12305 - Monitoring the Aftermath of an Asteroid Impact Event

Cycle: 18, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
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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) P-2010-A2	WFC3/UVIS	1	04-May-2011 21:00:59.0	yes
02	(1) P-2010-A2	WFC3/UVIS	1	04-May-2011 21:01:05.0	yes
03	(1) P-2010-A2	WFC3/UVIS	1	04-May-2011 21:01:08.0	yes
04	(1) P-2010-A2	WFC3/UVIS	1	04-May-2011 21:01:12.0	yes
05	(1) P-2010-A2	WFC3/UVIS	1	04-May-2011 21:01:15.0	yes

5 Total Orbits Used

ABSTRACT

Comet P/2010 A2 is of high scientific importance as the first likely case of a collisional disruption caught in the act. Its investigation will throw new light on the physics of impact disruption, with eventual applications to planetary science, the study of debris disks, and impact mitigation.

OBSERVING DESCRIPTION

The target is extremely faint, and we need 5 orbits total to obtain a good detection of the morphology.

We want the orbits to be consecutive to simplify the coaddition of images.

Each of the orbits has exactly the same structure:

3 x 425s images at one location and 2 x 425s images at a dithered location.

We want to observe within one month of the targets 2011 opposition, which is on 2011 June 6.

Proposal 12305 - Visit 01 - Monitoring the Aftermath of an Asteroid Impact Event

Visit

Proposal 12305, Visit 01, implementation Thu May 05 01:01:19 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: BETWEEN 06-MAY-2011:00:00:00 AND 06-JUL-2011:00:00:00; SEQ 01,02,03,04,05 WITHIN 5.5 Orbits

Solar System Targets

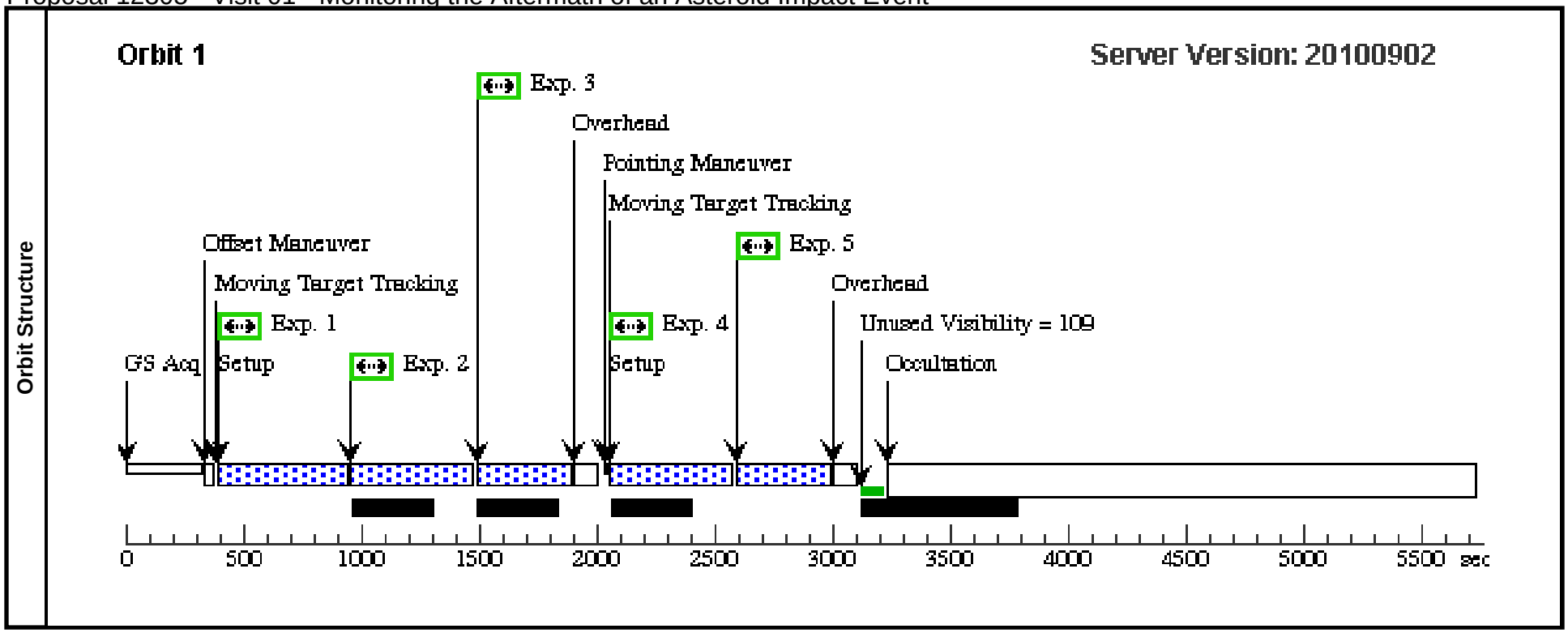
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	P-2010-A2	TYPE=COMET,Q=2.004629199729694,E=0.1247794327433922,I=5.254510081655454,O=320.2726282738253,W=133.1116906039192,T=04-DEC-2009:11:59:34,EQUINOX=J2000,EPOCH=01-JUN-2011:00:00:00				EARTH

