14120 - He II emission as a tracer of ultra-low metallicity and massive star evolution

Cycle: 23, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Jarle Brinchmann (PI) (ESA Member) (Contact)	**Universiteit Leiden**	**jarle@strw.leidenuniv.nl**
Dr. Maryam Shirazi (CoI) (ESA Member)	ETH Zurich	shirazi@strw.leidenuniv.nl
Prof. Olivier Le Fevre (CoI) (ESA Member)	Laboratoire d'Astrophysique de Marseille	olivier.lefevre@oamp.fr
Dr. Paolo Cassata (CoI)	Universidad de Valparaiso	paolo.cassata@uv.cl
Dr. Sara R. Heap (CoI) (AdminUSPI)	NASA Goddard Space Flight Center	sara.heap@gmail.com
Dra. Carolina Kehrig (CoI) (ESA Member)	Instituto de Astrofisica de Andalucia (IAA)	kehrig@gmail.com

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) 0266-51630-100	COS/FUV COS/NUV	2	13-Apr-2016 21:03:03.0	yes
02	(2) 1427-52996-221	COS/FUV COS/NUV	2	13-Apr-2016 21:03:05.0	yes
03	(3) 1158-52668-062	COS/FUV COS/NUV	3	13-Apr-2016 21:03:06.0	yes
04	(4) 1725-54266-068	COS/FUV COS/NUV	2	13-Apr-2016 21:03:07.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) 1070-52591-072	COS/FUV COS/NUV	1	13-Apr-2016 21:03:09.0	yes
06	(5) 1070-52591-072	COS/FUV COS/NUV	3	13-Apr-2016 21:03:10.0	yes
07	(6) 1323-52797-002	COS/FUV COS/NUV	3	13-Apr-2016 21:03:11.0	yes
08	(7) 0955-52409-608	COS/FUV COS/NUV	2	13-Apr-2016 21:03:13.0	yes
09	(8) 1991-53446-584	COS/FUV COS/NUV	3	13-Apr-2016 21:03:14.0	yes
10	(9) 1363-53053-510	COS/FUV COS/NUV	3	13-Apr-2016 21:03:15.0	yes

24 Total Orbits Used

ABSTRACT

The He II 1640 emission line is arguably the primary probe for detecting ultra-low metallicity star formation in the high redshift Universe but even at z~0 our understanding of it is woefully incomplete. Since the first signs of Population III star formation at high-z is even likely to be seen intermixed with more metal rich star formation, we need a solid understanding of the massive stellar population responsible for the excitation of He II at non-zero metallicity but this is currently lacking.

The main reason we do not fully understand the physics behind narrow-line He II emission at low metallicity is that we do not have any direct observational probes of the massive stars responsible for the ionizing radiation. Until we understand this, a significant uncertainty will remain in any interpretation of nebular He II 1640 at high redshift.

Here we propose to use COS to carry out the first systematic study of the massive stellar content in galaxies selected to have He II in emission. With this we will a) study in detail the population of massive stars responsible for exciting both narrow and broad He II, b) rigorously test recent claims for significant pockets of ultra-low metallicity star forming gas at $2<z<7$ galaxies based on detecting narrow He II 1640 emission in deep spectroscopy.

This survey has only now become possible because we have carried out a systematic search for He II 4686 emitting galaxies at z~0. This allows us to accurately predict He II 1640 fluxes and therefore optimally design a COS observing program for these sources. A survey based on targeting UV bright galaxies/star forming regions would not be able to tackle these questions.

OBSERVING DESCRIPTION

The G160M grating with a central wavelength of 1589A is well suited
for observing He II 1640 and allows us to detect the majority of the diagnostic UV lines, in the range from 1400A to 1720.

To ensure optimal exposure time choices we estimate He II 1640 fluxes from the known He II 4686 fluxes, accounting for dust attenuation using the observed Balmer decrement (Ha/Hb) and using an intrinsic $F_{1640}/F_{4686}=10$ (e.g. Crowther & Hadfield 2006). We conservatively assume that the He II emitting region is uniform over the aperture and use the resulting flux per unit area to estimate the exposure time needed with COS to reach an integrated S/N in He II 1640 of 20. Since the equivalent width of He II 1640 is not expected to exceed 2-3A in these galaxies (e.g. Brinchmann, Pettini & Charlot 2008), this will also suffice to detect the continuum in these galaxies with a good S/N (>7 per resolution element in all cases).

Visit

Proposal 14120, 0266-51630-100 (01), implementation Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(0266-51630-100 (01)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(Science 0266-51630-100 (01.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

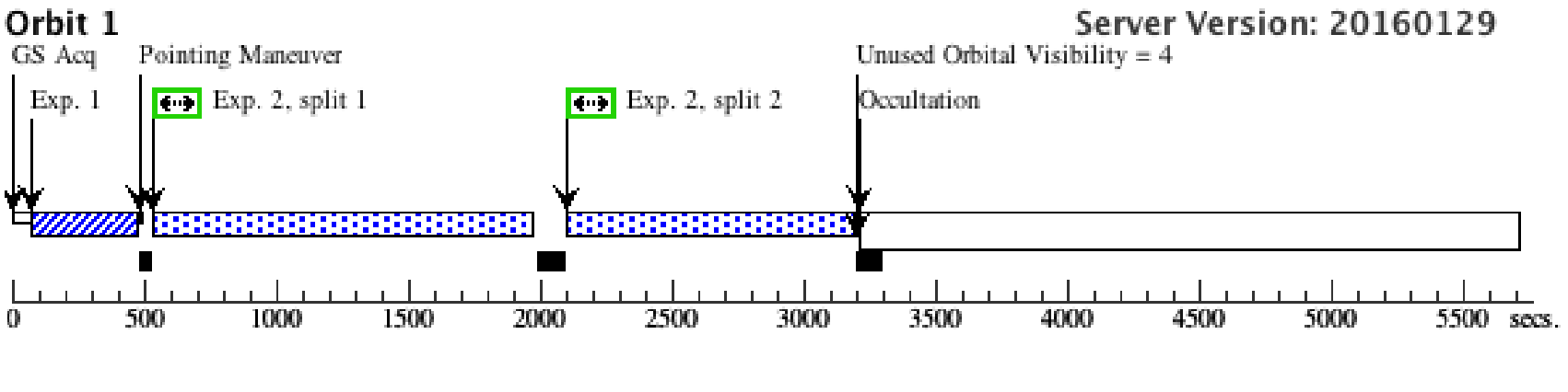
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	0266-51630-100 Alt Name1: CGCG-007-025	RA: 09 44 1.8713 (146.0077971d) Dec: -00 38 32.18 (-.64227d) Equinox: J2000	Redshift: 0.0048	V=16.05+/-0.08 GALEX FUV=16.87 NUV=16.64 F(1640)=4.8E-15erg/s/cm^2	Reference Frame: ICRS

