154611082066304 gaia DR3
tcheck; Target info verification status?; Yes
tcheck; Coordinates & P.M. verified, epoch checked?; Yes ... Verified & updated with gaia DR3
tcheck; Adopted SED compared to Observations?; Yes ... The model has been adapted to use the O6 model instead of O6.5 with an extinction of 0.07, normalized to the STIS flux at 1160A.
Category=STAR
Description=[GIANT O, OF, OE]
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/Image (COS.ta.1723922)	(1) 2DFS-2553	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				20.0 Secs (20 Secs) *[==>]*	*[1]*
Comments: Expected S/N ~ 32 with updated model									
2	G130M/1096-3 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=3			1647 Secs (1647 Secs) *[==>]*	*[1]*
Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O6.5 III((f))e_2_* *SED = 2DFS-2553_COS_G130M_c1096_sed.fits* *For exptime=12790.5 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2233.7 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:53:50, v0.9* --- *An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.* *The expected combined S/N is ~18.8 per resel at 1080A.* *The orbits were optimized to balance the four FP-POS:* *FP-POS 1: 2902s* *FP-POS 2: 2800s* *FP-POS 3: 2907s* *FP-POS 4: 2907s*									
3	G130M/1096-4 (COS.sp.1734654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=4			374 Secs (374 Secs) *[==>]*	*[1]*
Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None) *From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv* *Spectral type: O6.5 III((f))e_2_* *SED = 2DFS-2553_COS_G130M_c1096_sed.fits* *For exptime=12790.5 s, spectral region:* *1080.0 +- 0.5 A achieves SNR=20.0/resel* *global countrate (brightest segment): 2233.7 cts/s/segment* *brightest pixel: 0.044 cts/s/pix at 1227.0 A* *Calculation performed 2021-10-25T00:53:50, v0.9* --- *An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.* *The expected combined S/N is ~18.8 per resel at 1080A.* *The orbits were optimized to balance the four FP-POS:* *FP-POS 1: 2902s* *FP-POS 2: 2800s* *FP-POS 3: 2907s* *FP-POS 4: 2907s*									

4	G130M/1096 (COS.sp.1736-4654)	(1) 2DFS-2553	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=8299; FP-POS=4	2533 Secs (2533 Secs) *[==>]*	***[2]***

Comments: rn(PoWR-OB-new(PoWR_37000_3.60_m6.70_Z0.14.fits, smc-ob-i 37-36, Z=0.140 solar, Teff=37000, log_lum=5.70, log_g=3.60, log_mdot=-6.70) (extinction smcbar=0.140), flux1160 +- 2.0A flux=1.8e-13 Flam); cos,fuv,g130m,c1096,psa,mjd#59670; fp-pos=None, segment=None)
From file ULLYSES_Cycle29_MassiveStar_ProgramInput_v5.csv
*Spectral type: O6.5 III((f))e_2_*
SED = 2DFS-2553_COS_G130M_c1096_sed.fits
For exptime=12790.5 s, spectral region:
1080.0 +- 0.5 A achieves SNR=20.0/resel
global countrate (brightest segment): 2233.7 cts/s/segment
brightest pixel: 0.044 cts/s/pix at 1227.0 A
Calculation performed 2021-10-25T00:53:50, v0.9

An updated model from the one above was used to more closely fit the observed STIS data for the ETC run for these observations. The O6 II model was used rather than the O6.5 II model, and the extinction also decreased to 0.07. These changes match the observed STIS data and U, B, V photometry much better.

The expected combined S/N is ~18.8 per resel at 1080A.

The orbits were optimized to balance the four FP-POS:
FP-POS 1: 2902s
FP-POS 2: 2800s
FP-POS 3: 2907s
FP-POS 4: 2907s

Orbit Structure