12601 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Cycle: 19, 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) URANUS	ACS/SBC	1	23-Nov-2011 21:03:51.0	yes
02	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:03:57.0	yes
17	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:01.0	yes
03	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:05.0	yes
04	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:08.0	yes
05	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:11.0	yes
06	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:15.0	yes
07	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:18.0	yes
08	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:22.0	yes
09	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:25.0	yes
10	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:28.0	yes
18	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:32.0	yes
11	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:37.0	yes
12	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:40.0	yes
13	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:43.0	yes
14	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:47.0	yes
19	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:51.0	yes
15	(1) URANUS	ACS/SBC	1	23-Nov-2011 21:04:54.0	yes
16	(1) URANUS	STIS/FUV-MAMA	1	23-Nov-2011 21:04:57.0	yes

19 Total Orbits Used

ABSTRACT

The UV aurorae of Uranus, suspected in IUE observations (1982-1986), were only unambiguously identified during the Voyager 2 flyby (1986). Their peculiar properties relate to the atypical magnetosphere of Uranus, which is characteristic of ice giants. In contrast with the solstice

configuration prevailing in the 1980s, that only allowed the northern magnetic pole to be visible from Earth, the situation is now radically different and near-equinoctial conditions allow views of both northern (N) and southern (S) poles transiting across the visible disc, implying a dynamic magnetospheric configuration that has never been studied. We therefore propose to re-attempt to observe the UV aurorae of Uranus with HST spectroscopic (STIS) and imaging (ACS) measurements. We will maximize the probability of detection by scheduling observations of Uranus during a solar wind shock interaction, known to activate auroral activity at other planets. Observations will be distributed over 14 days, centered on the predicted arrival time, and sampling all longitudes. They will characterize the UV aurorae, determine their brightness (and infer the energy of precipitating electrons), their location and their temporal variability up to half a solar rotation. Importantly, it will also permit us to retrieve the rotational phase of the planet and update the rotation period (17.24h). Observations during an interplanetary shock and comparisons with Voyager 2 and previous unsucessful HST observations will finally provide the first insights into the sun/magnetosphere interaction, and highlight its difference with the interaction at the other known magnetospheres.

OBSERVING DESCRIPTION

Uranus will be observed through a sequence of 16 HST orbits distributed along 14 days (half a solar rotation), scheduled just after Uranus opposition (26 Sept. 2011) around the planned arrival time of an interplanetary shock. These observations will be scheduled more than 1 month in advance in the HST observing program. The arrival time of the interplanetary shock will be accurately predicted from robust MHD propagation codes.

HST orbits will be distributed 14 days with 2 groups of orbits. (1) 10 orbits will scan a core window covering 7 days (9.5 Uranian periods) centered on the predicted arrival time, among which 8 orbits will be placed every ~1.2 planetary periods, and 2 orbits will be added close to the center of the interval with a spacing of ~0.3 planetary periods. (2) 6 orbits will scan 7 days out of the core window (orange), spaced by ~1.8 periods. The total sequence will thus provide a continuous sampling of a full planetary rotation and a regular coverage of all Uranian longitudes over half a solar rotation.

To take advantage of both the STIS spectroscopic capability and of the ACS SBC imaging high sensitivity, the HST orbits will be alternately dedicated to STIS measurements (images and spectra) and to ACS SBC observations (images only). If one instrument is not operating normally, observations can be done with the other one. The spectra will be acquired by STIS with the G140L gratings and large slit of 2x52 arcsec. The images will provide the spatial distribution of auroral Ly (121.6 nm) and H2 Lyman bands (115-165 nm). Images will be obtained by STIS and ACS SBC, using MAMA and F115LP (clear), as well as FSRF2 and F125LP (Ly blocker) filters. To minimize contamination by geocoronal background brightness at Ly, clear images will be taken during the portion of the orbit when HST is in shadow, and filtered images otherwise. In addition,

geocoronal contribution will be minimized by observing close to opposition.

REAL TIME JUSTIFICATION

This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

This program will be conducted in combination with other observations (see proposal).

Proposal 12601 - Visit 01 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 01, completed Thu Nov 24 02:05:02 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

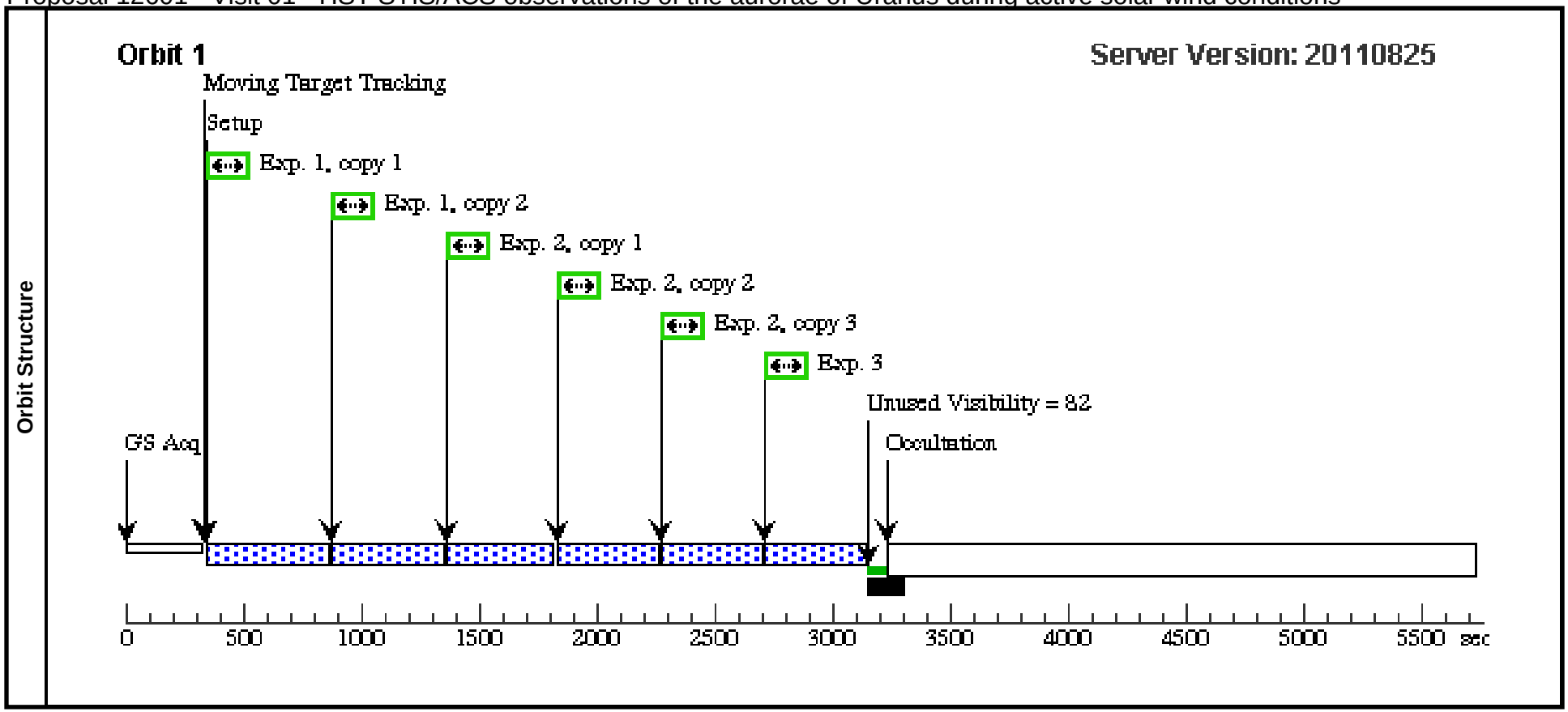
On Hold Comments: Visit 01 needs to be scheduled at t0-(6.75+/-0.15) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Setup
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
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4500
5000
5500
sec

Visit

Proposal 12601, Visit 02, failed Thu Nov 24 02:05:03 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 02 needs to be scheduled at t0-(5.55+/-0.15) days.