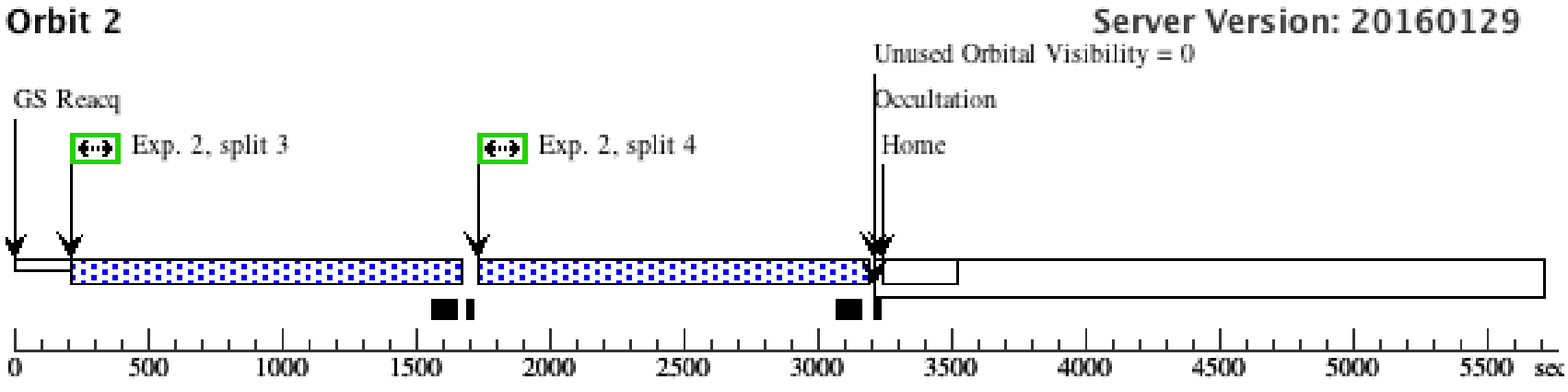
Comments: The target fails BOT for the NUV acquisition. The object is however a galaxy and not a star and is extended. I do not have an HST image of the object but it is extended in SDSS u-band images thus I would argue it is safe.
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acq-0266-51630-100 (810784)	(1) 0266-51630-100	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				38 Secs (38 Secs)	
								[==>]	***[1]***
Comments: The exposure time is uncertain given the lack of high resolution UV imaging of the source. I have now (April 2016) assumed the region of interest to be a point source. It has a magnitude of 17.8 in SDSS u-band and the exposure time is estimated assuming an O3 star spectrum.									
2	Science 0266-51630-100 (731561)	(1) 0266-51630-100	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1309; FP-POS=ALL; FLASH=YES			1306 Secs (5082 Secs)	
								[==>1230.0 Secs (Split 1)] *[==>1033.0 Secs (Split 2)]*	***[1]***
								[==>1409.0 Secs (Split 3)] *[==>1410.0 Secs (Split 4)]*	***[2]***

Orbit Structure





Visit

Proposal 14120, 1427-52996-221 (02), scheduled Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1427-52996-221 (02)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1427-52996-221 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(1427-52996-221 Exposure 1 (02.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

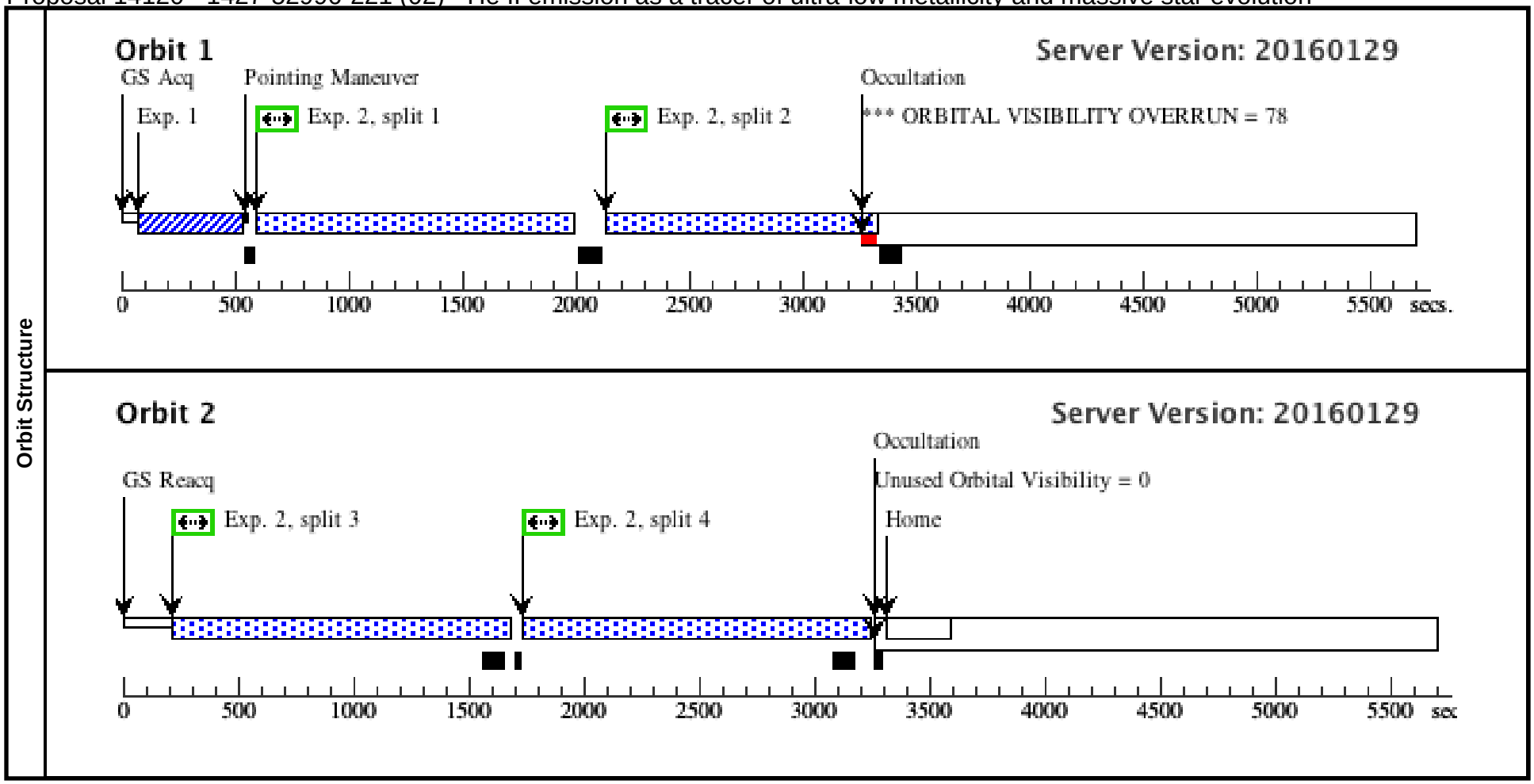
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	1427-52996-221	RA: 10 16 24.5178 (154.1021575d) Dec: +37 54 45.97 (37.91277d) Equinox: J2000	Redshift: 0.0039	V=15.96+/-0.02 FUV=16.67 NUV=16.55 F(1640)=6.8E-15erg/s/cm^2	Reference Frame: ICRS

Comments: The object fails BOT. There is existing HST imaging in F336W which clearly resolves the object and the assumption of this being a point source for BOT calculations is clearly incorrect. Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1427-52996-221 acquisition (771057)	(2) 1427-52996-221	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				69 Secs (69 Secs) *[==>]*	 ***[1]***
2	1427-52996-221 Exposure 1 (731562)	(2) 1427-52996-221	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=ALL; FLASH=YES; BUFFER-TIME=1314			981 Secs (5216 Secs) *[==>1193.0 Secs (Split 1)]* *[==>1147.0 Secs (Split 2)]* *[==>1414.0 Secs (Split 3)]* *[==>1462.0 Secs (Split 4)]*	 ***[1]*** ***[2]***


Orbit Structure
Orbit 1
Server Version: 20160129
GS Acq
Pointing Maneuver
Occultation
Exp. 1
Exp. 2, split 1
Exp. 2, split 2
*** ORBITAL VISIBILITY OVERRUN = 78
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20160129
Occultation
GS Reacq
Unused Orbital Visibility = 0
Exp. 2, split 3
Exp. 2, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14120, 1158-52668-068 (03), implementation Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1158-52668-068 (03)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1158-52668-068 exposure 1 (03.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