Comments: MPEC F-16 solution. This must be updated prior to the detailed planning of the observations.
I have used the "req ephemeris corr" special requirement, just in case the ephemeris accuracy is poorer than expected.

Acquisition Uncertainty: 10 Arcsec
Ephemeris Uncertainty: 11240 Kilometers

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V01		405 Secs *[==>]*	 ***[1]***
2		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V01		405 Secs *[==>]*	 ***[1]***
3		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V01		405 Secs *[==>]*	 ***[1]***
4		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V01		405 Secs *[==>]*	 ***[1]***
5		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V01		405 Secs *[==>]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 3
Overhead
Pointing Maneuver
Moving Target Tracking
Offset Maneuver
Exp. 5
Overhead
Moving Target Tracking
Exp. 1
Exp. 4
Unused Visibility = 109
GS Acq
Setup
Exp. 2
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12305, Visit 02, implementation Thu May 05 01:01:19 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: BETWEEN 06-MAY-2011:00:00:00 AND 06-JUL-2011:00:00:00

Solar System Targets

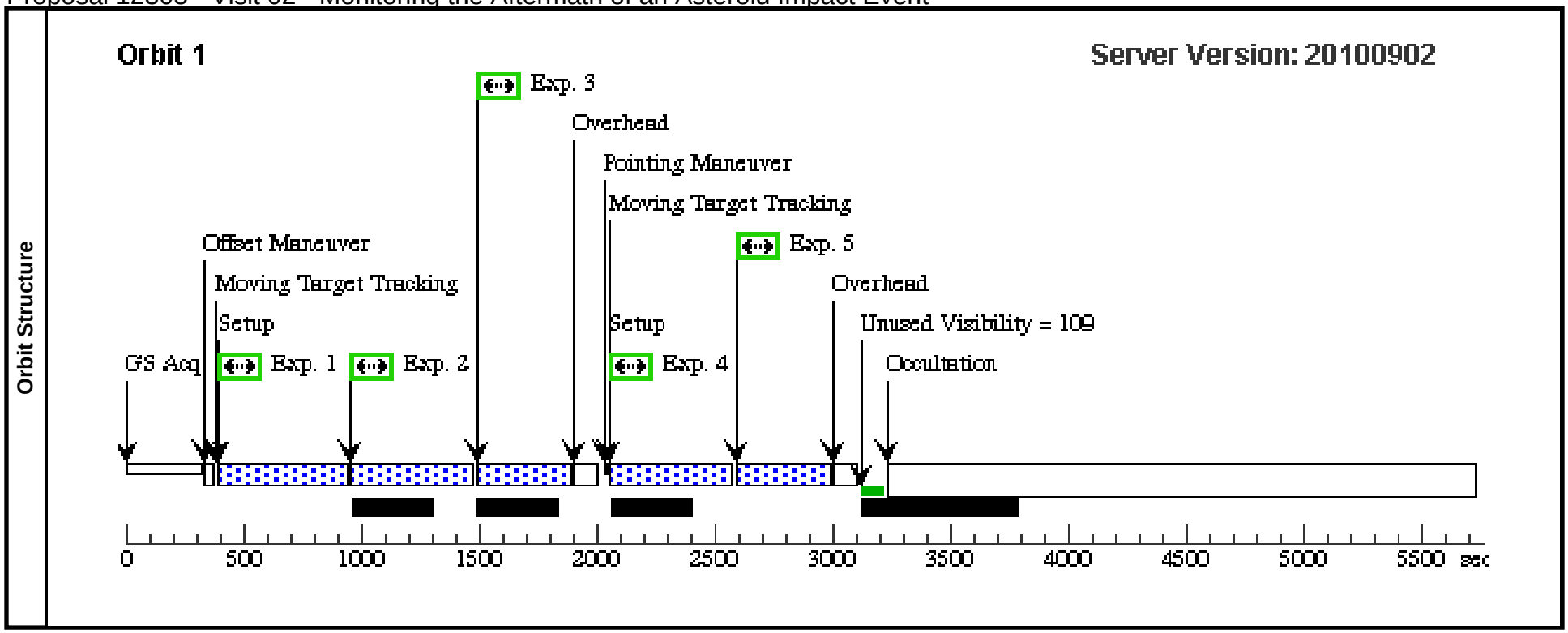
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	P-2010-A2	TYPE=COMET,Q=2.0046291997296 94,E=0.1247794327433922,I=5.25451 0081655454,O=320.2726282738253, W=133.1116906039192,T=04-DEC-2009:11:59:34,EQUINOX=J2000,EPO CH=01-JUN-2011:00:00:00				EARTH