Diagnostics

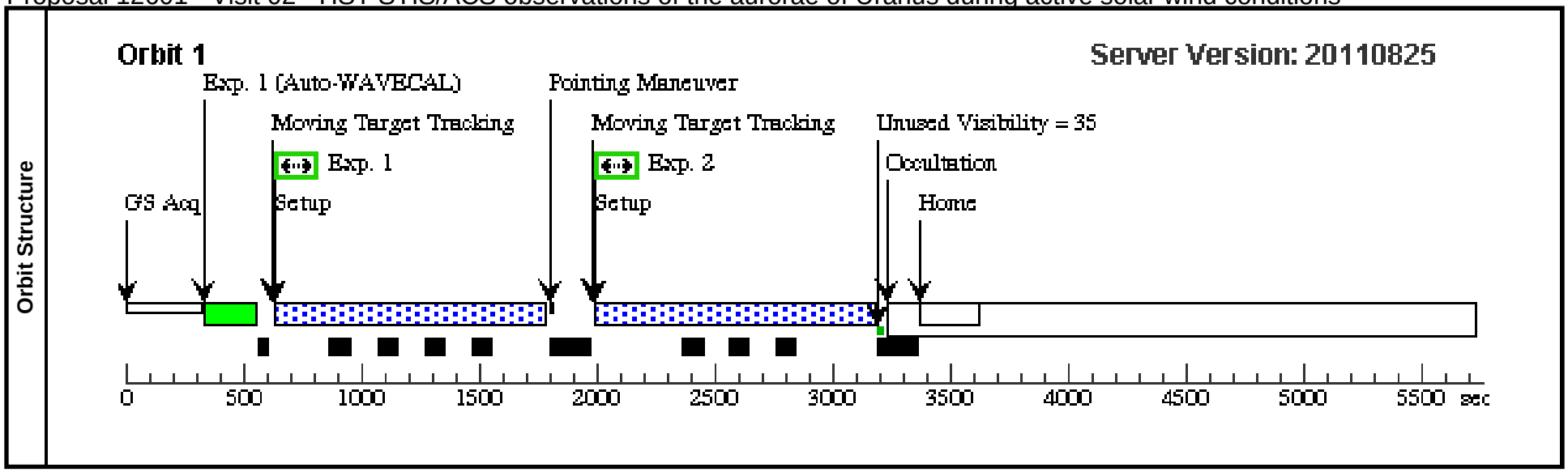
(Visit 02) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
	Comments: Expand exposure time if possible.								
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
	Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.								


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Exp. 2
Occultation
GS Acq
Setup
Setup
Home
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Visit

Proposal 12601, Visit 17, scheduled Thu Nov 24 02:05:04 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: (none)

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

Copy of visit 2. Automatic repeat

Diagnostics

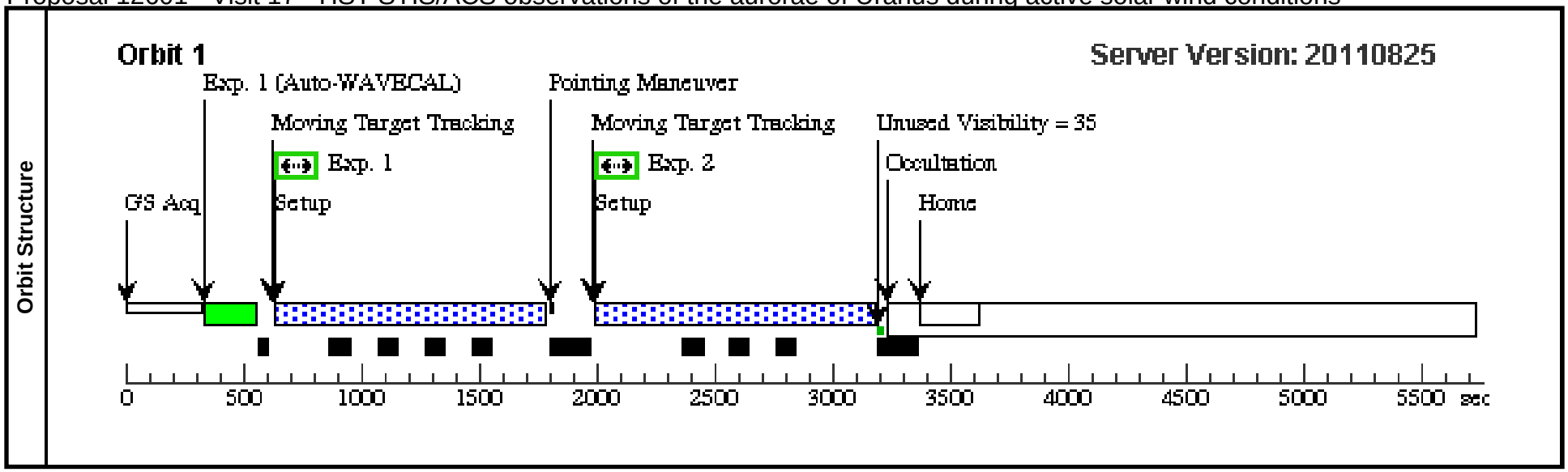
(Visit 17) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Exp. 2
Occultation
GS Acq
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Visit

Proposal 12601, Visit 03, completed Thu Nov 24 02:05:05 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

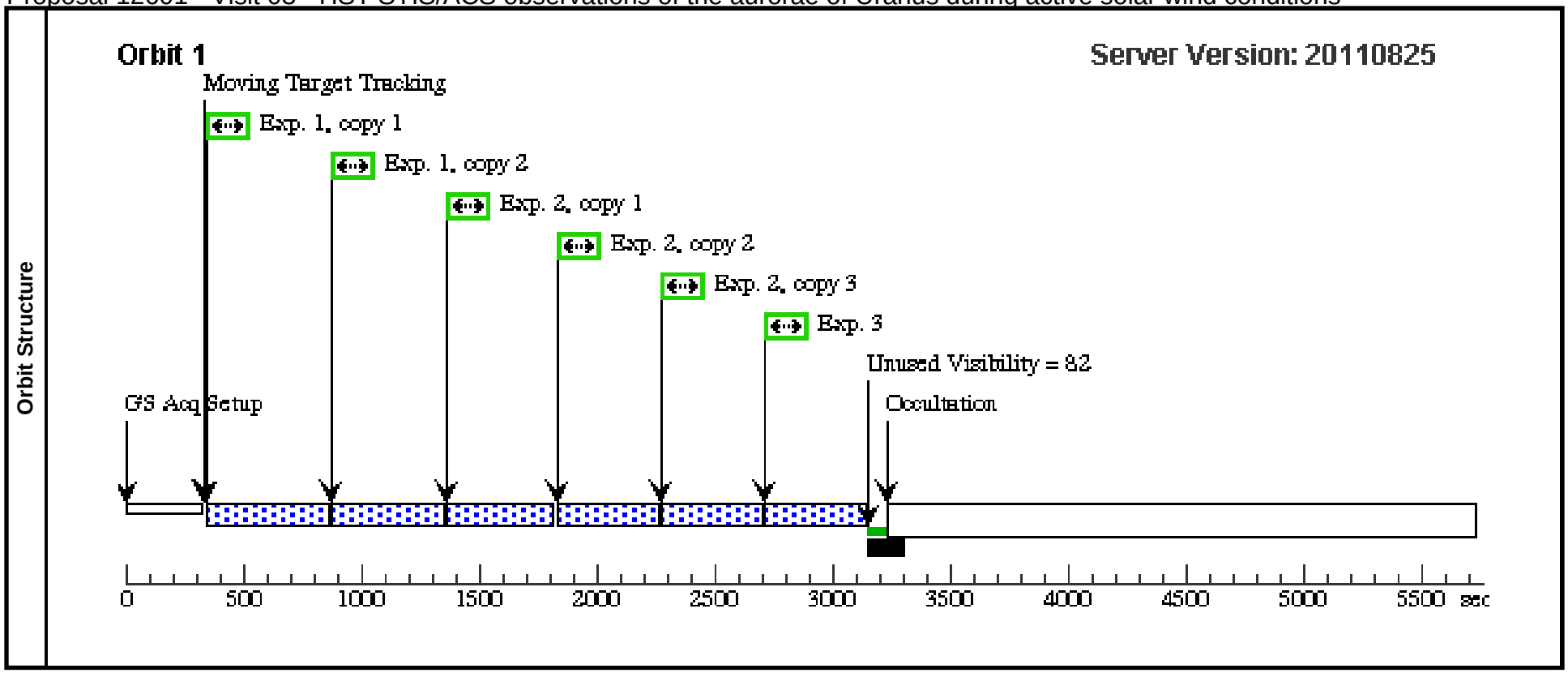
On Hold Comments: Visit 03 needs to be scheduled at t0-(4.35+/-0.15) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq Setup
Occultation
0
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Proposal 12601 - Visit 04 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 04, completed Thu Nov 24 02:05:05 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 04 needs to be scheduled at t0-(3.15+/-0.1) days.