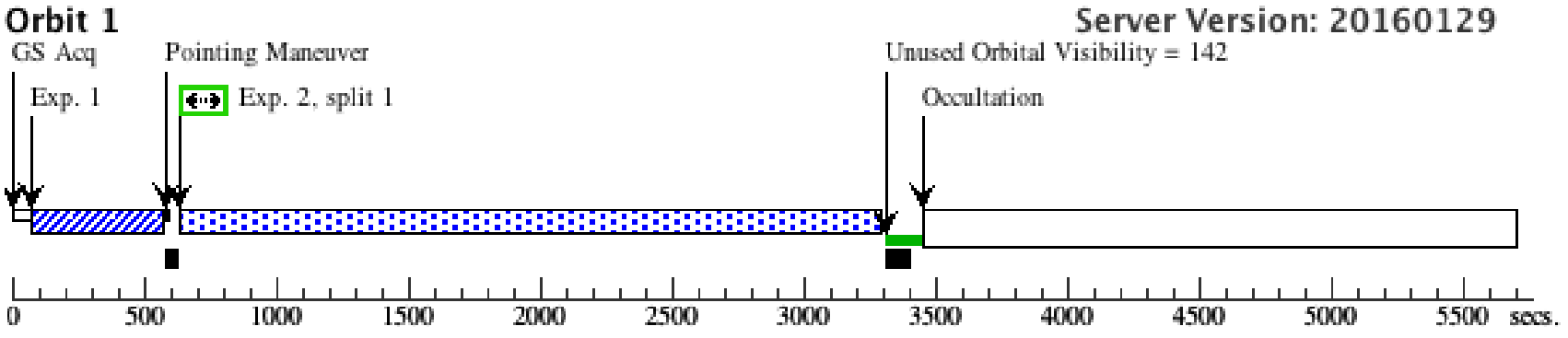
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	1158-52668-062 Alt Name1: MRK1486	RA: 13 59 50.9180 (209.9621583d) Dec: +57 26 22.98 (57.43972d) Equinox: J2000	Redshift: 0.0338	V=16.50+/-0.02 FUV=16.73 NUV=16.78 F(1640)=2.7E-15erg/s/cm^2	Reference Frame: ICRS

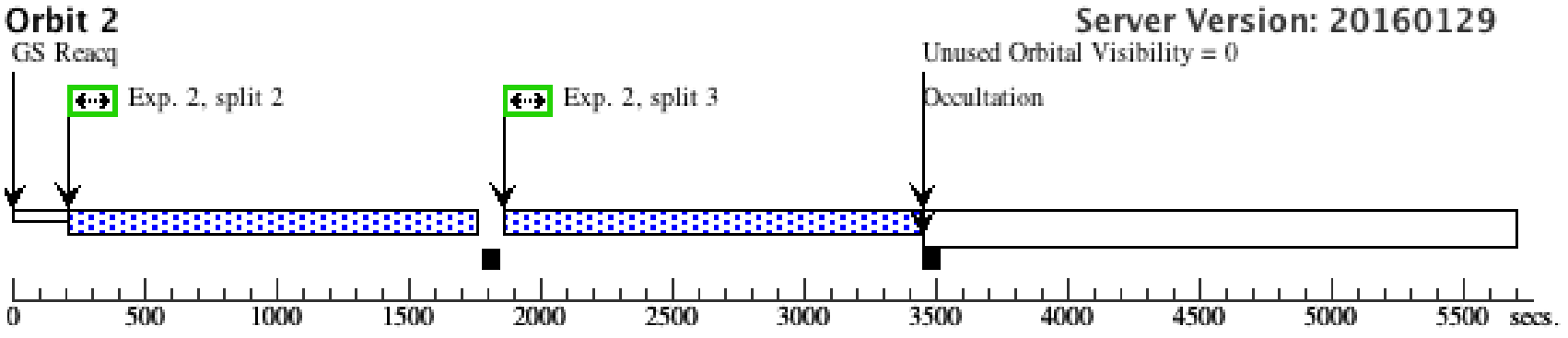
Comments: The object fails BOT but is a clearly resolved galaxy.
Extended=YES

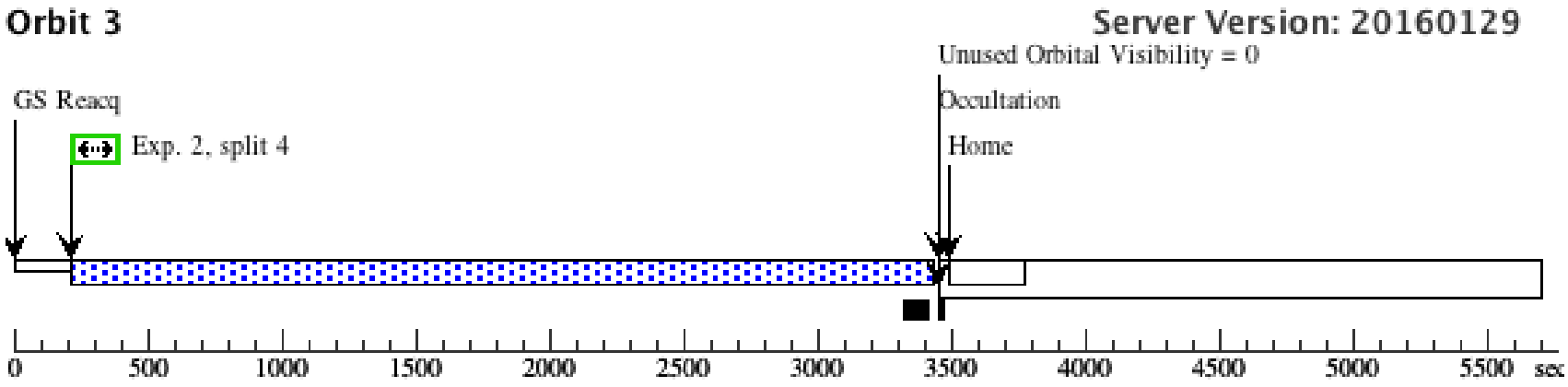
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1158-52668-068 Acquisition (810793)	(3) 1158-52668-062	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				88.5 Secs (88.5 Secs) *[==>]*	*[1]*
Comments: This has HST WFC3 imaging and the exposure time is calculated on the basis of photometry of the brightest of the three clumps within the COS aperture (which has 18.6 in F336W).									
2	1158-52668-068 exposure 1 (731563)	(3) 1158-52668-062	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=ALL; FLASH=YES; BUFFER-TIME=3070			2017 Secs (8647 Secs) *[==>2450.0 Secs (Split 1)]* *[==>1499.0 Secs (Split 2)]* *[==>1528.0 Secs (Split 3)]* *[==>3170.0 Secs (Split 4)]*	*[1]* *[2]* *[3]*

Orbit Structure







Visit

Proposal 14120, 1725-54668-062 (04), scheduled Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1725-54668-062 (04)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1725-54668-062 exposure 1 (04.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