Comments: MPEC F-16 solution. This must be updated prior to the detailed planning of the observations.
I have used the "req ephemeris corr" special requirement, just in case the ephemeris accuracy is poorer than expected.

Acquisition Uncertainty: 10 Arcsec
Ephemeris Uncertainty: 11240 Kilometers

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V02		405 Secs	
								[==>]	***[1]***
2		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V02		405 Secs	
								[==>]	***[1]***
3		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V02		405 Secs	
								[==>]	***[1]***
4		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V02		405 Secs	
								[==>]	***[1]***
5		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V02		405 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 3
Overhead
Pointing Maneuver
Moving Target Tracking
Exp. 5
Overhead
Unused Visibility = 109
Occultation
Offset Maneuver
Moving Target Tracking
Setup
Setup
GS Acq
Exp. 1
Exp. 2
Exp. 4
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12305, Visit 03, implementation Thu May 05 01:01:20 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: BETWEEN 06-MAY-2011:00:00:00 AND 06-JUL-2011:00:00:00

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	P-2010-A2	TYPE=COMET,Q=2.0046291997296 94,E=0.1247794327433922,I=5.25451 0081655454,O=320.2726282738253, W=133.1116906039192,T=04-DEC-2009:11:59:34,EQUINOX=J2000,EPO CH=01-JUN-2011:00:00:00				EARTH

Comments: MPEC F-16 solution. This must be updated prior to the detailed planning of the observations.
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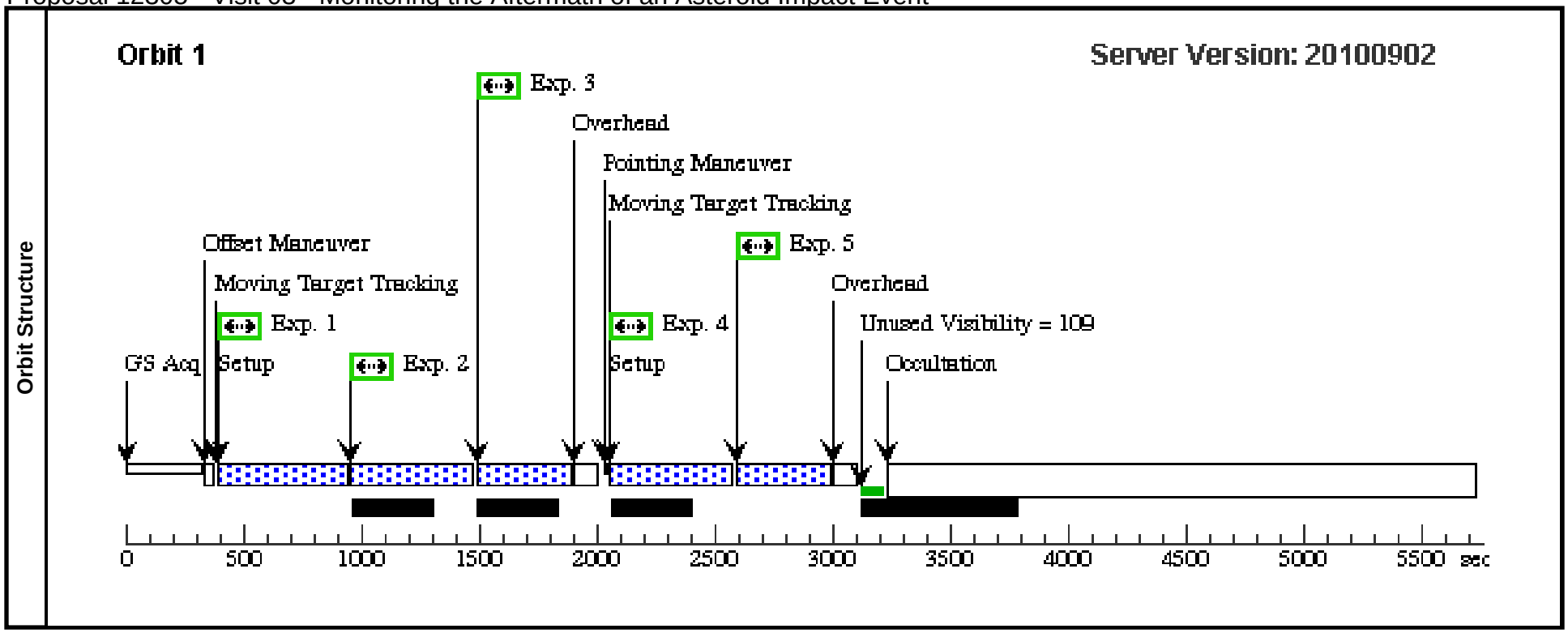
Ephemeris Uncertainty: 11240 Kilometers

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V03		405 Secs	
								[==>]	***[1]***
2		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V03		405 Secs	
								[==>]	***[1]***
3		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V03		405 Secs	
								[==>]	***[1]***
4		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V03		405 Secs	
								[==>]	***[1]***
5		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V03		405 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 3
Overhead
Pointing Maneuver
Moving Target Tracking
Offset Maneuver
Exp. 5
Overhead
Moving Target Tracking
Exp. 1
Exp. 4
Unused Visibility = 109
GS Acq
Setup
Exp. 2
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12305, Visit 04, implementation Thu May 05 01:01:20 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: BETWEEN 06-MAY-2011:00:00:00 AND 06-JUL-2011:00:00:00

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	P-2010-A2	TYPE=COMET,Q=2.0046291997296 94,E=0.1247794327433922,I=5.25451 0081655454,O=320.2726282738253, W=133.1116906039192,T=04-DEC- 2009:11:59:34,EQUINOX=J2000,EPO CH=01-JUN-2011:00:00:00				EARTH

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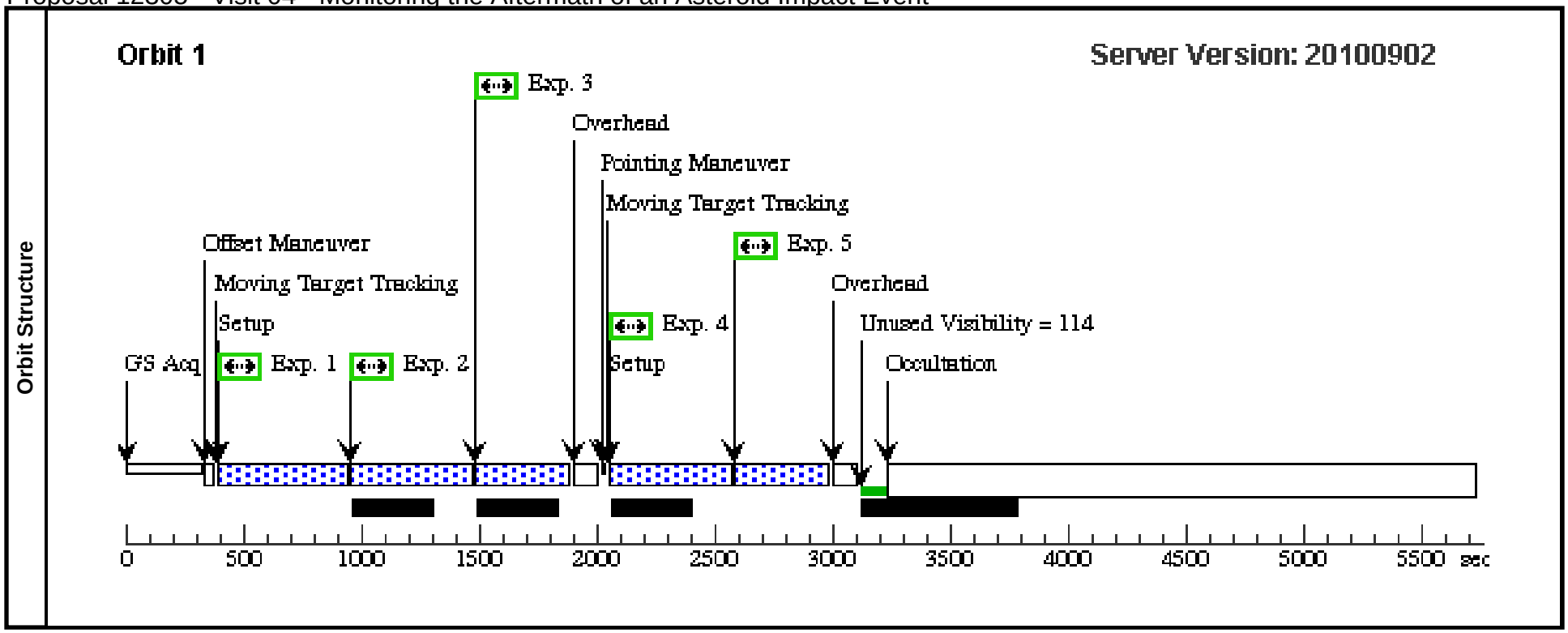
Acquisition Uncertainty: 10 Arcsec
Ephemeris Uncertainty: 11240 Kilometers

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V04		404 Secs	
								[==>]	***[1]***
2		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V04		404 Secs	
								[==>]	***[1]***
3		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V04		404 Secs	
								[==>]	***[1]***
4		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V04		404 Secs	
								[==>]	***[1]***
5		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V04		404 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 3
Overhead
Pointing Maneuver
Moving Target Tracking
Exp. 5
Offset Maneuver
Moving Target Tracking
Setup
Overhead
Exp. 4
Unused Visibility = 114
GS Acq
Exp. 1
Exp. 2
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12305, Visit 05, implementation Thu May 05 01:01:21 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: BETWEEN 06-MAY-2011:00:00:00 AND 06-JUL-2011:00:00:00

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
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Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V05		404 Secs	
								[==>]	***[1]***
2		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V05		404 Secs	
								[==>]	***[1]***
3		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	REQ EPHEM CORR PA2V05		404 Secs	
								[==>]	***[1]***
4		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V05		404 Secs	
								[==>]	***[1]***
5		(1) P-2010-A2	WFC3/UVIS, ACCUM, UVIS	F606W	CR-SPLIT=NO	POS TARG 0.2,2.41; REQ EPHEM CORR PA2V05		404 Secs	
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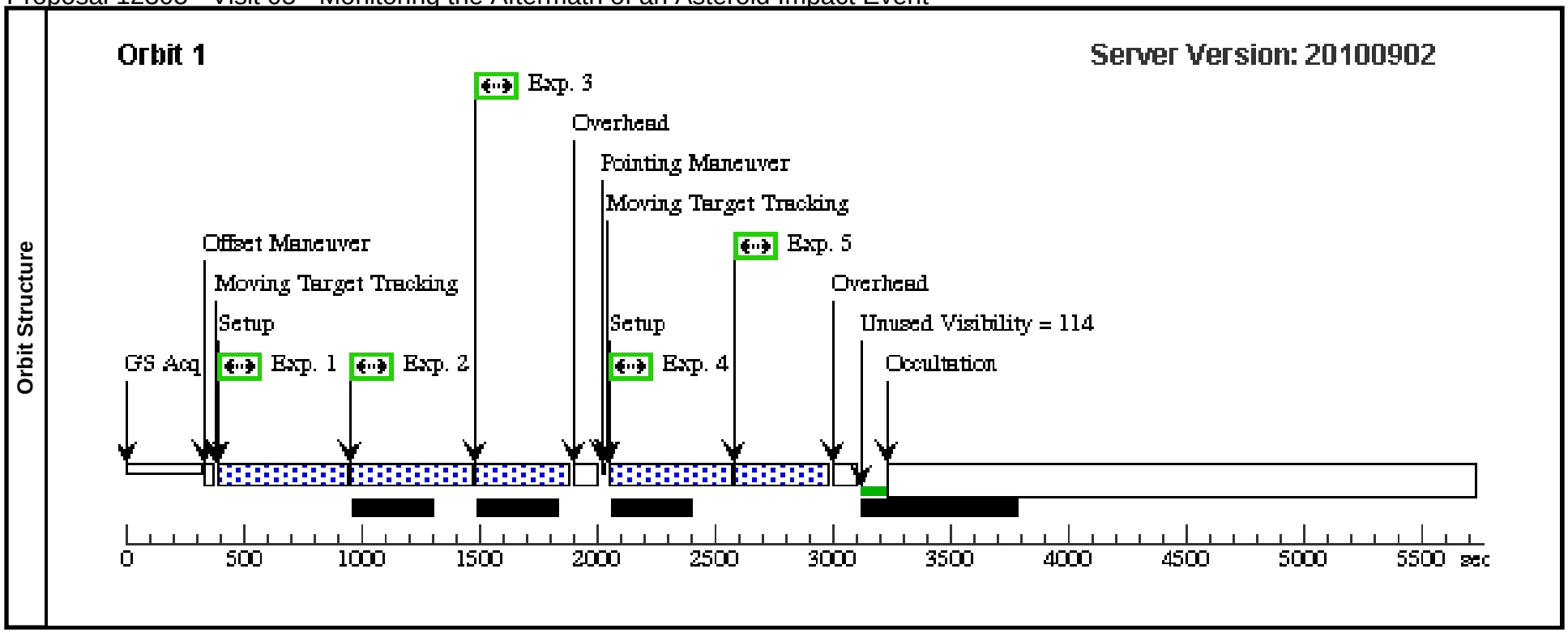
Orbit Structure
Orbit 1
Server Version: 20100902
Exp. 3
Overhead
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Offset Maneuver
Exp. 5
Moving Target Tracking
Overhead
Setup
Setup
Unused Visibility = 114
GS Acq
Exp. 1
Exp. 2
Exp. 4
Occultation
0
500
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2000
2500
3000
3500
4000
4500
5000
5500
sec