Diagnostics

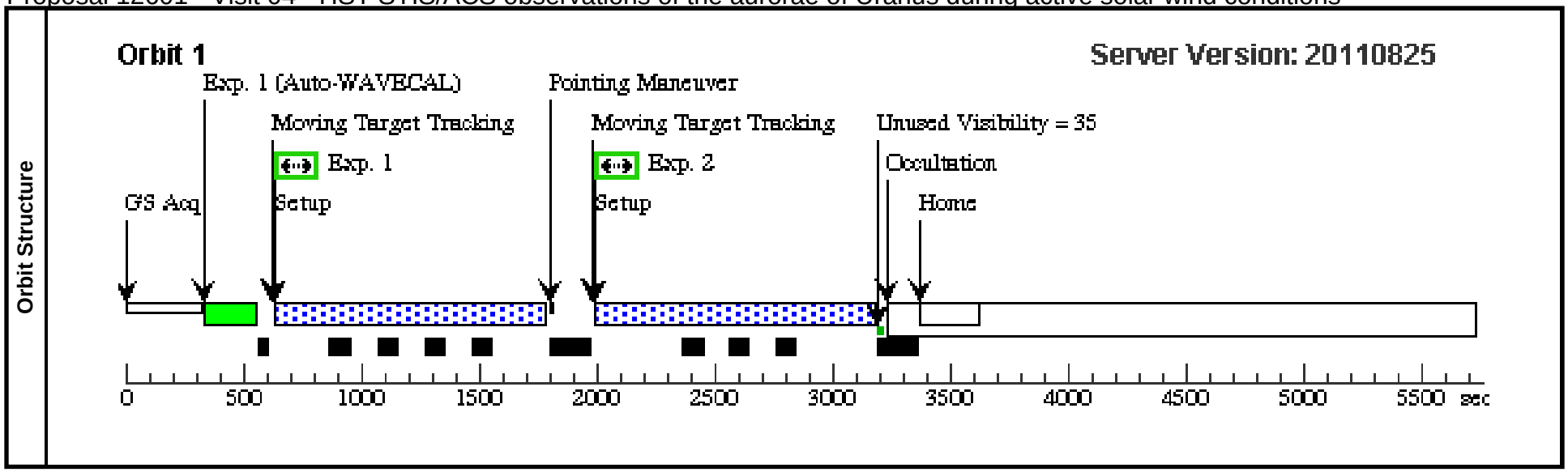
(Visit 04) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Exp. 2
Occultation
GS Acq
Setup
Setup
Home
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Visit

Proposal 12601, Visit 05, completed Thu Nov 24 02:05:06 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

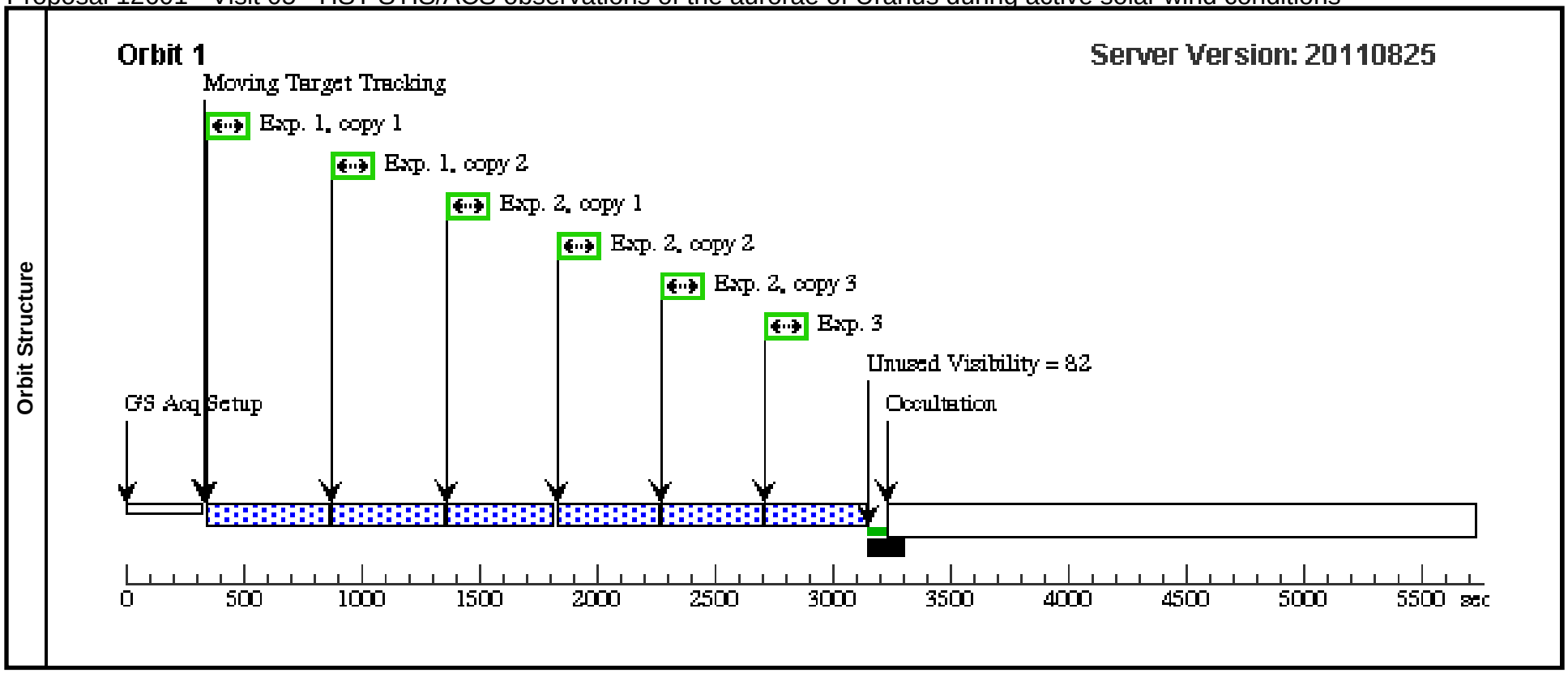
On Hold Comments: Visit 05 needs to be scheduled at t0-(2.25+/-0.1) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq Setup
Occultation
0
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Visit

Proposal 12601, Visit 06, completed Thu Nov 24 02:05:06 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 06 needs to be scheduled at t0-(1.35+/-0.1) days.