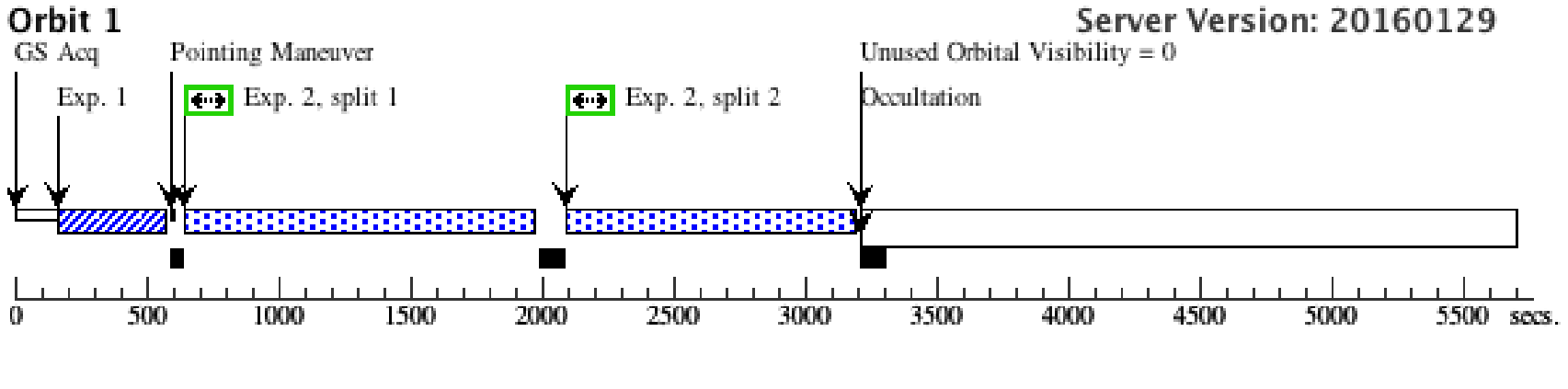
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	1725-54266-068	RA: 15 45 43.5535 (236.4314729d) Dec: +08 58 1.35 (8.96704d) Equinox: J2000	Redshift: 0.0377	V=17.37+/-0.02 FUV=17.99 NUV=17.81 F(1640)=4.8E-15erg/s/cm^2	Reference Frame: ICRS

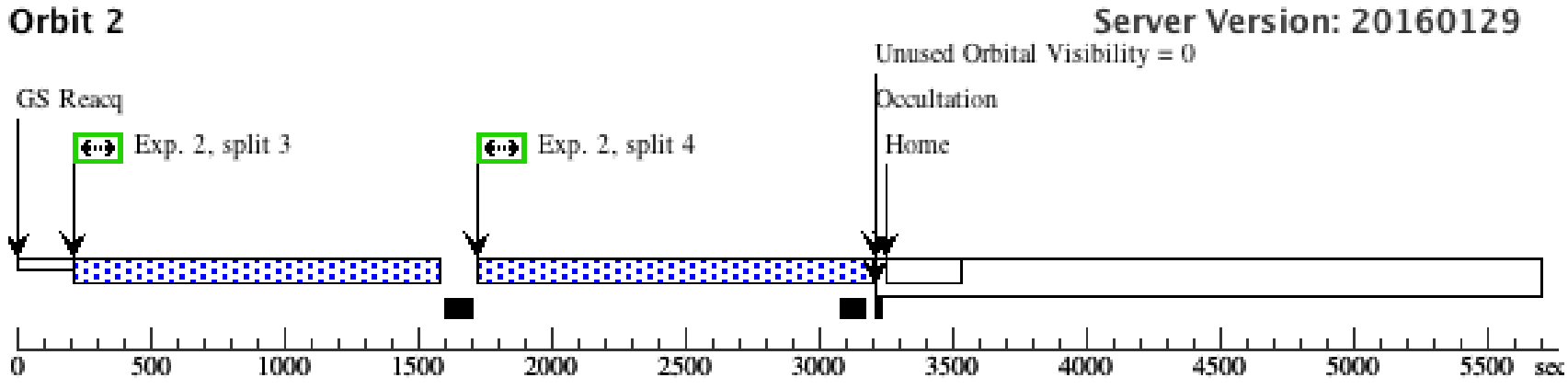
Comments: Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1725-54668-062 Acquisition (733695)	(4) 1725-54266-068	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				93 Secs (93 Secs) *[==>]*	 ***[1]***
2	1725-54668-062 exposure 1 (731564)	(4) 1725-54266-068	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FLASH=YES; FP-POS=ALL; BUFFER-TIME=1325			1321 Secs (4915 Secs) *[==>1121.0 Secs (Split 1)]* *[==>1048.0 Secs (Split 2)]* *[==>(Split 3)]* *[==>1425.0 Secs (Split 4)]*	 ***[1]*** ***[2]***

Orbit Structure





Visit

Proposal 14120, 1070-52591-072 - visit 1 (05), completed Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: ORIENT 90D TO 200 D

Comments: The flux density in a 3" aperture at the location of the BOA is 10^-16 erg/s/cm^2/AA. The corresponding flux density per arcsec^2 is 2.1e-17 erg/s/cm^2/AA/arcsec^2 (these are nominal fluxes assuming the background is zero). The flux within a BOA aperture over the spur sticking into the BOT wedge reaches 6.9e-16 at the brightest region.

Diagnostics

(1070-52591-072 - visit 1 (05)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1070-52591-072 - exposure 1 (05.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

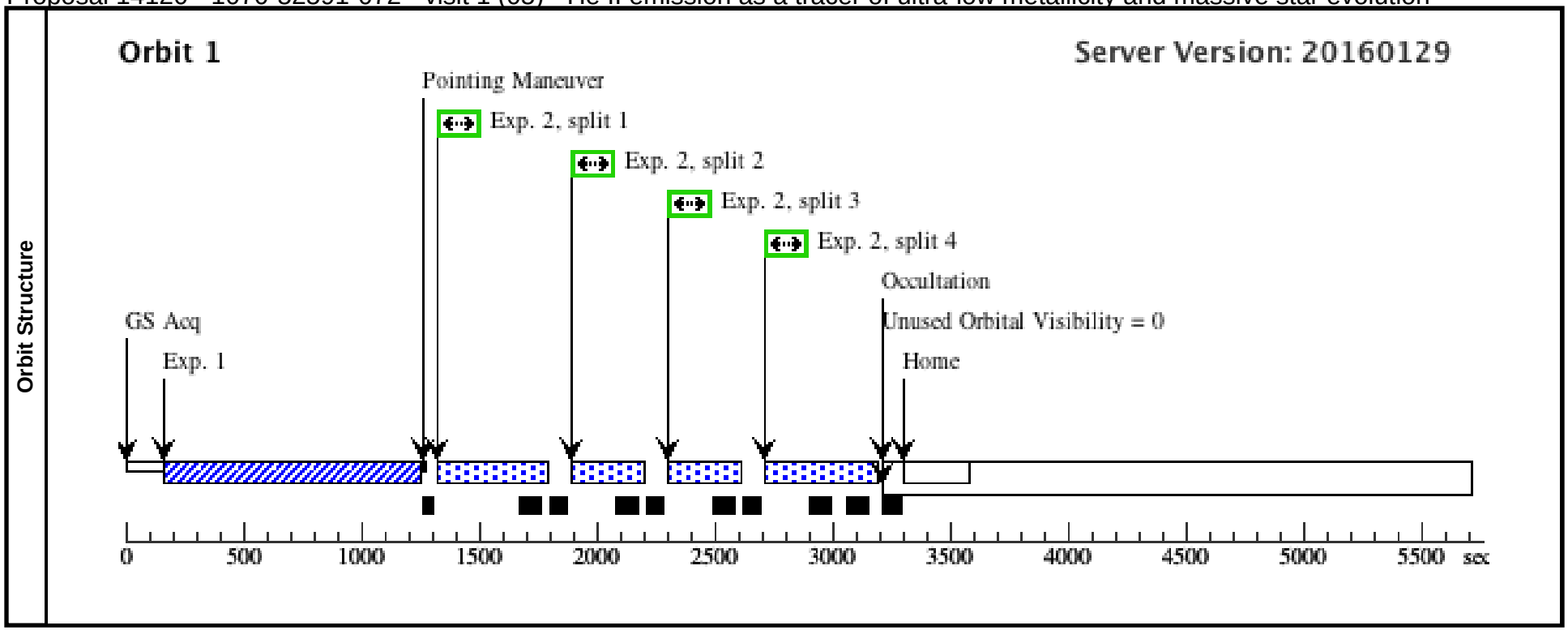
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	1070-52591-072 Alt Name1: M77	RA: 02 42 39.8639 (40.6660996d) Dec: -00 00 58.64 (-.01629d) Equinox: J2000	Redshift: 0.0042	V=16.95+/-0.13 FUV=15.81 NUV=N/A F(1640) =1.6E-15erg/s/cm^2	Reference Frame: ICRS

Comments: There is a BOT warning for this object. I have modified the orientation limits to avoid the bright galaxy.

The flux density in a 3" aperture at the location of the BOA is 10^-16 erg/s/cm^2/AA. The corresponding flux density per arcsec^2 is 2.1e-17 erg/s/cm^2/AA/arcsec^2 (these are nominal fluxes assuming the background is zero). The brightest flux within a BOA aperture within the secondary search area is 6.9e-16 cgs.
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1070-52591-072 acquisition - visit1 (733687)	(5) 1070-52591-072	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				430 Secs (430 Secs) *[==>]*	*[1]*
Comments: This is the first visit for this object - the target area is very confused so acquisition might be challenging - the observation is therefore split in two visits									
2	1070-52591-072 - exposure 1 (733710)	(5) 1070-52591-072	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=158; FLASH=YES; FP-POS=ALL			312 Secs (1205 Secs) *[==>258.0 Secs (Split 1)]* *[==>258.0 Secs (Split 2)]* *[==>258.0 Secs (Split 3)]* *[==>431.0 Secs (Split 4)]*	*[1]*


Orbit Structure
Orbit 1
Server Version: 20160129
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Exp. 2, split 3
Exp. 2, split 4
Occultation
Unused Orbital Visibility = 0
GS Acq
Exp. 1
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14120, 1070-52591-072 - visit 2 (06), scheduling Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SAME ORIENT AS 05

Comments: The flux density in a 3" aperture at the location of the BOA is 10^-16 erg/s/cm^2/AA. The corresponding flux density per arcsec^2 is 2.1e-17 erg/s/cm^2/AA/arcsec^2 (these are nominal fluxes assuming the background is zero). The flux within a BOA aperture over the spur sticking into the BOT wedge reaches 6.9e-16 at the brightest region.

Diagnostics

(1070-52591-072 - visit 2 (06)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1070-52591-072 - exposure 1 - visit 2 (06.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	1070-52591-072 Alt Name1: M77	RA: 02 42 39.8639 (40.6660996d) Dec: -00 00 58.64 (-.01629d) Equinox: J2000	Redshift: 0.0042	V=16.95+/-0.13 FUV=15.81 NUV=N/A F(1640) =1.6E-15erg/s/cm^2	Reference Frame: ICRS

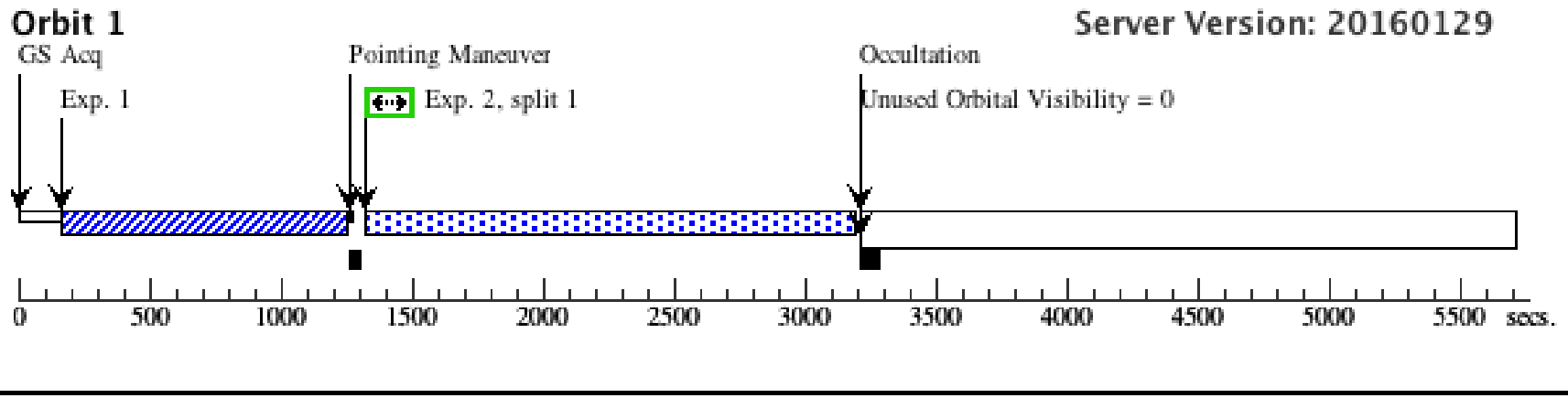
Comments: There is a BOT warning for this object. I have modified the orientation limits to avoid the bright galaxy.

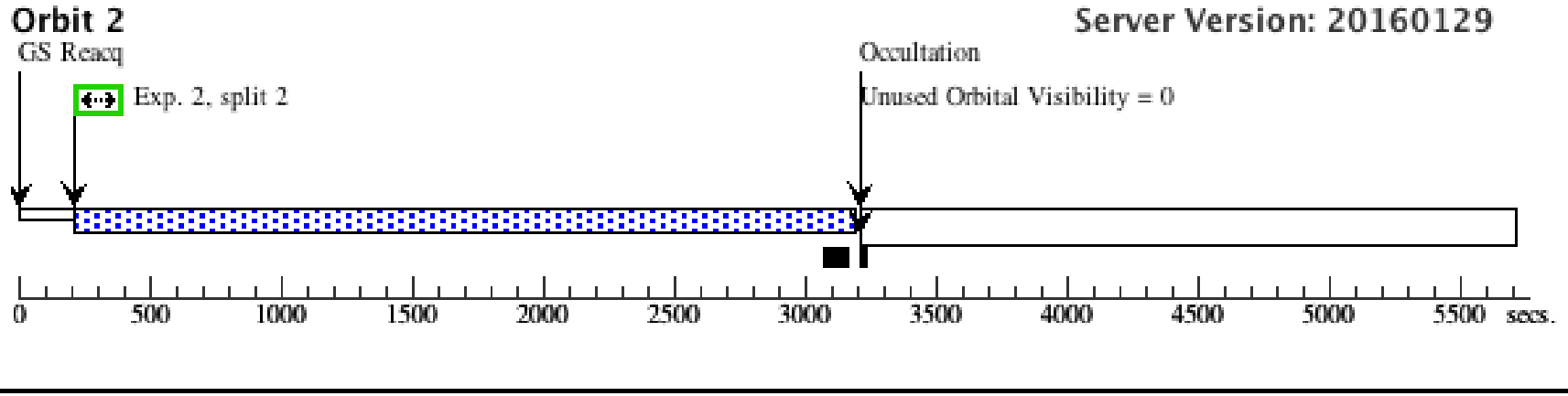
The flux density in a 3" aperture at the location of the BOA is 10^-16 erg/s/cm^2/AA. The corresponding flux density per arcsec^2 is 2.1e-17 erg/s/cm^2/AA/arcsec^2 (these are nominal fluxes assuming the background is zero). The brightest flux within a BOA aperture within the secondary search area is 6.9e-16 cgs.
Extended=YES