Diagnostics

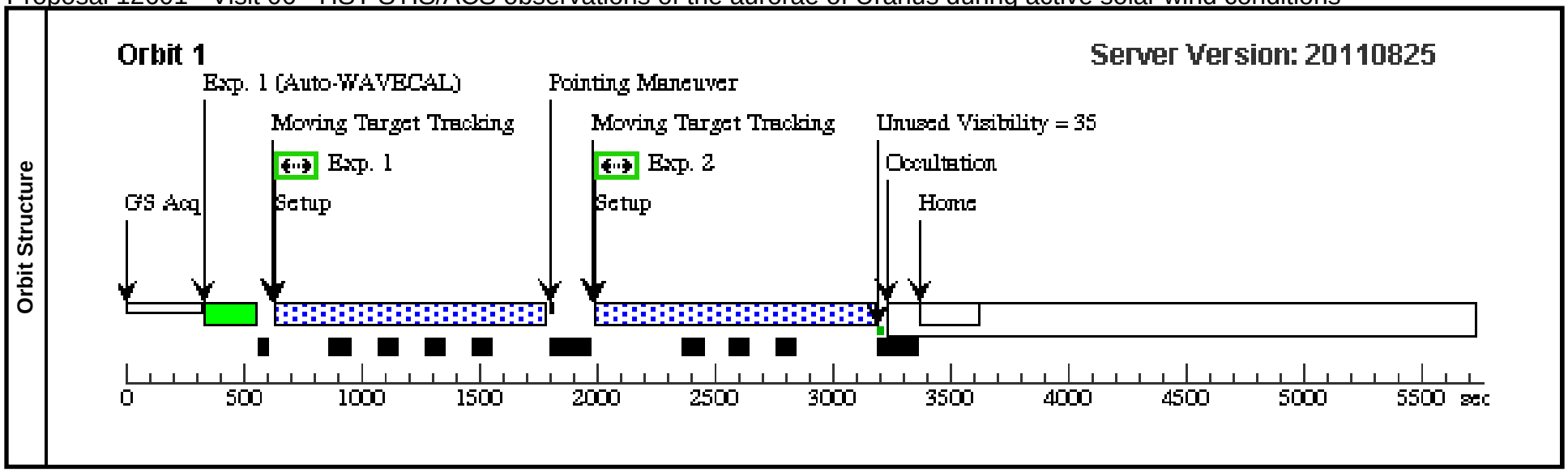
(Visit 06) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Exp. 2
Occultation
GS Acq
Setup
Setup
Home
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4500
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5500
sec

Visit

Proposal 12601, Visit 07, completed Thu Nov 24 02:05:07 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

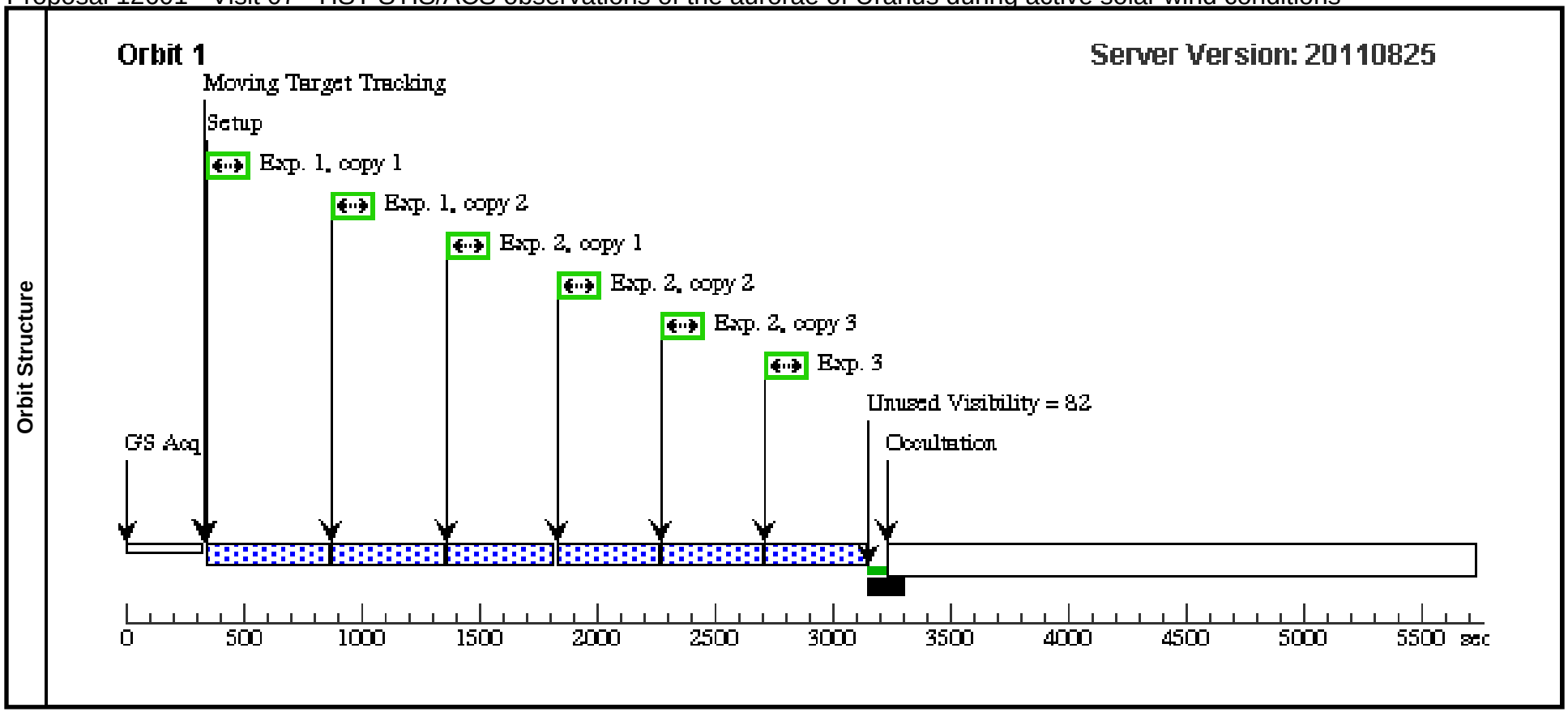
On Hold Comments: Visit 07 needs to be scheduled at t0-(0.45+/-0.1) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Setup
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 08, completed Thu Nov 24 02:05:08 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: BETWEEN 01-OCT-2011:00:00:00 AND 15-NOV-2011:00:00:00; ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 08 needs to be scheduled at t0-(0.15+/-0.05) days.

Diagnostics

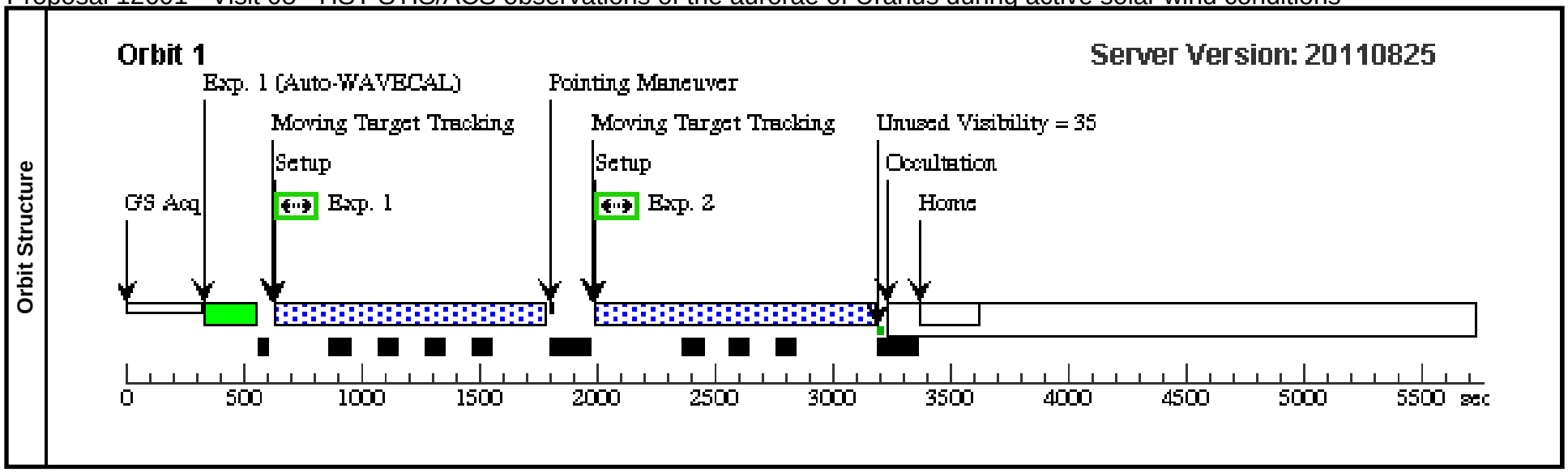
(Visit 08) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Setup
Setup
Occultation
GS Acq
Exp. 1
Exp. 2
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 09, completed Thu Nov 24 02:05:09 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