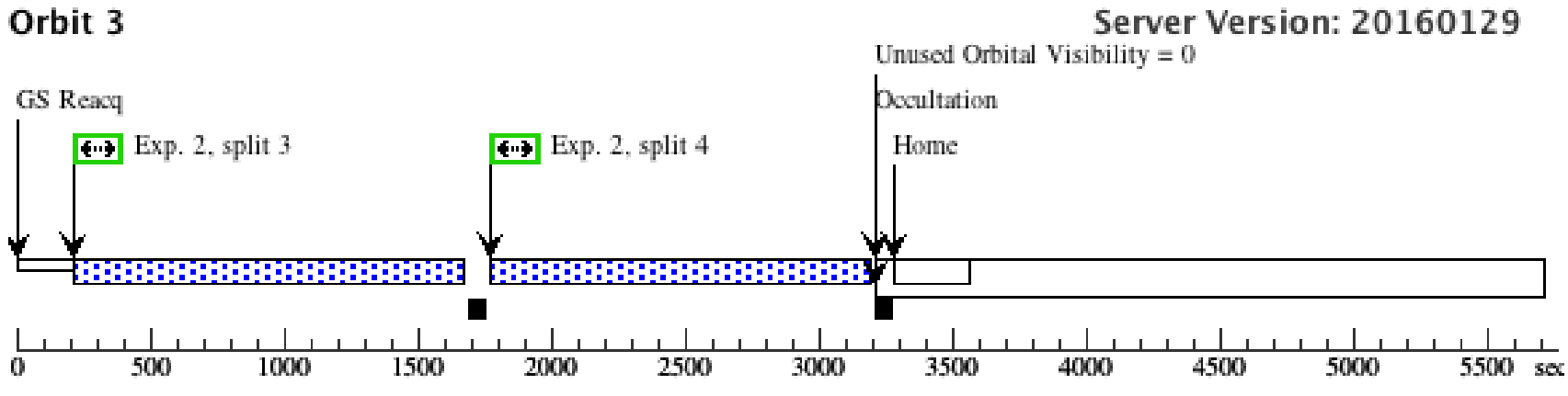
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1070-52591-072 acquisition - visit1 (733687)	(5) 1070-52591-072	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				430 Secs (430 Secs) *[==>]*	 ***[1]***
Comments: This is the first visit for this object - the target area is very confused so acquisition might be challenging - the observation is therefore split in two visits									
2	1070-52591-072 - exposure 1 - visit 2 (733710)	(5) 1070-52591-072	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2823; FLASH=YES; FP-POS=ALL			1533.5 Secs (7368 Secs) *[==>1663.5 Secs (Split 1)]* *[==>2923.5 Secs (Split 2)]* *[==>1409.0 Secs (Split 3)]* *[==>1372.0 Secs (Split 4)]*	 ***[1]*** ***[2]*** ***[3]***

Orbit Structure







Visit

Proposal 14120, 1323-52797-002 (07), implementation Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1323-52797-002 (07)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1323-52797-002 exposure 1 (07.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

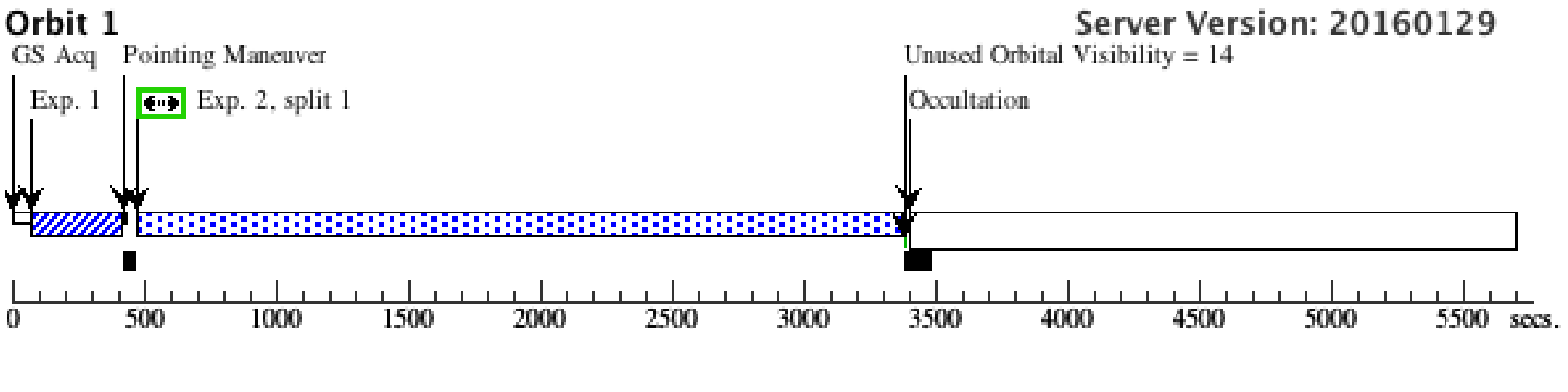
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	1323-52797-002	RA: 14 03 1.1682 (210.7548675d) Dec: +54 14 29.40 (54.24150d) Equinox: J2000	Redshift: 0.0006	V=14.84+/-0.03 FUV=14.86 NUV=14.72 F(1640)=2.3E-15erg/s/cm^2	Reference Frame: ICRS

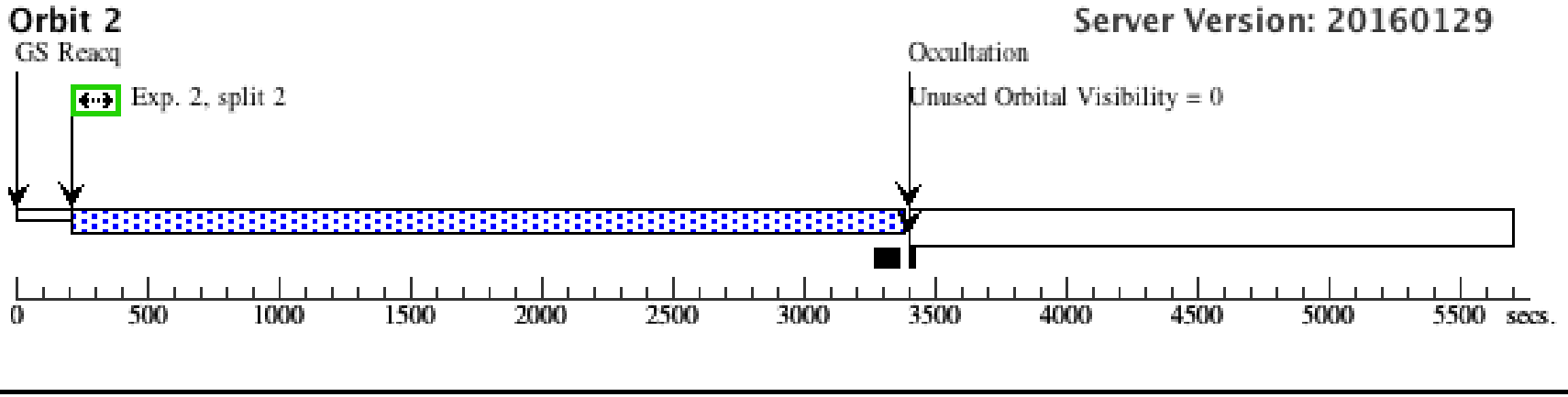
Comments: The object gives a BOT warning for NUV acquisition but it is a clearly resolved galaxy. There are existing HST images of the field which confirms that this is an extended object. Extended=YES