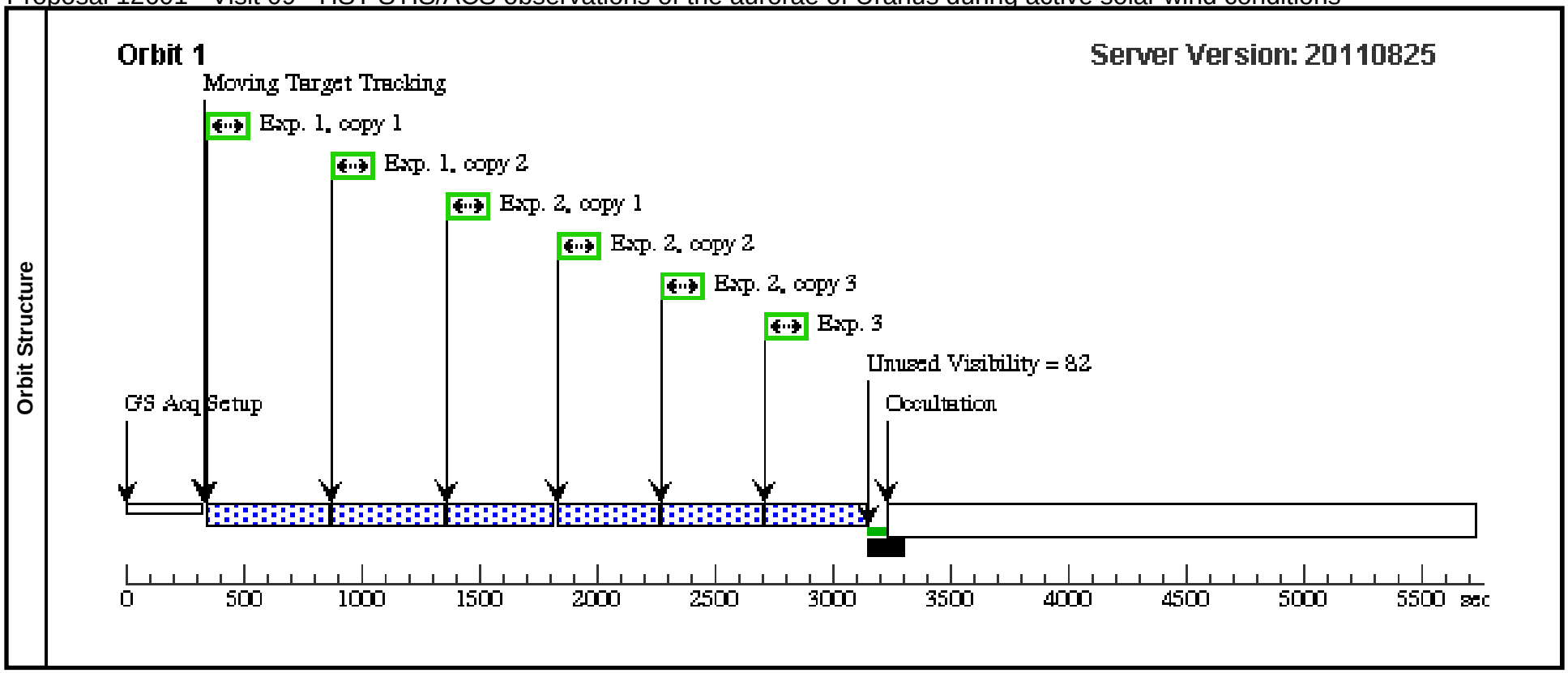
On Hold Comments: Visit 09 needs to be scheduled at t0+(0.15+/-0.05) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 10, failed Thu Nov 24 02:05:09 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 10 needs to be scheduled at t0+(0.45+/-0.1) days.

Diagnostics

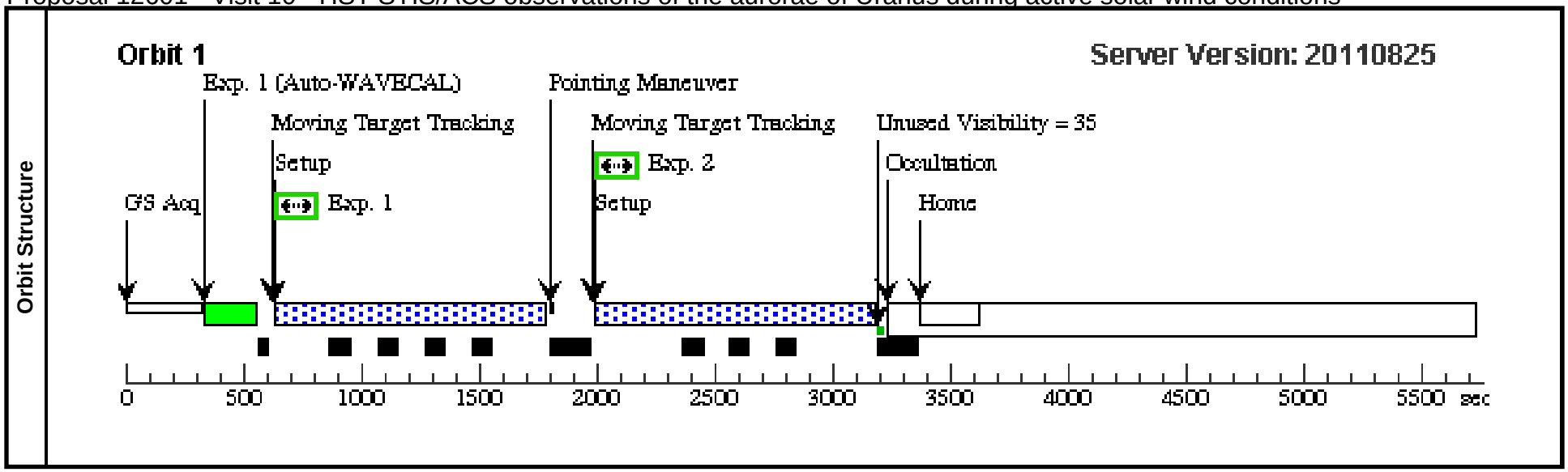
(Visit 10) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
	Comments: Expand exposure time if possible.								
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
	Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.								


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Setup
Exp. 2
Occultation
GS Acq
Exp. 1
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 18, scheduled Thu Nov 24 02:05:11 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.
copy of visit 10 to be a HOPR repeat

On Hold Comments: Visit 10 needs to be scheduled at t0+(0.45+/-0.1) days.

Diagnostics

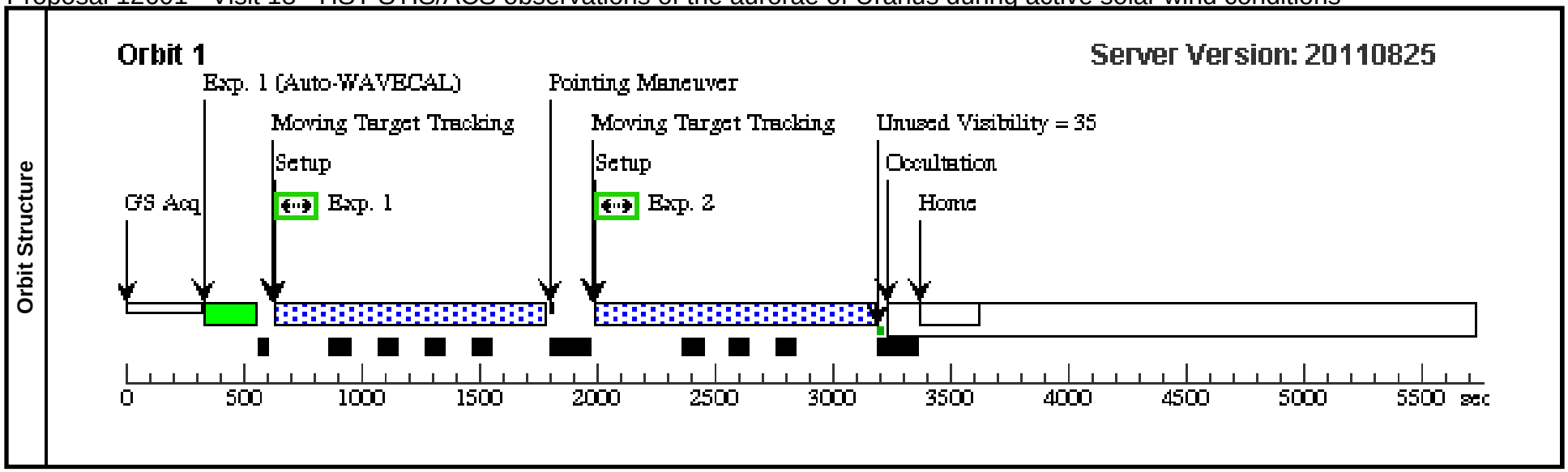
(Visit 18) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Setup
Setup
Occultation
GS Acq
Exp. 1
Exp. 2
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 12601 - Visit 11 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 11, completed Thu Nov 24 02:05:11 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