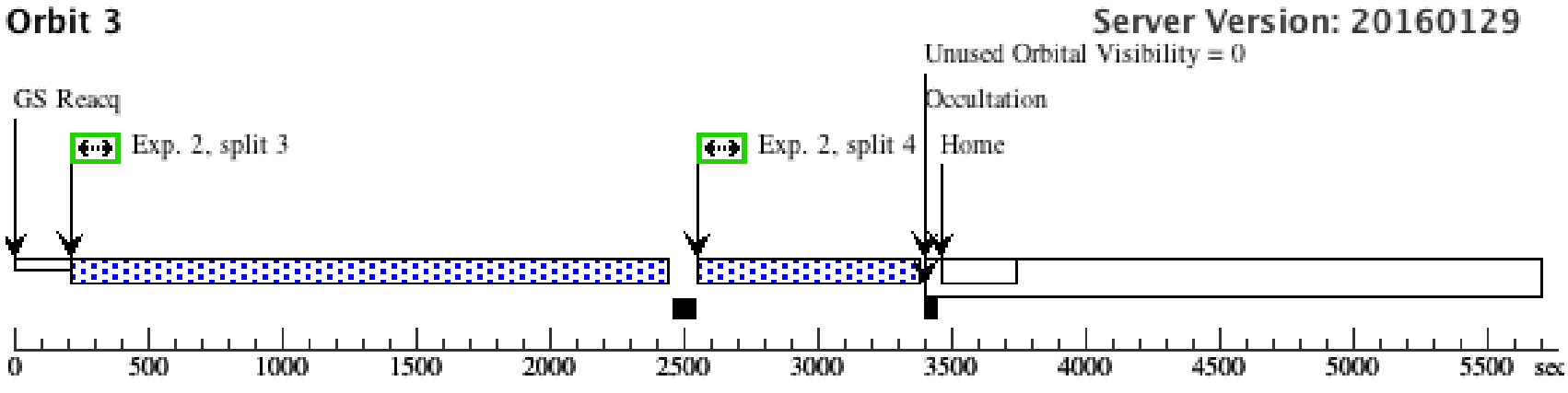
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1323-52797-002 acquisition (810794)	(6) 1323-52797-002	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				8 Secs (8 Secs) *[==>]*	*[1]*
Comments: This is almost certainly extended based on a poor WFPC-2 image but to be conservative I have assumed a point source and this would have u=16.1 and the exposure time is based on that + SED of O3 star .									
2	1323-52797-002 exposure 1 (731566)	(6) 1323-52797-002	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=3017; FLASH=YES; FP-POS=ALL			2262 Secs (8759 Secs) *[==>2687.0 Secs (Split 1)]* *[==>3117.0 Secs (Split 2)]* *[==>2176.0 Secs (Split 3)]* *[==>779.0 Secs (Split 4)]*	*[1]* *[2]* *[3]*

Orbit Structure







Visit

Proposal 14120, 0955-52409-608 (08), scheduled Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(0955-52409-608 (08)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(0955-52409-608 exposure 1 (08.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

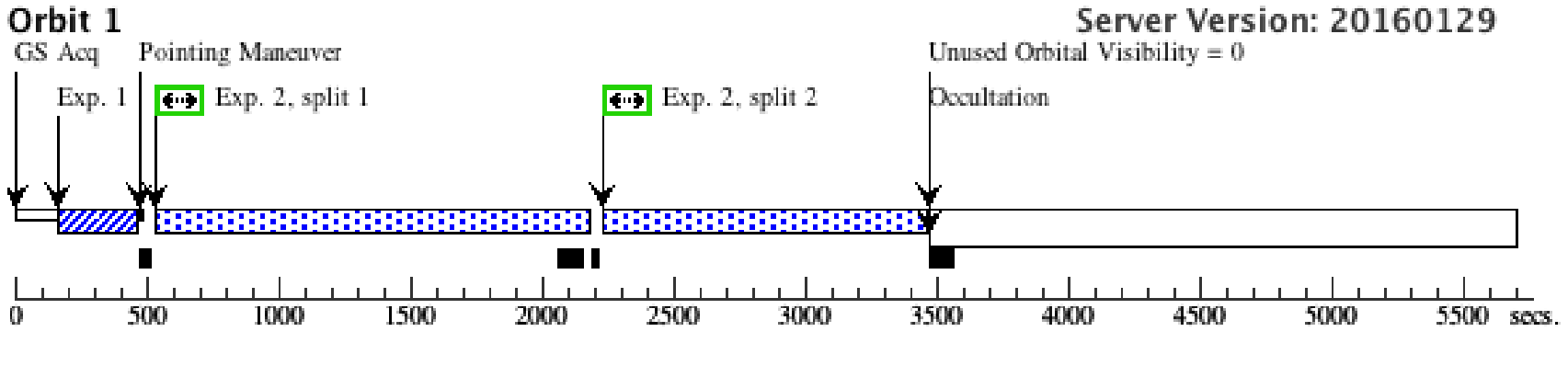
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	0955-52409-608 Alt Name1: SBS1222+614	RA: 12 25 5.4126 (186.2725525d) Dec: +61 09 11.29 (61.15314d) Equinox: J2000	Redshift: 0.0023	V=14.70+/-0.06 FUV=16.17 NUV=15.91 F(1640)=6.1E-15erg/s/cm^2	Reference Frame: ICRS

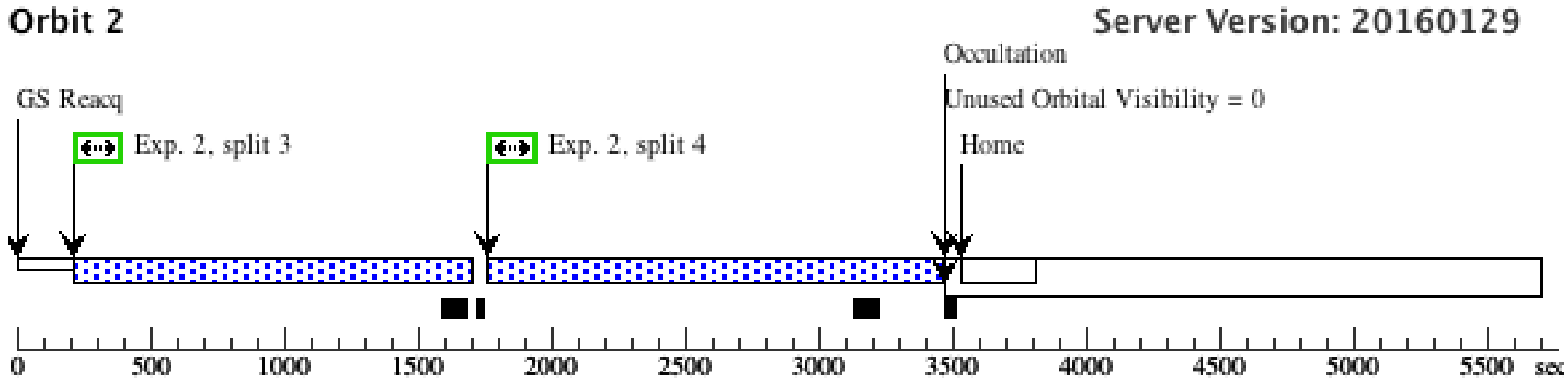
Comments: The BOT tool gives a health warning for the acquisition of this object but this is a resolved object, not a star. Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	0955-52409-608 acquisition (733694)	(7) 0955-52409-608	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				37 Secs (37 Secs) *[==>]*	 ***[1]***
2	0955-52409-608 exposure 1 (731567)	(7) 0955-52409-608	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=1336; FLASH=YES; FP-POS=ALL			1435.5 Secs (5698 Secs) *[==>(Split 1)]* *[==>1176.5 Secs (Split 2)]* *[==>(Split 3)]* *[==>1650.5 Secs (Split 4)]*	 ***[1]*** ***[2]***

Orbit Structure





Visit

Proposal 14120, 1991-53446-584 (09), implementation Thu Apr 14 01:03:17 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1991-53446-584 (09)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1991-53446-584 exposure 1 (09.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

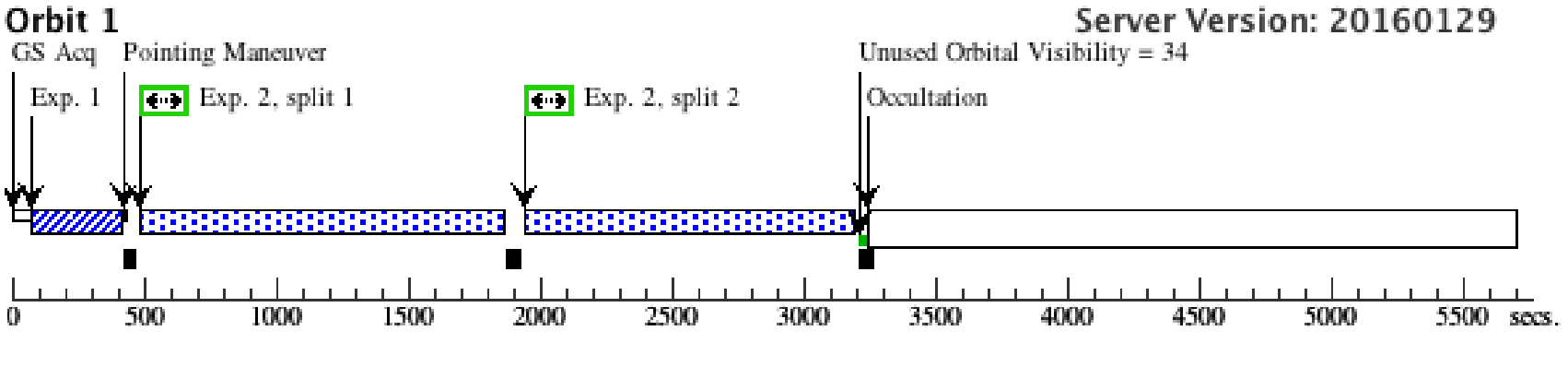
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	1991-53446-584 Alt Name1: NGC3991N	RA: 11 57 31.7322 (179.3822175d) Dec: +32 20 30.17 (32.34171d) Equinox: J2000	Redshift: 0.0110	V=14.89+/-0.04 FUV=14.65 NUV=14.55 F(1640)=3.7E-15erg/s/cm^2	Reference Frame: ICRS

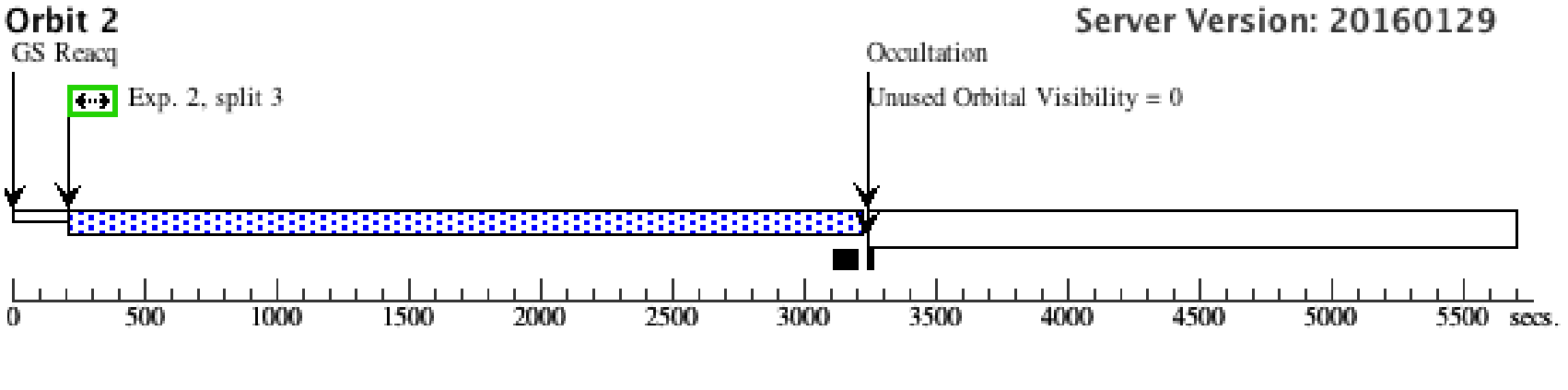
Comments: Extended=YES

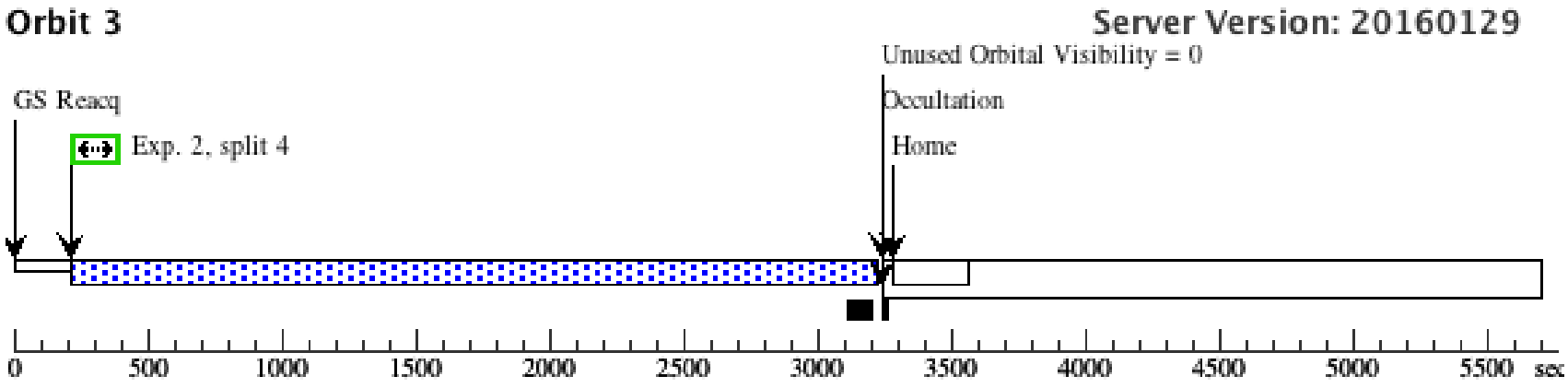
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1991-53446-584 acquisition (810796)	(8) 1991-53446-584	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				11 Secs (11 Secs)	
								[==>]	***[1]***
Comments: This has no space imaging but is likely also extended. However the exposure time is based on assuming a point source of u=16.4 (O3 star).									
2	1991-53446-584 exposure 1 (731568)	(8) 1991-53446-584	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2858; FLASH=YES; FP-POS=ALL			1609.1 Secs (8285.2 Secs)	
								[==>1170.0 Secs (Split 1)] *[==>1199.0 Secs (Split 2)]*	***[1]***
								[==>2958.1 Secs (Split 3)]	***[2]***
								[==>2958.1 Secs (Split 4)]	***[3]***

Orbit Structure







Visit

Proposal 14120, 1363-53053-510 (10), implementation Thu Apr 14 01:03:18 GMT 2016

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(1363-53053-510 (10)) Warning (Form): If the target coordinates are not known to 0.4" (or better), an ACQ/SEARCH should precede the ACQ/IMAGE.

(1363-53053-510 exposure 1 (10.002)) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See the proposal instructions for more details.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	1363-53053-510 Alt Name1: MRK0162	RA: 11 05 8.1189 (166.2838287d) Dec: +44 44 47.24 (44.74646d) Equinox: J2000	Redshift: 0.0215	V=14.88+/-0.01 FUV=15.82 NUV=15.72 F(1640)=3.3E-15erg/s/cm^2	Reference Frame: ICRS

Comments: The BOT gives an indication of health and safety problem on the source but the source is a clearly resolved galaxy thus this appears to be inaccurate. Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	1363-53053-510 acquisition (810797)	(9) 1363-53053-510	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				20 Secs (20 Secs)	
								[==>]	***[1]***
Comments: No (useful) space imaging. Assuming a point source of u=17.1 gives the exposure time given									
2	1363-53053-510 exposure 1 (731569)	(9) 1363-53053-510	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=2921; FLASH=YES; FP-POS=ALL			1735 Secs (8461 Secs)	
								[==>1168.0 Secs (Split 1)] *[==>1251.0 Secs (Split 2)]*	***[1]***
								[==>3021.0 Secs (Split 3)]	***[2]***
								[==>3021.0 Secs (Split 4)]	***[3]***

Orbit Structure