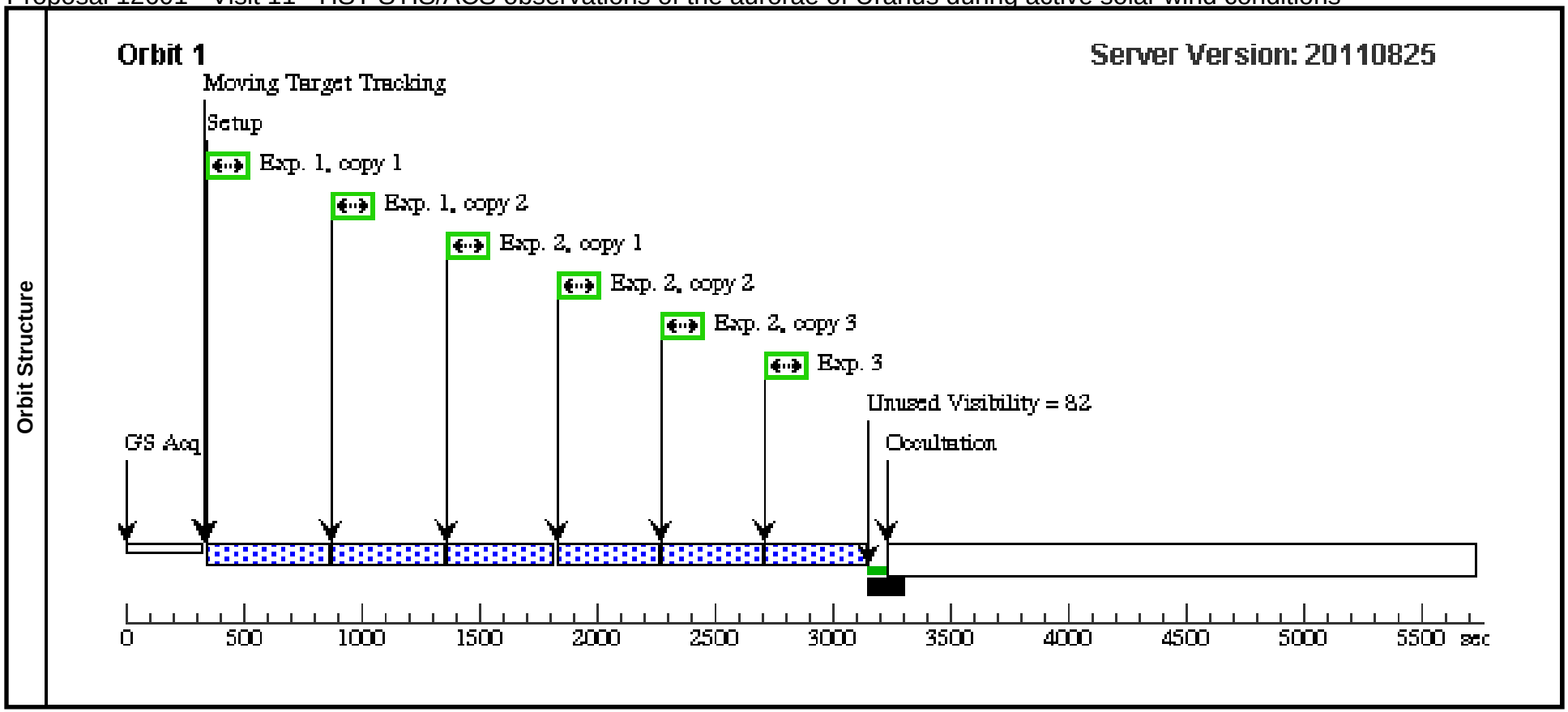
On Hold Comments: Visit 11 needs to be scheduled at t0+(1.35+/-0.1) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Setup
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 12601 - Visit 12 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 12, completed Thu Nov 24 02:05:12 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 12 needs to be scheduled at t0+(2.25+/-0.1) days.

Diagnostics

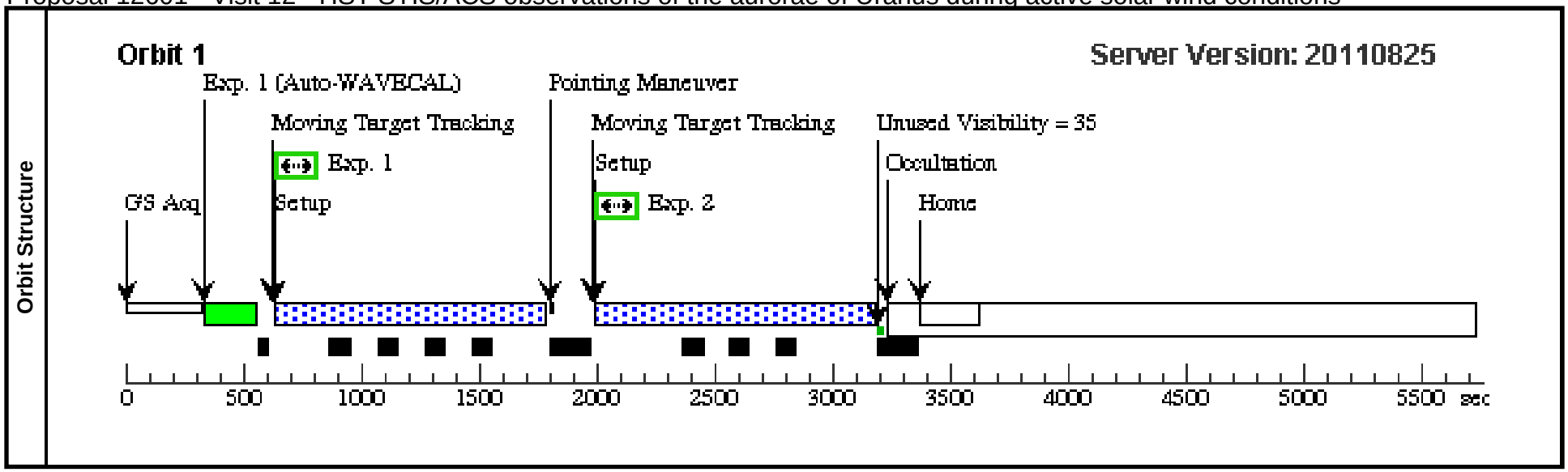
(Visit 12) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Setup
Exp. 2
Occultation
GS Acq
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 12601 - Visit 13 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 13, completed Thu Nov 24 02:05:12 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

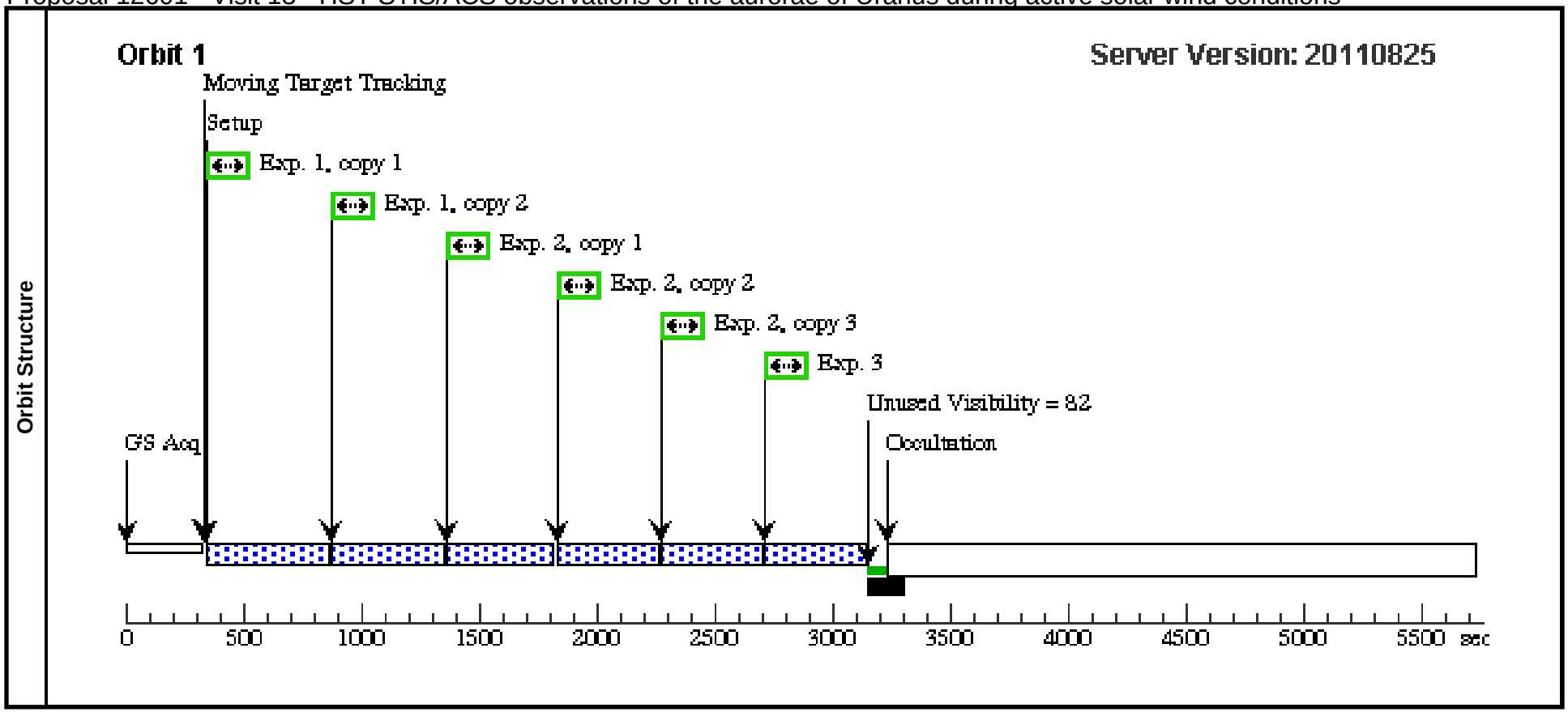
On Hold Comments: Visit 13 needs to be scheduled at t0+(3.15+/-0.1) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Setup
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Proposal 12601 - Visit 14 - HST STIS/ACS observations of the aurorae of Uranus during active solar wind conditions

Visit

Proposal 12601, Visit 14, failed Thu Nov 24 02:05:13 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 14 needs to be scheduled at t0+(4.35+/-0.15) days.

Diagnostics

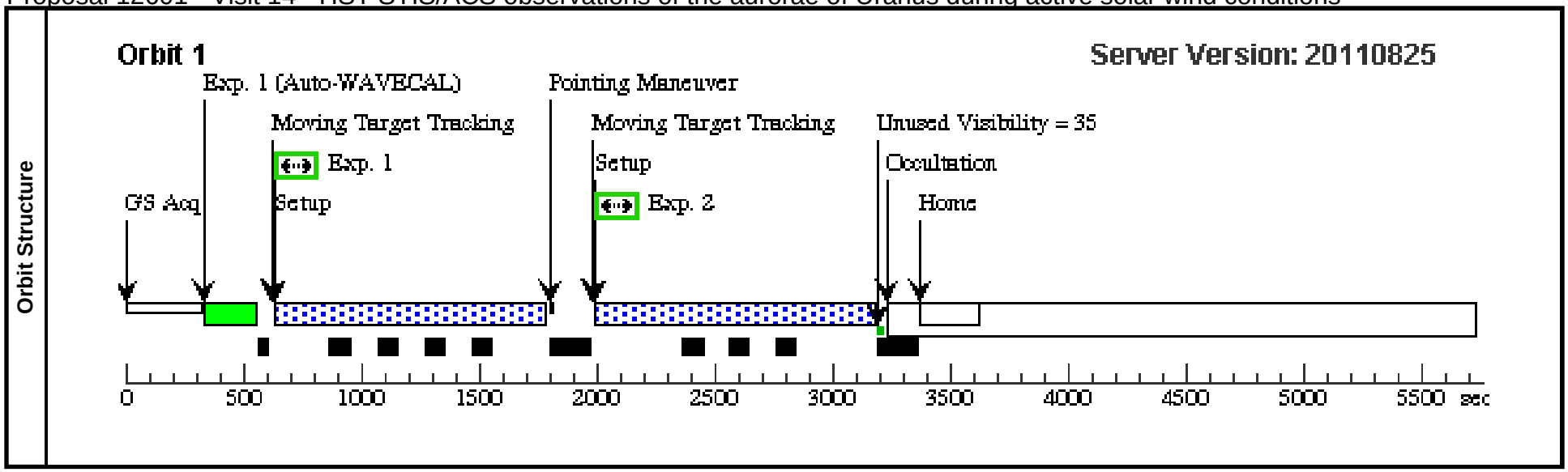
(Visit 14) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Setup
Exp. 2
Occultation
GS Acq
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 19 Thu Nov 24 02:05:13 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: (none)

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.
HOPR repeat of visit 14.

Diagnostics

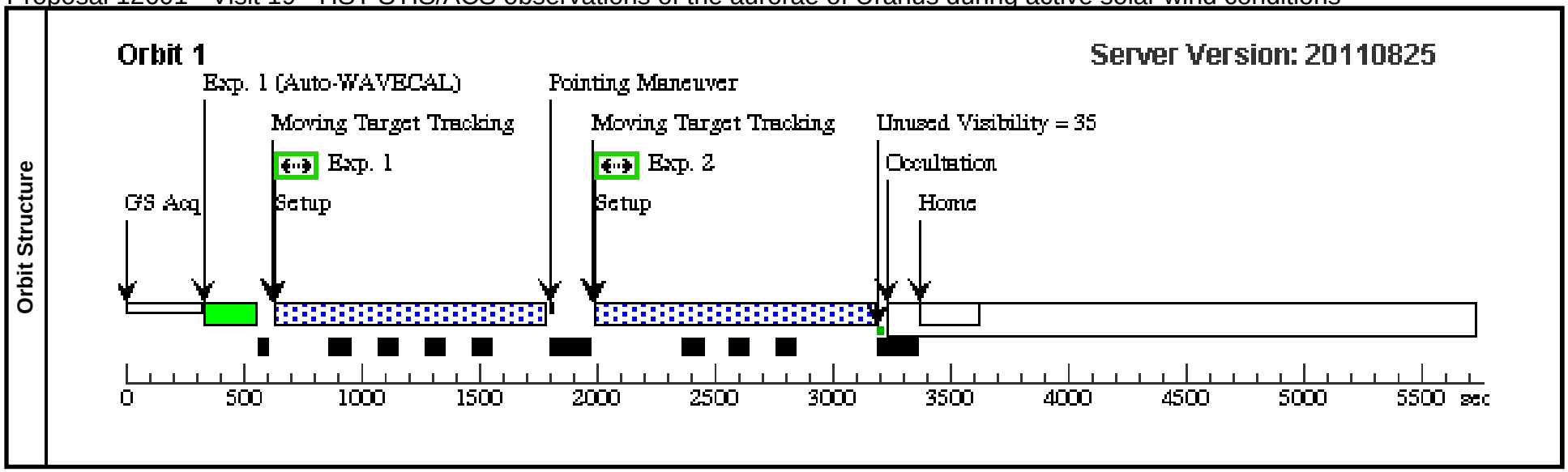
(Visit 19) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs	
								[==>]	***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs	
								[==>]	***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Exp. 1
Exp. 2
Occultation
GS Acq
Setup
Setup
Home
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500
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3000
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4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 15, scheduled Thu Nov 24 02:05:13 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

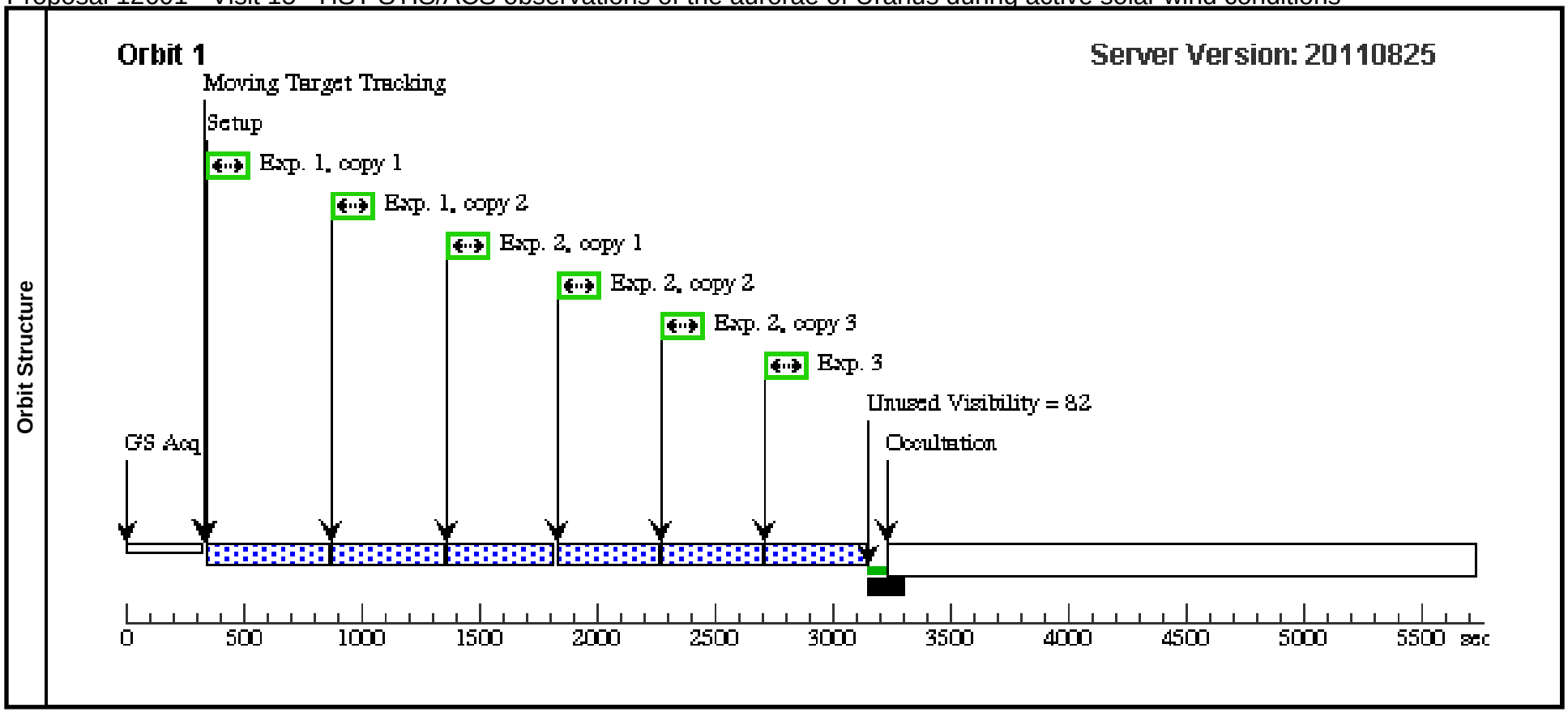
On Hold Comments: Visit 15 needs to be scheduled at t0+(5.55+/-0.15) days

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F140LP image (186090)	(1) URANUS	ACS/SBC, ACCUM, SBC	F140LP		POS TARG -3,null		450 Secs X 2 *[==>(Copy 1)]* *[==>(Copy 2)]*	 ***[1]***
	Comments: Expand exposure time if possible. *A POS TARG of -3 arcsec in AXIS1 will move Uranus' signal away from the repeller wire shadow.*								
2	Clear image (186089)	(1) URANUS	ACS/SBC, ACCUM, SBC	F115LP		SAME POS AS 1		400 Secs X 3 *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	 ***[1]***
3	F165LP image (186093)	(1) URANUS	ACS/SBC, ACCUM, SBC	F165LP		SAME POS AS 1		360 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Moving Target Tracking
Setup
Exp. 1, copy 1
Exp. 1, copy 2
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3
Unused Visibility = 82
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12601, Visit 16, scheduled Thu Nov 24 02:05:14 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: ON HOLD

Comments: This program requires observing Uranus (a weak FUV source) within a 14 days-long window centered on on the time t0 of enhanced solar wind activity at Uranus, that will be predicted by the observers >1 month in advance. Additionally, this window will be scheduled as close as possible from opposition, within 1 month to minimize the geocoronal background.

On Hold Comments: Visit 16 needs to be scheduled at t0+(6.75+/-0.15) days.

Diagnostics

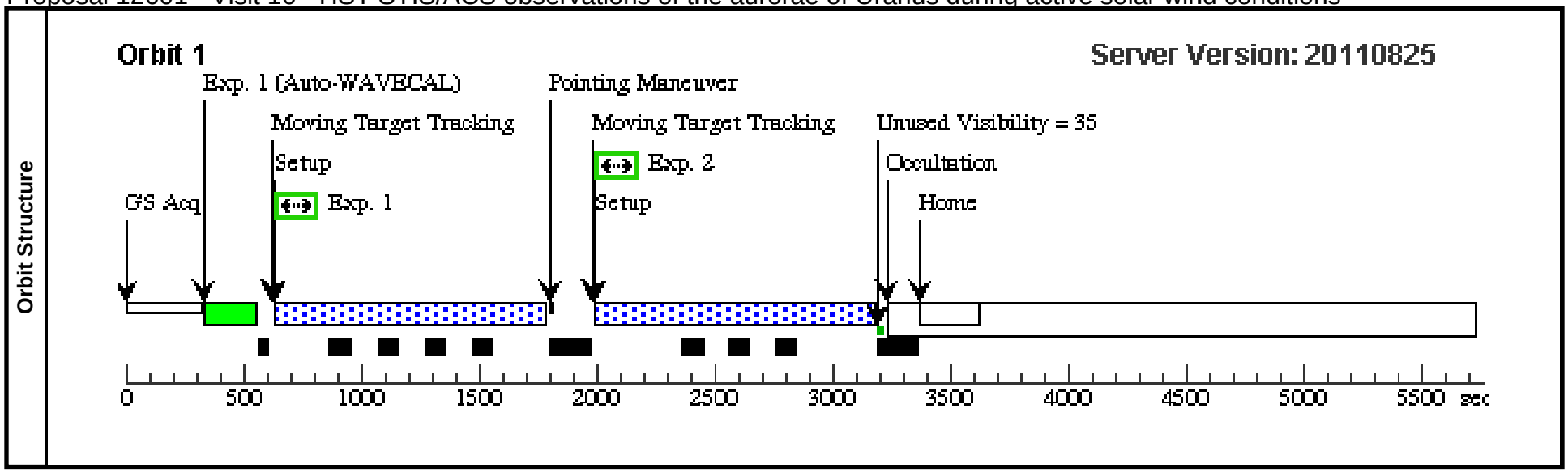
(Visit 16) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	URANUS	STD=URANUS				EARTH

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Spectrum (189500)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=200			1100 Secs *[==>]*	 ***[1]***
Comments: Expand exposure time if possible.									
2	Clear image (189449)	(1) URANUS	STIS/FUV-MAMA, TIME-TAG, 25MAMA	MIRROR	BUFFER-TIME=200	POS TARG null,-3		1000 Secs *[==>]*	 ***[1]***
Comments: A POS TARG of -3 arcsec in AXIS2 will move Uranus' signal away from the repeller wire shadow.									


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Moving Target Tracking
Unused Visibility = 35
Setup
Exp. 2
Occultation
GS Acq
Exp. 1
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec