11612 - Eta Carinae's Continuing Instability and Recovery - the 2009 Event

Cycle: 17, Proposal Category: GO

(Availability Mode: AVAILABLE)

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?*
40	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:16.0	yes
41	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:26.0	yes
43	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:33.0	yes
44	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:41.0	yes
46	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:50.0	yes
48	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:55:59.0	yes
50	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:56:12.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
53	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:56:18.0	yes
54	(1) ETA-CAR-A	WFPC2	1	09-Jan-2012 06:56:25.0	yes
62	(1) ETA-CAR-A (6) ETA-CAR-NNE (7) ETA-CAR-SSW CCDFLAT WAVE	STIS/CCD	2	09-Jan-2012 06:57:19.0	yes
64	(1) ETA-CAR-A (6) ETA-CAR-NNE (7) ETA-CAR-SSW (8) ETA-CAR-NNE2 CCDFLAT WAVE	STIS/CCD	3	09-Jan-2012 06:59:33.0	yes
67	(1) ETA-CAR-A (6) ETA-CAR-NNE CCDFLAT WAVE	STIS/CCD	2	09-Jan-2012 07:00:55.0	yes

16 Total Orbits Used

ABSTRACT

Eta Carinae is the only really observable example of structural recovery from a massive giant eruption, a "supernova imposter' event. Moreover it is the only well-observed star above 100 Msun, and its
5.5-year-recurrent spectrocopic events provide extraordinary clues to its surface instability. This truly unique combination of attributes makes it valuable for understanding the most massive stars. A fresh development arose a few years ago: The star has brightened much faster than before, and appears to have entered a rapid stage in its post-eruption recovery.

A spectroscopic event will occur at 2009.0, soon after the planned HST servicing mission. Because of the recent secular trend, this event is expected to differ from its well-observed 2003.5 predecessor. The differences will be very important, because they offer clues to very-massive-star structural instabilities that can't be observed in any other known way.

Some of the needed observations require HST's high spatial resolution and UV coverage. We propose an efficient, well-chosen set of STIS and ACS observations around the critical time. If the servicing mission is too late for the event, then a subset of the observations will still be merited.

OBSERVING DESCRIPTION

Three points worth mentioning:

(1) The most valuable spectroscopic diagnostics are in the STIS/CCD wavelength range. This is partly because of physics, and partly because STIS/CCD in 2003 provided the best existing record of a spectroscopic event for comparison.

(2) Ground-based data now suffice for most of this problem, as explained near the end of the Scientific Justification. Here we concentrate on tasks that really need HST.

(3) Our plans are based on considerable experience. In 1997 one of us (KD) planned the first STIS observations of Car. That intricate, extraordinarily efficient plan produced the highest-quality spectra of this object ever obtained, before or since. Integration times and other details for the Treasury Program evolved from that original. Meanwhile Davidson, Ishibashi, and Martin developed major improvements to the STIS IDT's reduction techniques. Hence, in this proposal we're revisiting familiar territory.

Spectroscopy

We propose to use the refurbished STIS/CCD for special observations before, during, and after the 2009.0 spectroscopic event (re. timing, see Fig. 1). Meanwhile we expect to get better temporal and spectral coverage with Gemini South.

Spectroscopic priorities:

? H, a critical line (Fig. 3). Since it is the strongest emission feature and we need to measure its precise profile, ground-based data are still too contaminated by nearby ejecta.

? He I 6678. Very critical for interpretations; obtained with same grating tilt as H.

? UV features that can't be observed from the ground, e.g., bizarre Fe II 2507 emission.

? The crowded region near 3900A, because it includes Ca II absorption, [Ne III] emission plus diverse other features. Some of these have complex local spatial dependences that can't be disentangled in ground-based spectra. Moreover, the Gemini-South spectrograph has poor response below 4000A.

? The strange He II 4686 emission. In principle this can be done from the ground, but since it is both tricky and extremely important, we'll feel much safer with some STIS data. (The 2003 STIS data contradicted lower-quality ground-based measurements, see ref. [10].)

? [Ca II] and other features near 7300A. Anti-correlated with other features in the event,with some of the same spatial difficulties as the 3900A region.

Fortunately we know the timing of Car's 5.5-year cycle with an accuracy of several days. If STIS is repaired on schedule, then at least four STIS visits are merited, preferably more. (1) A 2-orbit visit should occur as early as possible. (2) A 3-orbit visit close to 2009 Jan 1, the pre-minimum peak in Fig. 1. (3) A similar visit two or three weeks later, after the crash. This and visit 2 require two slit positions to get some information about the "Weigelt blobs" (inner ejecta). (4) At least one visit several months after the event. In addition, a one-orbit visit between 2 and 3 would be prudent, in case Car surprises us in its timing.
The total is 11 orbits.

Experience shows that a one-orbit STIS visit provides worthwhile information for eta Car but two orbits are more cost-effective and permit all the wavelength samples listed above. If the Weigelt ejecta must be observed separately (which depends on instrument orientation), then a third orbit gives the maximum cost-effectiveness. Integration times range from a few seconds in the red to several minutes in the UV. Eta Car has a favorable visibility length, 58 minutes in December or January, and the normal acquisition and overhead times apply. As a specific example, we cite the STIS visit that was done in March 2004 shortly before the instrument failure: http://www.stsci.edu/observing/phase2-public/9973.pro. That visit produced 33 STIS/CCD exposures in three orbits.

In summary, we estimate that 11 STIS orbits gives maximum cost-effectiveness for covering the 2009.0 event. If the STIS is repaired too late for the event, then the post-event visits mentioned above will still be merited.

We have heard that the STIS team may use Car as part of the re-commissioning phase. For technical reasons it is one of the best possible targets for that purpose. Note, however, that our proposed observations are carefully adjusted to the requirements of the secular-change problem, and we know the current brightness parameters from our HST photometric program. Commissioning-phase observations will not substitute for our program.

HST imaging

Since 2004 we have obtained about two HST imaging visits per year in order to follow eta Car's brightening trend. We used ACS, then WFPC2. HST's spatial resolution has been necessary to separate the star from its surprisingly bright ejecta, and, also, UV wavelengths are important. That program has provided the only existing data on the brightening of the central star after 2004 (Fig. 2 and ref. [11]). Similar observations should continue for all the reasons indicated in the Scientific Justification.

In addition, the same images provide information about morphological changes in the ejecta through the 5.5-year cycle. They will substantially lengthen the baseline for proper motion measurements of the ejecta, an important topic because some of the ejecta ages have been controversial.

If it is repaired, ACS is the best instrument for this purpose because it allows direct comparisons with earlier data, and because it has small pixels.

In the past we used ACS filters 550M, 330W, and 220W, and one orbit gave an adequate set of data as can be seen from the example of program GO 10884:
http://www.stsci.edu/observing/phase2-public/10884.pro.

Our last WFPC2 orbit is scheduled for July 2008. A suitable plan for Cy 17 requires four visits to cover the event from December to February, and then one more visit late in 2009: five orbits in all. (See Fig. 2.)

If ACS is not repaired, then WFC3 will be a good substitute. It has a satisfactory filter set, and like ACS it requires one orbit per visit.

Visit

Proposal 11612, Visit 40, completed Mon Jan 09 12:01:18 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; BEFORE 13-DEC-2008:00:00:00

*Comments: ** Substituting WFPC2 for earlier-planned STIS and ACS **
Roughly six weeks before Eta Car's 2009.0 spectroscopic event. Earliest spectral changes are expected to have begun before Nov 2008.*

Diagnostics

(336 SHORT (40.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (40.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (40.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (40.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (40.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (40.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (40.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (40.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (40.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (40.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (40.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (40.003)) Error (Form): Illegal selection: WFPC2.

(255 (40.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (40.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (40.003)) Error (Form): IMAGE is not a valid selection.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 40)) Error (Form): IMAGE is not a valid selection.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 40)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 40)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 40)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 40)) Error (Form): ATD-GAIN is not a valid selection

(Visit 40) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

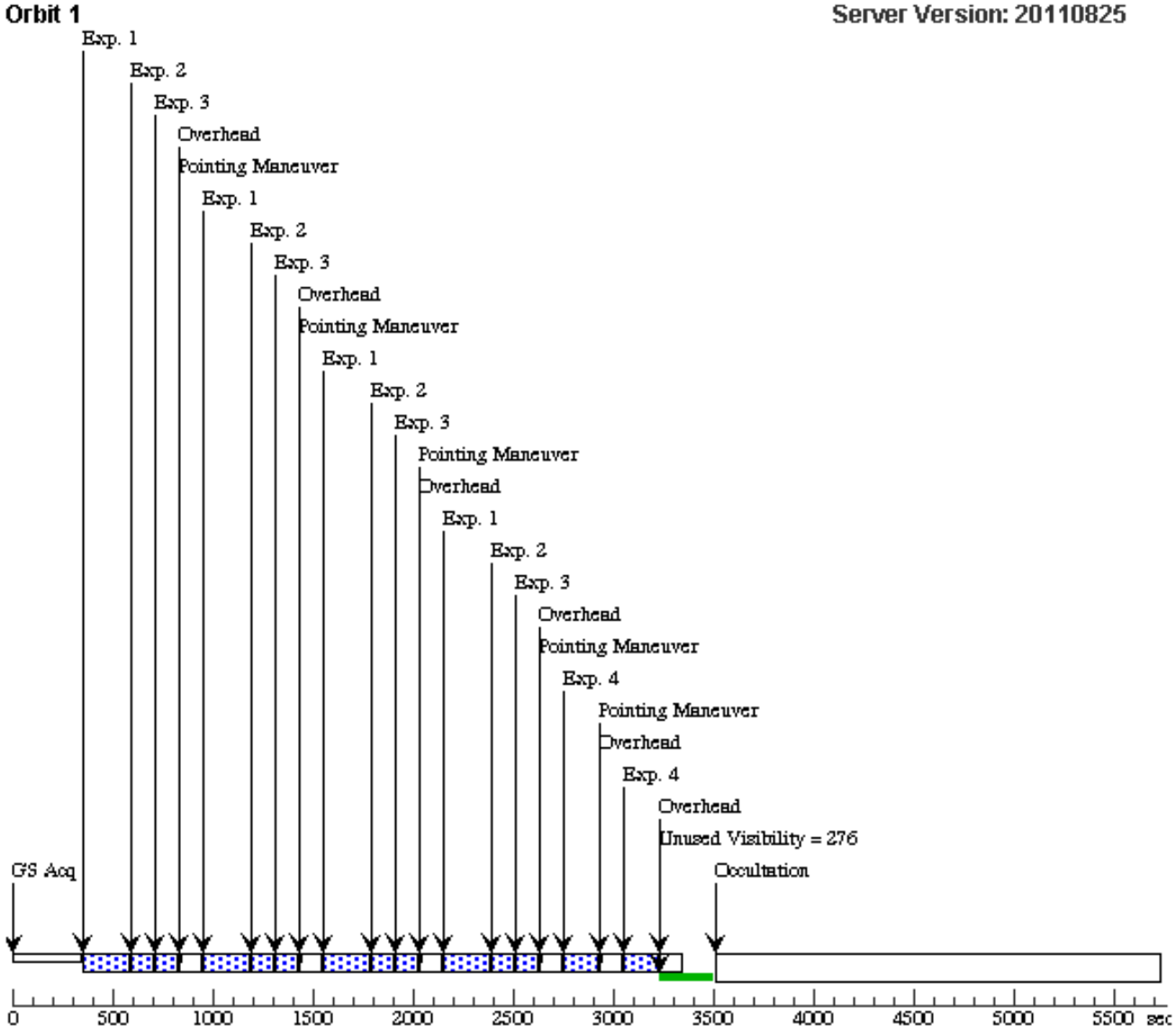
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 40 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 40 (2)	0.8 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 40 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4		(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 4-4 in Visit 40 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 41, completed Mon Jan 09 12:01:20 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 40 BY 10 D TO 90 D; BETWEEN 05-DEC-2008:00:00:00 AND 28-DEC-2008:00:00:00

*Comments: ** IMPORTANT REMARK: We have specified "after visit 40 by at least 10 days" but this does NOT imply that visit 41 depends on visit 40. If a visit in this program fails or does not occur, then the subsequent visits should be done anyway. Operationally the point is merely that no two WFPC2 visits should be close together in time.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ***
Visit 41 is a few weeks before the climax of the 2009.0 spectroscopic event.
Odd-numbered WFPC2 visits in this program are short in order to be feasible with reduced orbit visibility times.

Diagnostics

(336 SHORT (41.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (41.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (41.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (41.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (41.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (41.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (41.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (41.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (41.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (41.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (41.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (41.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (41.003)) Error (Form): IMAGE is not a valid selection.

(255 (41.003)) Error (Form): Illegal selection: WFPC2.

(631 (41.004)) Error (Form): IMAGE is not a valid selection.

(631 (41.004)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(631 (41.004)) Error (Form): Illegal selection: WFPC2.

(631 (41.004)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORTX (41.005)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORTX (41.005)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORTX (41.005)) Error (Form): Illegal selection: WFPC2.

(336 SHORTX (41.005)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORTX (41.005)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUMX (41.006)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUMX (41.006)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUMX (41.006)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUMX (41.006)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUMX (41.006)) Error (Form): Illegal selection: WFPC2.

(Visit 41) Warning (Orbit Planner): EXPOSURE TIME DECREASED FOR WFPC

(Visit 41) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(1-4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

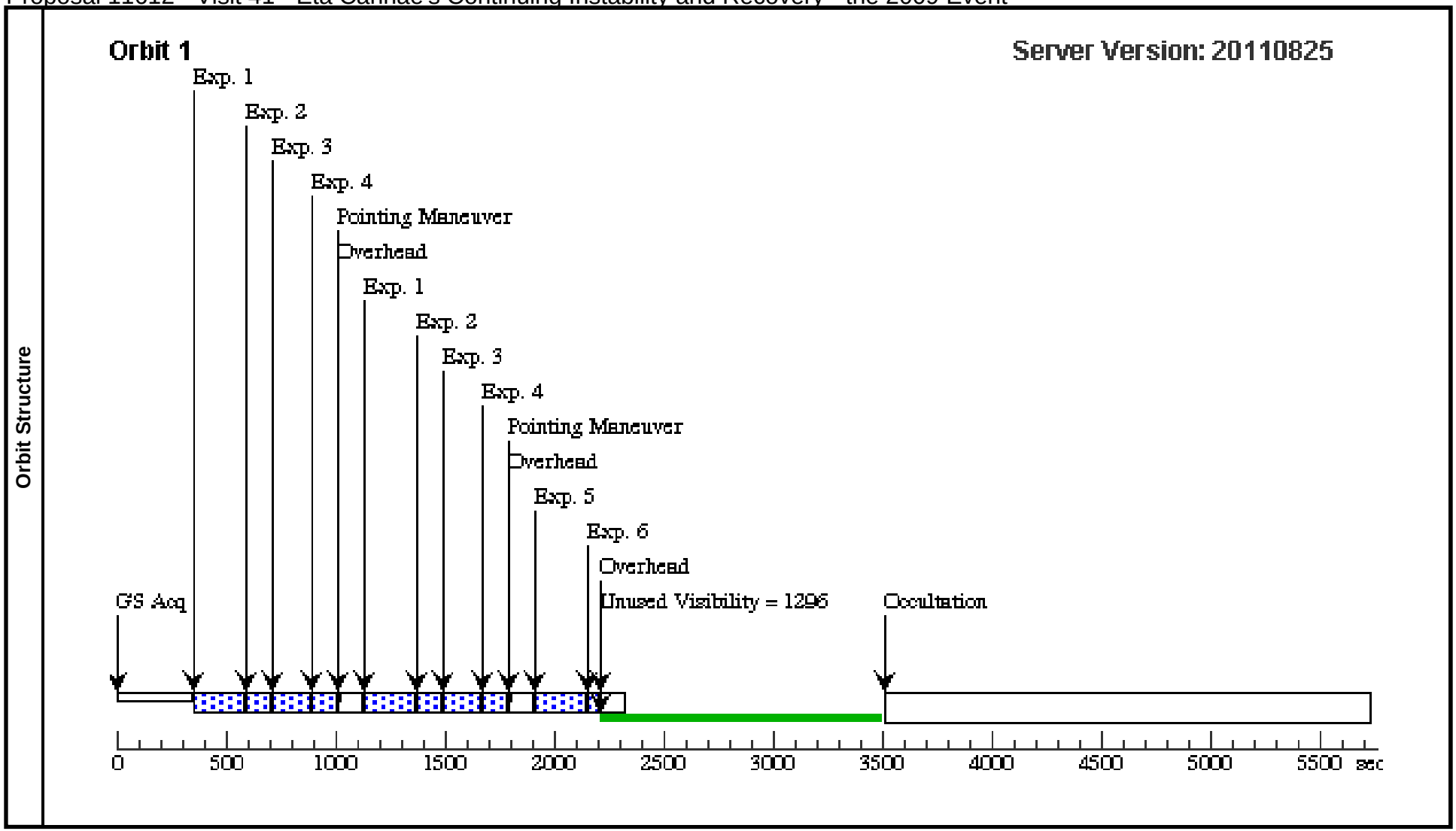
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 41 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 41 (3)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W			Pattern 3, Exps 1-4 in Visit 41 (3)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
4	631	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N			Pattern 3, Exps 1-4 in Visit 41 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	336 SHORTX	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5		0.22 Secs *[==>]*	***[1]***
6	336 MEDIUMX	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5		2 Secs *[==>]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1
Exp. 2
Exp. 3
Exp. 4
Pointing Maneuver
Overhead
Exp. 1
Exp. 2
Exp. 3
Exp. 4
Pointing Maneuver
Overhead
Exp. 5
Exp. 6
Overhead
GS Acq
Unused Visibility = 1296
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11612, Visit 43, completed Mon Jan 09 12:01:21 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 41 BY 5 D TO 90 D; BETWEEN 30-DEC-2008:00:00:00 AND 06-JAN-2009:00:00:00

*Comments: ** IMPORTANT NOTE: We have specified this visit 43 should be at least 5 days after visit 41, but this does NOT imply that visit 43 depends on visit 41. The point is simply that no two visits should be close together in time. If one of the earlier visits fails or does not occur, then the subsequent visits should be done anyway.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ***
Climax of Eta Car's 2009.0 spectroscopic event occurs around 10 January.
This odd-numbered visit is short in order to provide more scheduling opportunities.

Diagnostics

(336 SHORT (43.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (43.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (43.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (43.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (43.001)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (43.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (43.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (43.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (43.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
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(336 MEDIUM (43.002)) Error (Form): Illegal selection: WFPC2.

(255 (43.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (43.003)) Error (Form): Illegal selection: WFPC2.

(255 (43.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (43.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
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(631 (43.004)) Error (Form): Illegal selection: WFPC2.

(631 (43.004)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(631 (43.004)) Error (Form): ATD-GAIN is not a valid selection

(631 (43.004)) Error (Form): IMAGE is not a valid selection.

(631 (43.004)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Visit 43) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(1-4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

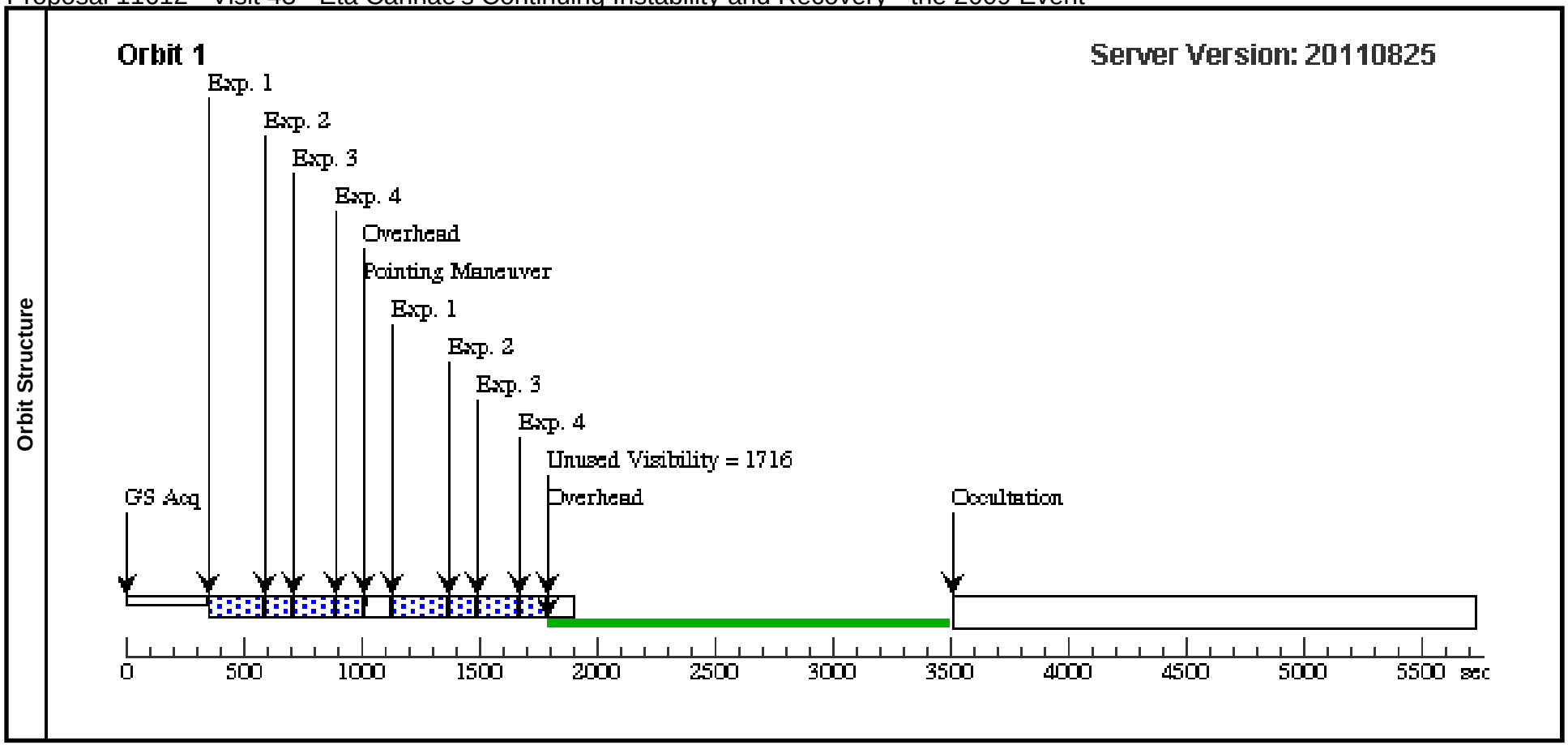
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 43 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 43 (3)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 43 (3)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
4	631	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 1-4 in Visit 43 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110825
Exp. 1
Exp. 2
Exp. 3
Exp. 4
Overhead
Pointing Maneuver
Exp. 1
Exp. 2
Exp. 3
Exp. 4
Unused Visibility = 1716
GS Acq
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11612, Visit 44, completed Mon Jan 09 12:01:21 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 43 BY 2 D TO 90 D; BETWEEN 02-JAN-2009:00:00:00 AND 11-JAN-2009:00:00:00

*Comments: ** IMPORTANT NOTE: Visit 44 should be at least 2 dqys after visit 43, but this does NOT imply that visit 44 depends on 43. The point is that no two WFPC2 visits should be close together in time. If a visit fails or does not occur, then the subsequent visits should be done anyway.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ***
Near climax of Eta Car's 2009.0 spectroscopic event.

Diagnostics

(336 SHORT (44.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (44.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (44.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (44.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (44.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (44.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (44.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (44.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (44.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (44.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (44.003)) Error (Form): Illegal selection: WFPC2.

(255 (44.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (44.003)) Error (Form): IMAGE is not a valid selection.

(255 (44.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (44.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 44)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 44)) Error (Form): ATD-GAIN is not a valid selection

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 44)) Error (Form): IMAGE is not a valid selection.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 44)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 44)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Visit 44) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

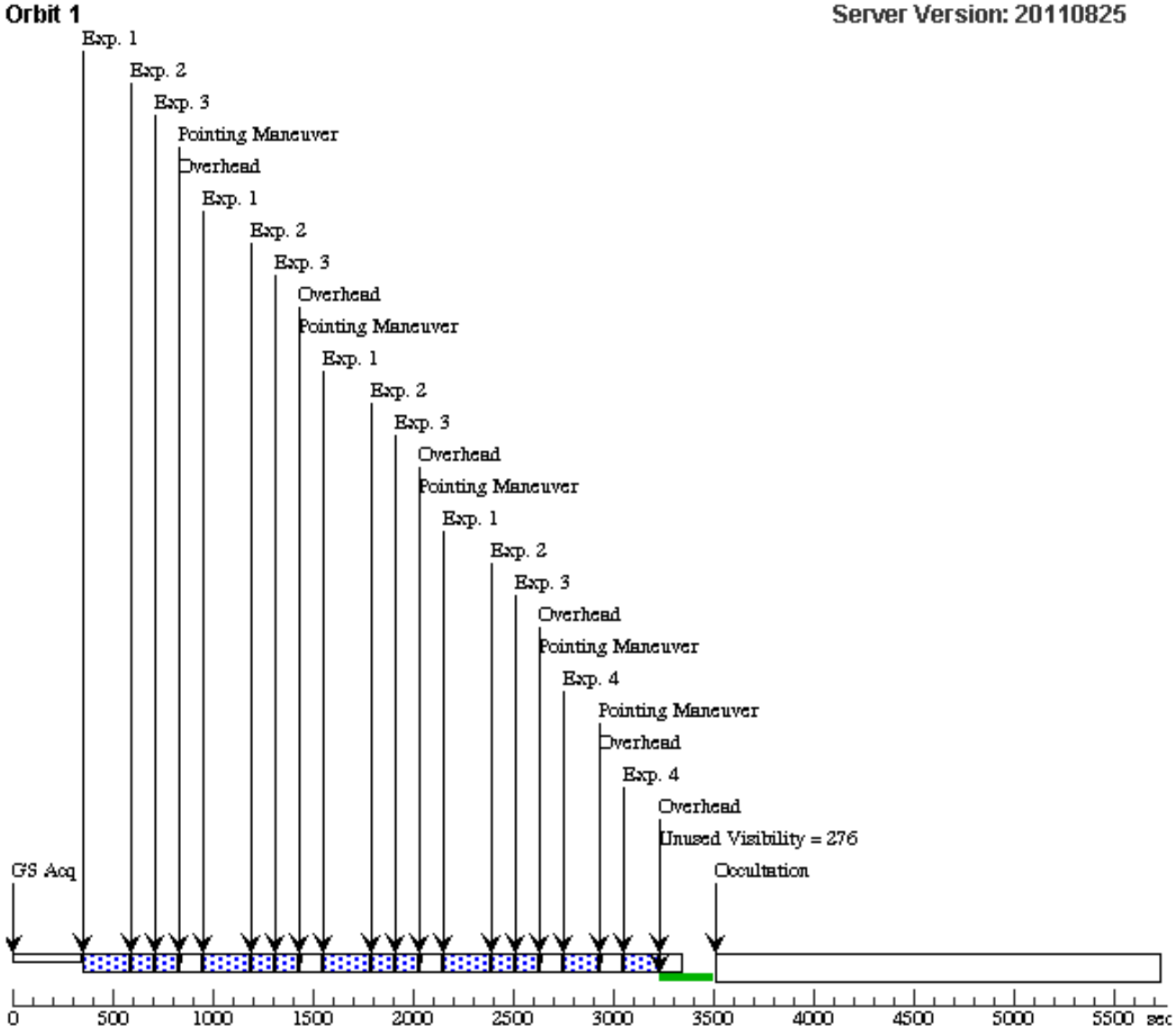
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 44 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 44 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 44 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4		(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 4-4 in Visit 44 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 46, completed Mon Jan 09 12:01:22 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 44 BY 2 D TO 90 D; BETWEEN 09-JAN-2009:00:00:00 AND 15-JAN-2009:00:00:00

*Comments: ** IMPORTANT NOTE: Visit 46 should be at least 2 days after visit 44, but this does NOT imply that visit 46 depends on 44. The point is that no two WFPC2 visits should be close together in time. If a visit fails or does not occur, then the subsequent visits should be done anyway.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ***
Near climax of Eta Car's 2009.0 spectroscopic event.

Diagnostics

(336 SHORT (46.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (46.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (46.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (46.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (46.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (46.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (46.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (46.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (46.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (46.002)) Error (Form): IMAGE is not a valid selection.

(255 (46.003)) Error (Form): Illegal selection: WFPC2.

(255 (46.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (46.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (46.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (46.003)) Error (Form): IMAGE is not a valid selection.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 46)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 46)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 46)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 46)) Error (Form): ATD-GAIN is not a valid selection

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 46)) Error (Form): IMAGE is not a valid selection.

(Visit 46) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

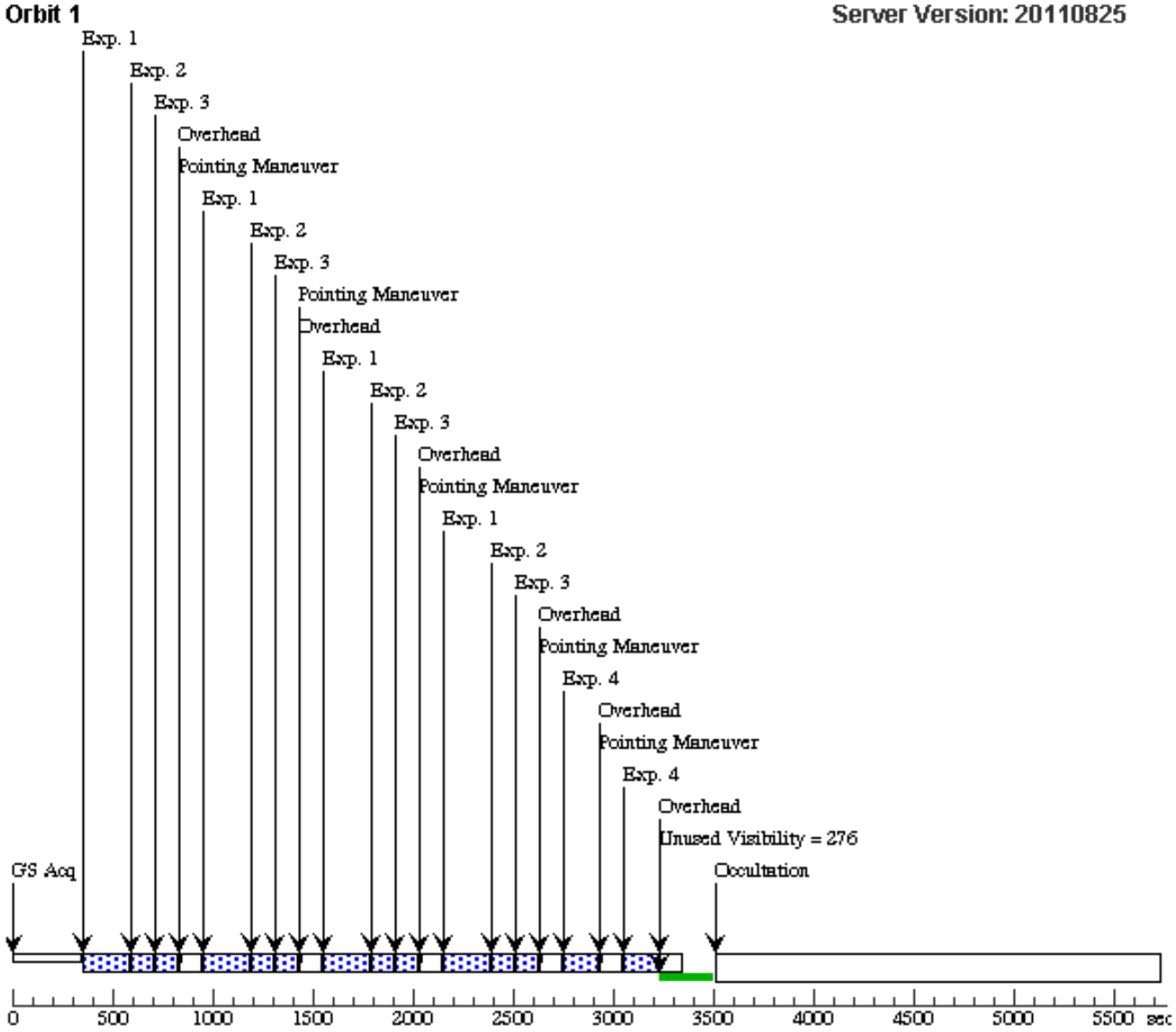
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 46 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 46 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 46 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4		(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 4-4 in Visit 46 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 48, completed Mon Jan 09 12:01:23 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 46 BY 3 D TO 90 D; BETWEEN 14-JAN-2009:00:00:00 AND 20-JAN-2009:00:00:00

*Comments: ** IMPORTANT NOTE: Visit 48 should be at least 3 days after visit 46, but this does NOT imply that 48 depends on 46. The point is that no two WFPC2 visits should be close together in time. If a visit fails or does not occur, then the subsequent visits should be done anyway.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ***
Near climax of Eta Car's 2009.0 spectroscopic event.

Diagnostics

(336 SHORT (48.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (48.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (48.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (48.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (48.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (48.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (48.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (48.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (48.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (48.002)) Error (Form): Illegal selection: WFPC2.

(255 (48.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (48.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (48.003)) Error (Form): Illegal selection: WFPC2.

(255 (48.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (48.003)) Error (Form): IMAGE is not a valid selection.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 48)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 48)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 48)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 48)) Error (Form): ATD-GAIN is not a valid selection

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 48)) Error (Form): IMAGE is not a valid selection.

(Visit 48) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

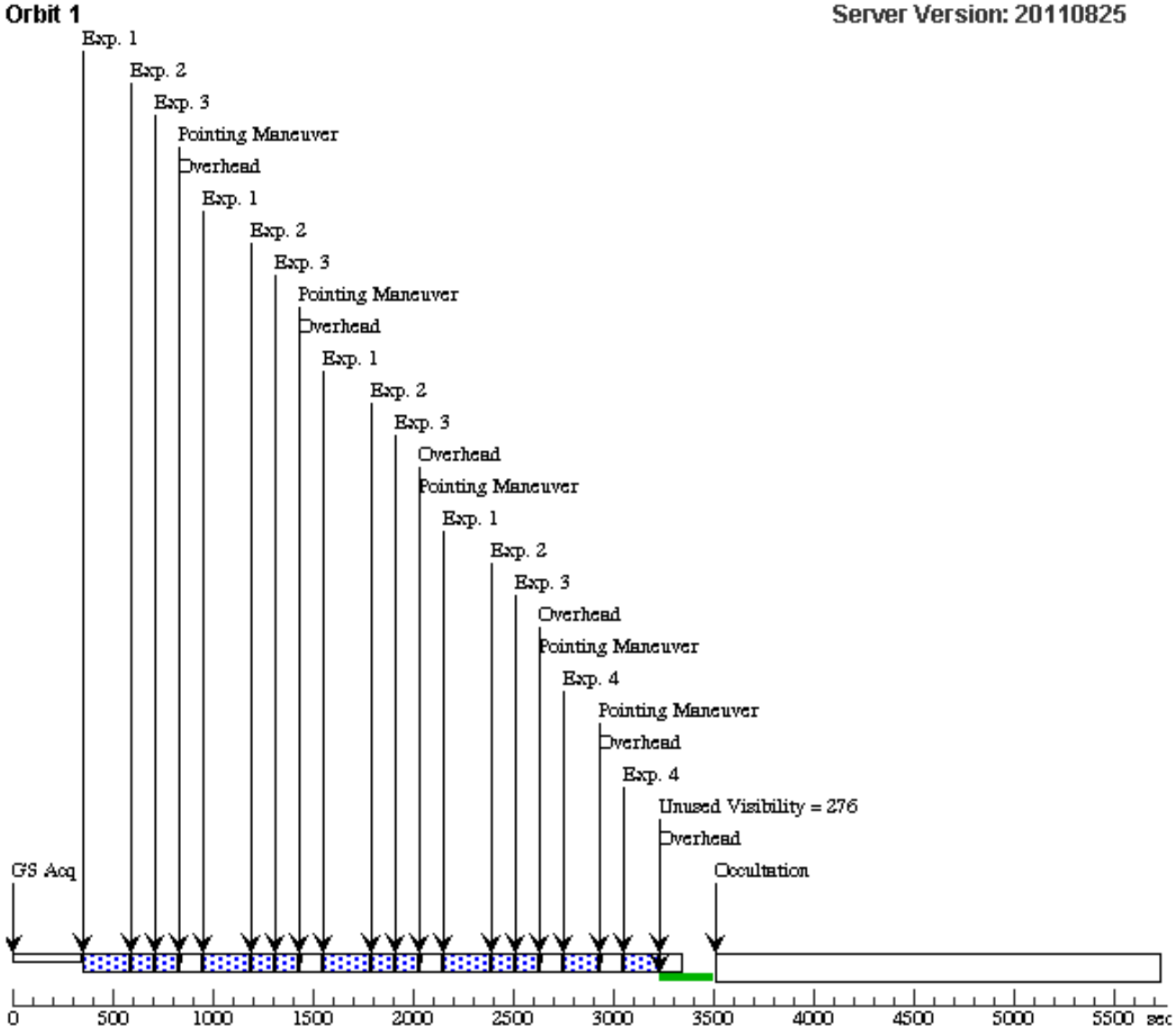
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 48 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 48 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 48 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4		(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 4-4 in Visit 48 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 50, completed Mon Jan 09 12:01:24 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 48 BY 5 D TO 90 D; BETWEEN 21-JAN-2009:00:00:00 AND 30-JAN-2009:00:00:00

*Comments: ** IMPORTANT NOTE: Visit 50 should be at least 4 days after visit 48, but this does NOT imply that 50 depends on 48. The point is that no two WFPC2 visits should be close together in time. If a visit fails or does not occur, then the subsequent visits should be done anyway.*

*** Substituting WFPC2 for earlier-planned STIS and ACS ****
After climax of Eta Car's 2009.0 spectroscopic event.

Diagnostics

(336 SHORT (50.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (50.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (50.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (50.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (50.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (50.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (50.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (50.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (50.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (50.002)) Error (Form): ATD-GAIN is not a valid selection

(255 (50.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (50.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (50.003)) Error (Form): IMAGE is not a valid selection.

(255 (50.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (50.003)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 50)) Error (Form): Illegal selection: WFPC2.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 50)) Error (Form): ATD-GAIN is not a valid selection

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 50)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 50)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(Exposure 4 (Pattern 3, Exps 4-4 in Visit 50)) Error (Form): IMAGE is not a valid selection.

(Visit 50) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

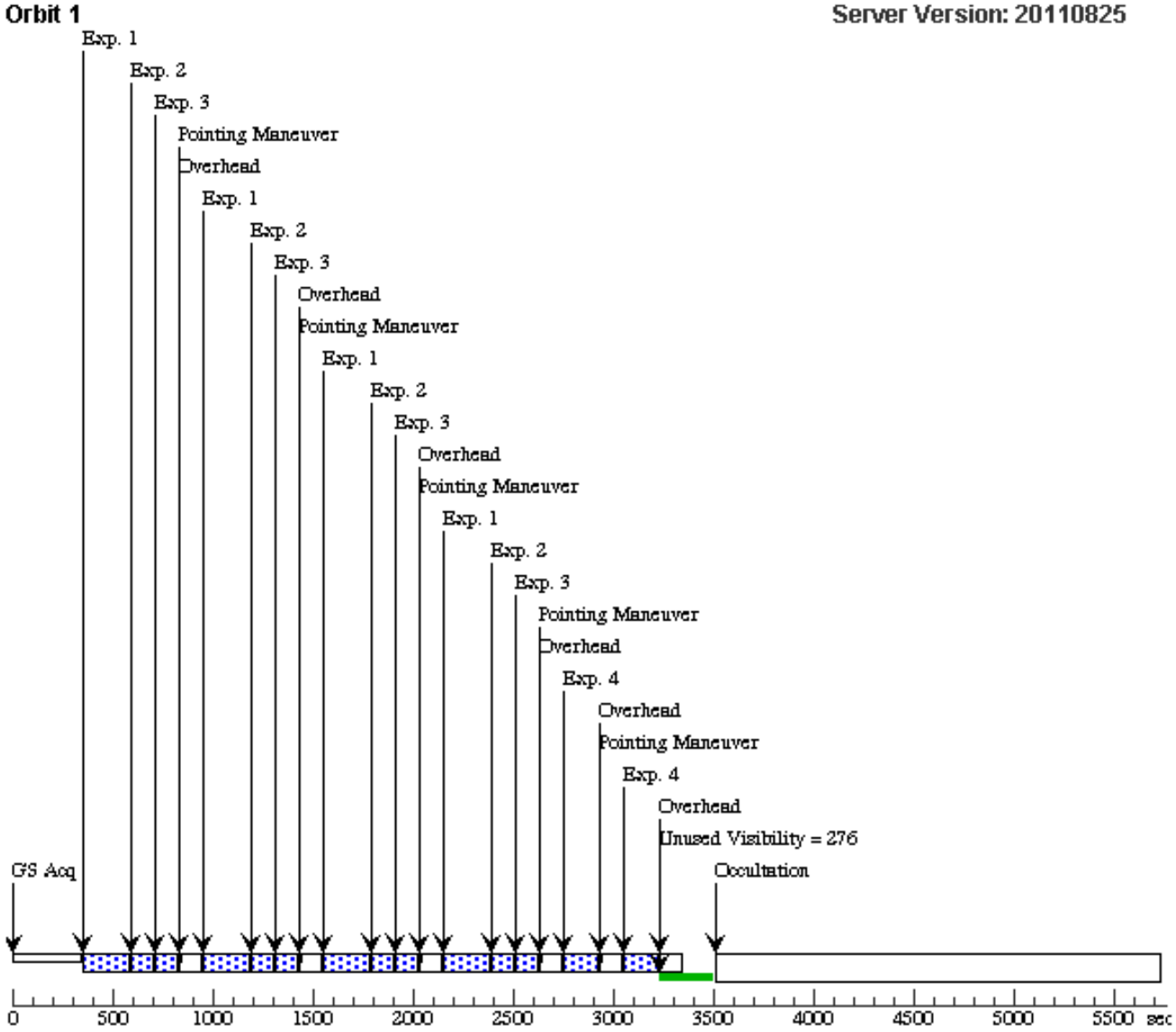
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 50 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 50 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-3 in Visit 50 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4		(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 4-4 in Visit 50 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 53, completed Mon Jan 09 12:01:24 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 50 BY 15 D TO 90 D; BETWEEN 05-FEB-2009:00:00:00 AND 10-MAR-2009:00:00:00

*Comments: ** Substituting WFPC2 for earlier-planned STIS and ACS **
4 to 8 weeks after climax of 2009.0 event.
Observations in this visit are curtailed to increase scheduling opportunities.*

Diagnostics

(336 SHORT (53.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (53.001)) Error (Form): Illegal selection: WFPC2.

(336 SHORT (53.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (53.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (53.001)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (53.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (53.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (53.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (53.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 MEDIUM (53.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (53.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (53.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (53.003)) Error (Form): Illegal selection: WFPC2.

(255 (53.003)) Error (Form): IMAGE is not a valid selection.

(255 (53.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(631 single (53.004)) Error (Form): ATD-GAIN is not a valid selection

(631 single (53.004)) Error (Form): Illegal selection: WFPC2.

(631 single (53.004)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(631 single (53.004)) Error (Form): IMAGE is not a valid selection.

(631 single (53.004)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(Visit 53) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

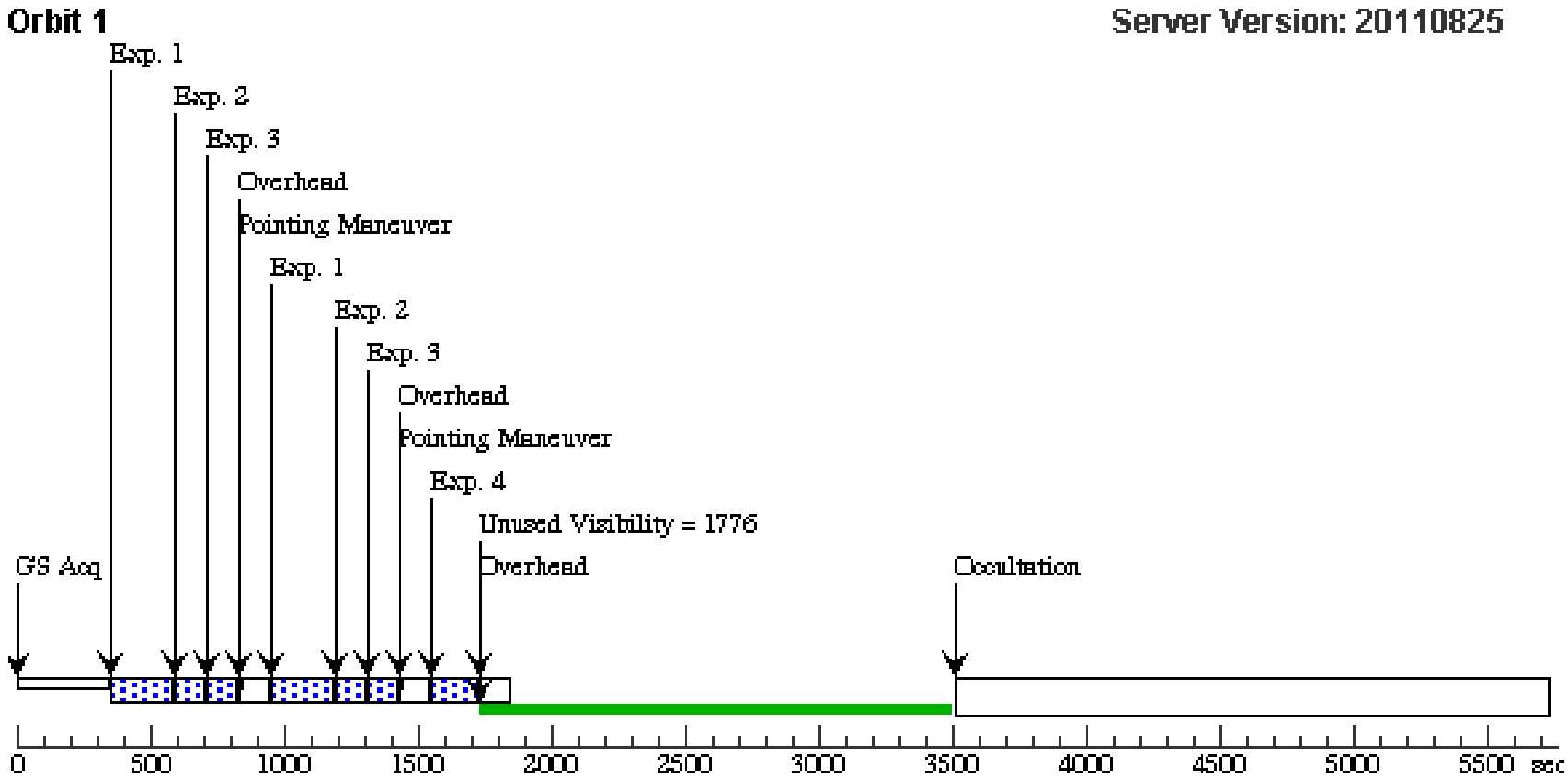
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-3 in Visit 53 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
	Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.								
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15		Pattern 3, Exps 1-3 in Visit 53 (3)	1.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
	Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.								
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15		Pattern 3, Exps 1-3 in Visit 53 (3)	1.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
4	631 single	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15			0.11 Secs *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 54, completed Mon Jan 09 12:01:25 GMT 2012

Diagnostic Status: Error

Scientific Instruments: WFPC2

Special Requirements: GYRO MODE 2G; AFTER 53 BY 30 D TO 180 D; BETWEEN 15-MAR-2009:00:00:00 AND 30-JUN-2009:00:00:00

*Comments: ** Substituting WFPC2 for earlier-planned STIS and ACS **
IMPORTANT NOTE: If servicing mission is scheduled early enough so ACS and/or STIS is likely to be repaired, then this visit should be deleted. In that case some of the originally-planned ACS and/or STIS observations should be done instead.*

Diagnostics

(336 SHORT (54.001)) Error (Form): IMAGE is not a valid selection.

(336 SHORT (54.001)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 SHORT (54.001)) Error (Form): ATD-GAIN is not a valid selection

(336 SHORT (54.001)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(336 SHORT (54.001)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (54.002)) Error (Form): IMAGE is not a valid selection.

(336 MEDIUM (54.002)) Error (Form): ATD-GAIN is not a valid selection

(336 MEDIUM (54.002)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(336 MEDIUM (54.002)) Error (Form): Illegal selection: WFPC2.

(336 MEDIUM (54.002)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (54.003)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(255 (54.003)) Error (Form): ATD-GAIN is not a valid selection

(255 (54.003)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(255 (54.003)) Error (Form): IMAGE is not a valid selection.

(255 (54.003)) Error (Form): Illegal selection: WFPC2.

(631 (54.004)) Error (Form): This attribute is not allowed to have this value: Config = WFPC2
It is a Restricted option and can only be used in an engineering proposal.

(631 (54.004)) Error (Form): ATD-GAIN is not a valid selection

(631 (54.004)) Error (Form): Illegal selection: WFPC2.

(631 (54.004)) Error (Form): This attribute cannot have this value due to other choices: Mode=IMAGE
This value is by default illegal.

(631 (54.004)) Error (Form): IMAGE is not a valid selection.

(Visit 54) Warning (Form): Gyro Mode overrides default value of 3GOBAD.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG		(1-2)
	Purpose=DITHER	Pattern Orientation=26.56505		
	Number Of Points=4	Angle Between Sides=143.130102		
	Point Spacing=0.559017	Center Pattern=false		
	Line Spacing=0.559017			
(3)	Pattern Type=WFPC2-LINE	Coordinate Frame=POS-TARG		(3-4)
	Purpose=DITHER	Pattern Orientation=45.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.3535	Center Pattern=false		
	Line Spacing=			

Fixed Targets

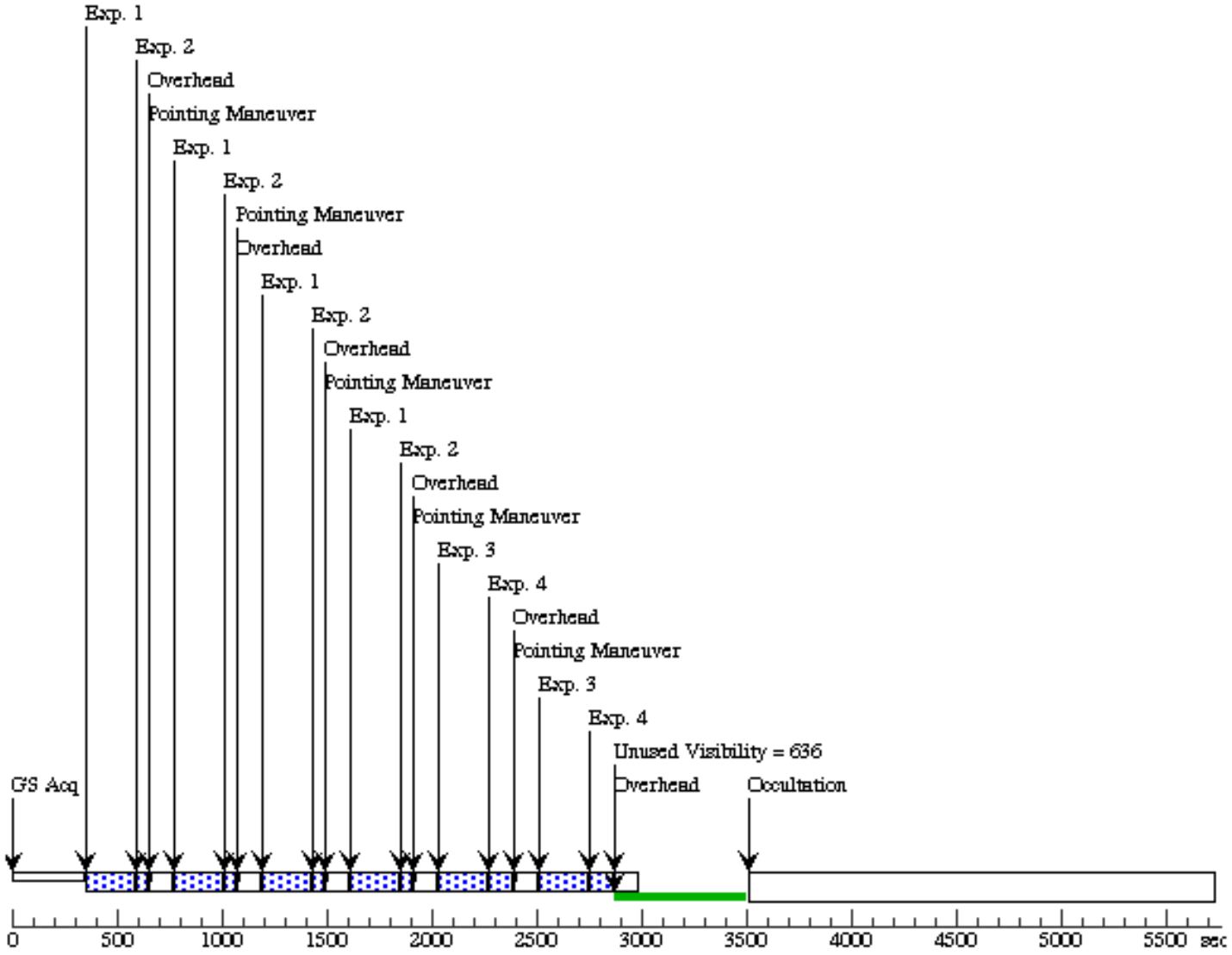
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	336 SHORT	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-2 in Visit 54 (2)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. Birightest pixel may saturate at some of the dither points but probably not at all of them.									
2	336 MEDIUM	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F336W	ATD-GAIN=15	POS TARG 0,-1.5	Pattern 2, Exps 1-2 in Visit 54 (2)	1 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
Comments: Gain 15 because very high count rate in central object. We used 2 diff exposure times to get high dynamic range in surrounding ejecta.									
3	255	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F255W	ATD-GAIN=15		Pattern 3, Exps 3-4 in Visit 54 (3)	1.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
4	631	(1) ETA-CAR-A	WFPC2, IMAGE, PC1	F631N	ATD-GAIN=15		Pattern 3, Exps 3-4 in Visit 54 (3)	0.11 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 11612, Visit 62, completed Mon Jan 09 12:01:26 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD

Special Requirements: PCS MODE FINE; ORIENT 160D TO 175 D; BETWEEN 01-AUG-2009:00:00:00 AND 30-SEP-2009:00:00:00

Comments: (1) This visit is URGENT because Eta Car is recovering from its January 2009 event. ---
(2) The plan for this visit assumes that slit PA = about 300 deg so it includes both the star A and Weigelt blob C. This occurs if ORIENT = about 165 deg, suitable for late August 2009.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d) Dec: -59 41 4.10 (-59.68447d) Equinox: J2000 Plate Id: ZZZQ		V=6.5+/-1.0 F(2200) = 3.0 +/-1.5 E-12	Reference Frame: GSC1
		Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed. *The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.* -- *In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".*			
(6)	ETA-CAR-NNE	Offset from ETA-CAR-A by RA Offset: 0.0089 Secs Dec Offset: 0.117 Arcsec		V=9+/-1	Offset Position (ETA-CAR-NNE) Reference Frame: GSC1
		Comments: If the STIS slit PA is close to 120 deg or 300 deg, then this position ETA-CAR-NNE gives a slit centerline that is 0.135 arcsec from the centerline for position ETA-CAR-A.			
(7)	ETA-CAR-SSW	Offset from ETA-CAR-A by RA Offset: -0.0089 Secs Dec Offset: -0.117 Arcsec		V=9+/-1	Offset Position (ETA-CAR-SSW) Reference Frame: GSC1
		Comments: If the STIS slit PA is close to 120 deg or 300 deg, then this position ETA-CAR-NNE gives a slit centerline that is 0.135 arcsec from the centerline for position ETA-CAR-A.			

Exposures

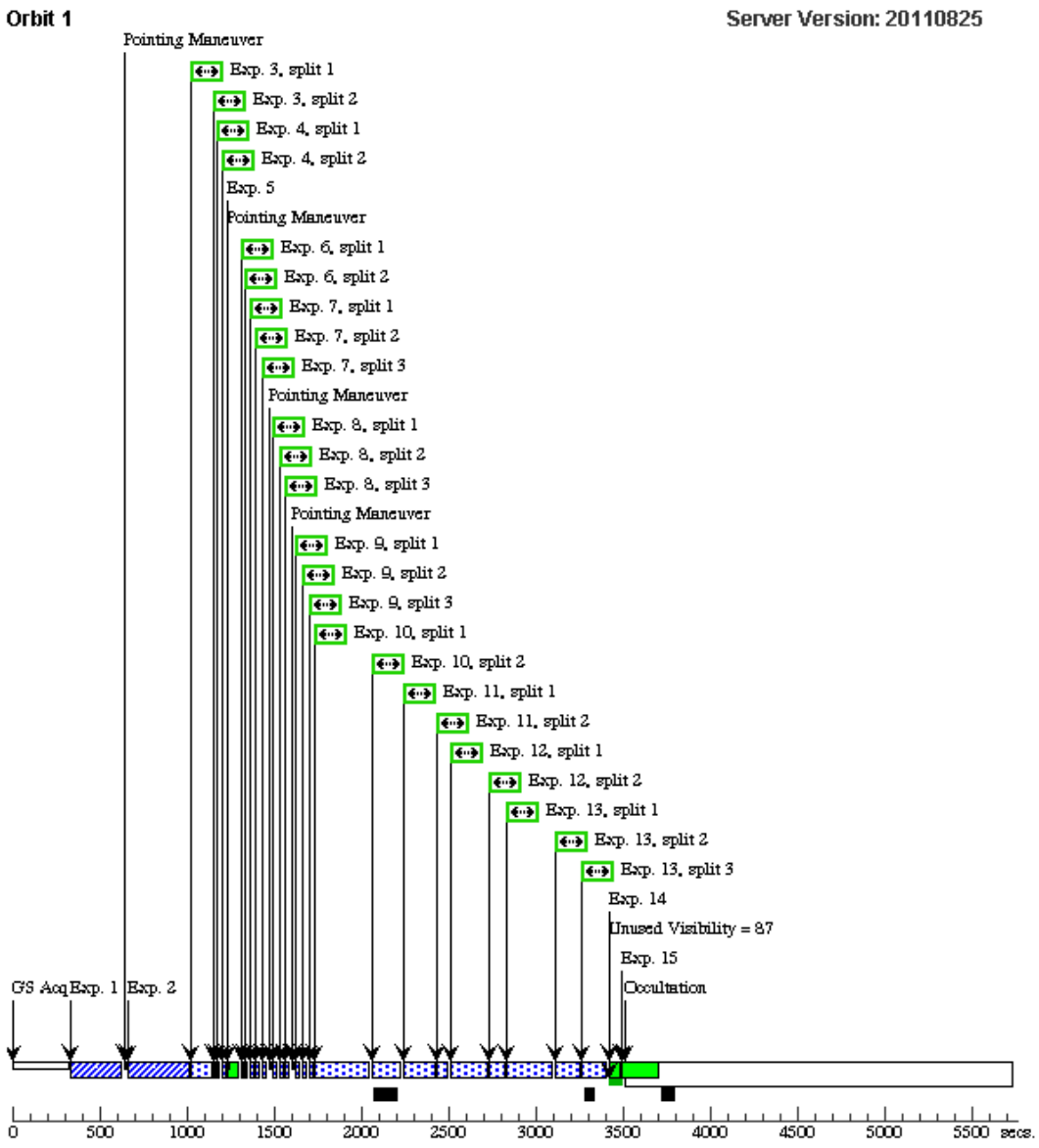
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	ACQ 1	(1) ETA-CAR-A	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT			0.5 Secs	
								[==>]	***[1]***
Comments: Target Acquisition for STIS CCD longslit									
2	ACQ 2	(1) ETA-CAR-A	STIS/CCD, ACQ/PEAK, 52X0.1	G750M				0.5 Secs	
				7795 A				*[==>]*	***[1]***
Comments: This wavelength interval 7795AA has no strong emision lines. Therefore peakup really leads to the star A and not to ejecta blobs like C and D.									
3	A 6768 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=4;			0.4 Secs	
				6768 A	SIZEAXIS2=160;			*[==>(Split 1)]*	
					CR-SPLIT=2;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO				
Comments: Very short integration time because H-alpha emission at 6564 AA is tremendously bright in this object. WAVECAL=NO because we are managing WAVECALS explicitly in this plan -- partly to delete some that are definitely not needed for the program goals, and partly to force some of them into the occultation period.									
4	A 6768 medium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=4;			5 Secs	
				6768 A	SIZEAXIS2=320;			*[==>(Split 1)]*	
					CR-SPLIT=2;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO				
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area. WAVECAL=NO because we manage WAVECALS explicitly, see comment for exposure 62.003.									
5	WCAL 6768	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M				*[==>]*	***[1]***
				6768 A					
Comments: In this program we include WAVECALS explicitly so we can omit some that are definitely not needed for the program goals, and partly to force some of them into occultation periods.									
6	NNE 6768 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=1;			2 Secs	
				6768 A	SIZEAXIS2=160;			*[==>(Split 1)]*	
					CR-SPLIT=2;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO				
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area.									
7	NNE 6768 long	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=1;			30 Secs	
				6768 A	SIZEAXIS2=320;			*[==>(Split 1)]*	
					CR-SPLIT=3;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO			*[==>(Split 3)]*	
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area.									
8	SSW 6768 long	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=1;			30 Secs	
				6768 A	SIZEAXIS2=320;			*[==>(Split 1)]*	
					CR-SPLIT=3;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO			*[==>(Split 3)]*	
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area.									
9	A 6768 long	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M	GAIN=1;			30 Secs	
				6768 A	SIZEAXIS2=320;			*[==>(Split 1)]*	
					CR-SPLIT=3;			*[==>(Split 2)]*	***[1]***
					WAVECAL=NO			*[==>(Split 3)]*	
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area.									

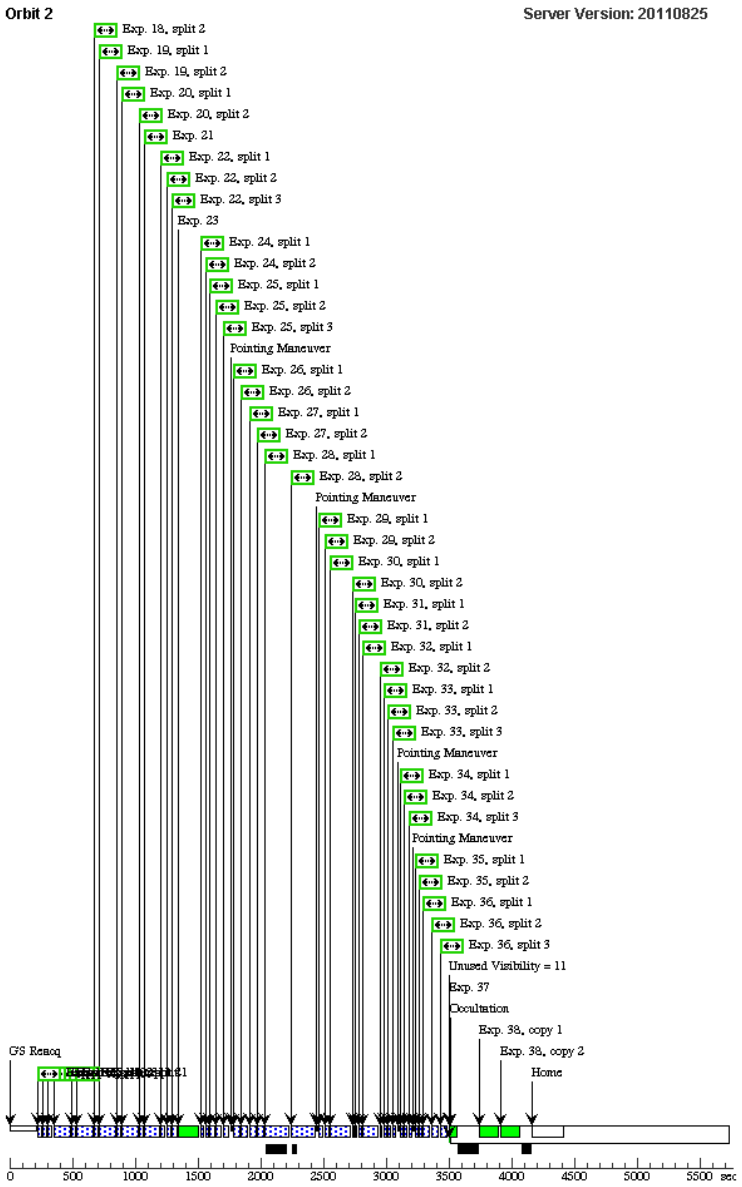
10	A 2697	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2697 A	CR-SPLIT=2; GAIN=1; SIZEAXIS2=200; WAVECAL=NO	300 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: Normally we would use CR-SPLIT=3 for this long an exposure, but in this case the critical feature will be restricted to only a small region, a few hundred pixels. The longer individual subexposure allows time for a buffer dump, to save time for the rest of the observing sequence. WAVECAL is not needed for this wavelength interval, for several reasons.								
11	A 2416	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2416 A	CR-SPLIT=2; GAIN=1; SIZEAXIS2=200; WAVECAL=NO	100 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: This exposure is for photometric purposes. Its exposure time is too short to produce a high-quality spectrum. WAVECAL is not needed (and not even very useful) for this exposure.								
12	A 2794	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2794 A	CR-SPLIT=2; GAIN=1; SIZEAXIS2=200; WAVECAL=NO	150 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: This exposure is for photometric purposes. Its exposure time is too short to produce a high-quality spectrum. WAVECAL is not needed (and not even very useful) for this exposure.								
13	A 2557	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A	CR-SPLIT=3; GAIN=1; SIZEAXIS2=200; WAVECAL=NO	390 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
14	WCAL 2557	WAVE	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A		*[==>]*	***[1]***
Comments: In this program we explicitly manage the WAVECALS that are needed. Some other WAVECALS are omitted because they are not useful for the program's scientific goals.								
15	WCAL 4706	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A		*[==>]*	***[1]***
16	A 4706	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=3; SIZEAXIS2=320; GAIN=1; WAVECAL=NO	45 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: This wvl range includes He II 4687, [Fe III] emission, etc.								
17	A 3165	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3165 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Mainly for photometric purposes, no WAVECAL is needed.								
18	A 3305	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3305 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Mainly for photometric purposes, no WAVECAL is needed.								
19	A 3423	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3423 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Mainly for photometric purposes, no WAVECAL is needed.								

20	A 3680	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3680 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Mainly for photometric purposes, no WAVECAL is needed.							
21	A 4961 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=NO; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	4 Secs *[==>]*	***[2]***
Comments: Short exposure to get bright peak of H-beta, only a few pixels. No CR-SPLIT or WAVECAL is needed.							
22	A 4961 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=3; SIZEAXIS2=320; GAIN=1; WAVECAL=NO	60 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: H-beta; no WAVECAL is needed and we don't have time for one. Accurate wavelengths can be gotten from the 4706 exposures, using Eta Car's forest of narrow well-known emission lines.							
23	WCAL 3936	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A		*[==>]*	***[2]***
24	A 3936 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=320; GAIN=1	12 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Short exposure in case some of the bright features saturate in the regular exposure A 3936.							
25	A 3936 long	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; SIZEAXIS2=320; GAIN=1	90 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
26	SSW 3936	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=320; GAIN=1	72 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Hope to see faint extended [Ne III].							
27	NNE 3936	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=320; GAIN=1	72 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Hope to see faint extended [Ne III].							
28	NNE 3936 long	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=320; GAIN=1	360 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: This long exposure is intended to occur during buffer readout.							
29	A 3936 medium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=320; GAIN=1	30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Short exposure in case some of the bright features saturate in the regular exposure A 3936.							

30	A 6768 shor t 2	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=160; CR-SPLIT=2; WAVECAL=NO	0.4 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Duplicate of an exposure in orbit 1, to check on photometric repeatability. No WAVECAL is needed.							
31	A 6768 med ium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=320; CR-SPLIT=2; WAVECAL=NO	5 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Duplicates an earlier exposure, to test photometric repeatability (or rather, pointing drift and jitter). No WAVECAL is needed for this purpose.							
32	A 7283 shor t	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=4; SIZEAXIS2=320; CR-SPLIT=2; WAVECAL=NO	6 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: WAVECAL=NO because we explicitly do the WAVECAL at the end of the orbit.							
33	A 7283 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=1; SIZEAXIS2=320; CR-SPLIT=3; WAVECAL=NO	30 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: WAVECAL=NO because we explicitly do the WAVECAL at the end of the orbit.							
34	SSW 7283	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=1; SIZEAXIS2=320; CR-SPLIT=3; WAVECAL=NO	21 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: WAVECAL=NO because we explicitly do the WAVECAL at the end of the orbit.							
35	NNE 7283 med	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=4; SIZEAXIS2=320; CR-SPLIT=2; WAVECAL=NO	8 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: WAVECAL=NO because we explicitly do the WAVECAL at the end of the orbit.							
36	NNE 7283 l ong	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=1; SIZEAXIS2=320; CR-SPLIT=3; WAVECAL=NO	120 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: WAVECAL=NO because we explicitly do the WAVECAL at the end of the orbit.							
37	WCAL 7283	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A		*[==>]*	***[2]***
38	FFLAT 728 3	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20110825
Exp. 18, split 2
Exp. 19, split 1
Exp. 19, split 2
Exp. 20, split 1
Exp. 20, split 2
Exp. 21
Exp. 22, split 1
Exp. 22, split 2
Exp. 22, split 3
Exp. 23
Exp. 24, split 1
Exp. 24, split 2
Exp. 25, split 1
Exp. 25, split 2
Exp. 25, split 3
Pointing Maneuver
Exp. 26, split 1
Exp. 26, split 2
Exp. 27, split 1
Exp. 27, split 2
Exp. 28, split 1
Exp. 28, split 2
Pointing Maneuver
Exp. 29, split 1
Exp. 29, split 2
Exp. 30, split 1
Exp. 30, split 2
Exp. 31, split 1
Exp. 31, split 2
Exp. 32, split 1
Exp. 32, split 2
Exp. 33, split 1
Exp. 33, split 2
Exp. 33, split 3
Pointing Maneuver
Exp. 34, split 1
Exp. 34, split 2
Exp. 34, split 3
Pointing Maneuver
Exp. 35, split 1
Exp. 35, split 2
Exp. 36, split 1
Exp. 36, split 2
Exp. 36, split 3
Unused Visibility = 11
Exp. 37
Occultation
Exp. 38, copy 1
Exp. 38, copy 2
Home
GS Reacq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11612, Visit 64, completed Mon Jan 09 12:01:28 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 345.7D TO 347.3 D

Comments: ORIENT goal is to get observations with approx same slit coverage as in Aug 2009. ORIENT = 346.6 deg would match those obs. ...We can widen the acceptable range somewhat if this is operationally necessary.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=STIS-ALONG-SLIT	Coordinate Frame=POS-TARG		(3-5), (15-16), (18-19), (23), (24-25), (31-32), (35), (40-41), (42-43)
	Purpose=DITHER	Pattern Orientation=90.0		
	Number Of Points=2	Angle Between Sides=		
	Point Spacing=0.2282	Center Pattern=false		
	Line Spacing=			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d)		V=6.5+/-1.0	Reference Frame: GSC1
		Dec: -59 41 4.10 (-59.68447d)		F(2200) = 3.0 +/-1.5 E-12	
		Equinox: J2000			
		Plate Id: ZZZQ			

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

(6)	ETA-CAR-NNE	Offset from ETA-CAR-A by		V=9+/-1	Offset Position (ETA-CAR-NNE)
		RA Offset: 0.0089 Secs			Reference Frame: GSC1
		Dec Offset: 0.117 Arcsec			

Comments: If the STIS slit PA is close to 120 deg or 300 deg, then this position ETA-CAR-NNE gives a slit centerline that is 0.135 arcsec from the centerline for position ETA-CAR-A.

(7)	ETA-CAR-SSW	Offset from ETA-CAR-A by		V=9+/-1	Offset Position (ETA-CAR-SSW)
		RA Offset: -0.0089 Secs			Reference Frame: GSC1
		Dec Offset: -0.117 Arcsec			

Comments: If the STIS slit PA is close to 120 deg or 300 deg, then this position ETA-CAR-NNE gives a slit centerline that is 0.135 arcsec from the centerline for position ETA-CAR-A.

(8)	ETA-CAR-NNE2	Offset from ETA-CAR-A by		V=10+/-2	Offset Position (ETA-CAR-NNE2)
		RA Offset: 0.0178 Secs			Reference Frame: GSC1
		Dec Offset: 0.234 Arcsec			

Comments: If the slit PA is close to 120 or 300 deg, then this position ETA-CAR-NNE2 gives a slit centerline that is 0.27 arcsec from the centerline for position ETA-CAR-A.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	ACQ 1	(1) ETA-CAR-A	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT			0.5 Secs *[==>]*	 ***[1]***
Comments: Target Acquisition for STIS CCD longslit									
2	ACQ 2	(1) ETA-CAR-A	STIS/CCD, ACQ/PEAK, 52X0.1	G750M 7795 A				0.5 Secs *[==>]*	 ***[1]***
Comments: This wavelength interval 7795AA has no strong emision lines. Therefore peakup really leads to the star A and not to ejecta blobs like C and D.									
3	A 6768 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	CR-SPLIT=2; GAIN=4; SIZEAXIS2=100; WAVECAL=NO		Pattern 4, Exps 3-5 in Visit 64 (4)	0.2 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[1]***
Comments: Ultra-short exposure to get extremely bright H-alpha emission line profile. WAVECAL=NO because we are explicitly managing the WCALs.									
4	A 6768 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; WAVECAL=NO; SIZEAXIS2=160; CR-SPLIT=2		Pattern 4, Exps 3-5 in Visit 64 (4)	2 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[1]***
Comments: Some H-alpha pixels will be saturated in this exposure; H-alpha is extremely bright. *NOTE: In past several years Eta Car has been brightening 0.1--0.2 magn per year.*									
5	A 6768 long	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	CR-SPLIT=2; GAIN=4; SIZEAXIS2=480; WAVECAL=NO		Pattern 4, Exps 3-5 in Visit 64 (4)	16 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[1]***
Comments: H-alpha will be heavily overexposed with this exposure time.									
6	WCAL 6768	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A				*[==>]*	***[1]***
7	NNE 6768 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=120; GAIN=4			3 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
Comments: H-alpha is very bright even in the ejecta.									
8	NNE 6768 med	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=320; GAIN=4			20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
9	SSW 6768 short	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=120; CR-SPLIT=2; WAVECAL=NO			3 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
Comments: H-alpha is very bright even in the ejecta.									

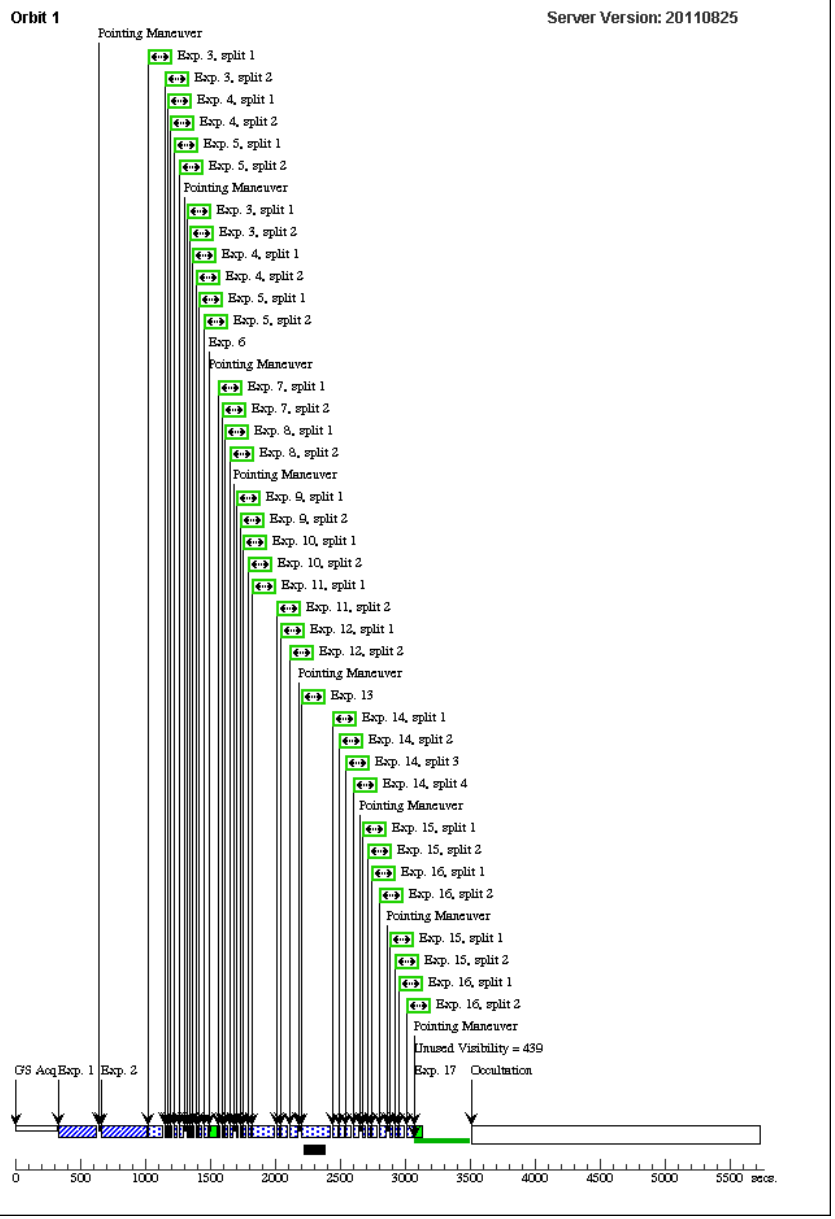
10	SSW 6768 med	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=320; GAIN=4		15 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
11	SSW 4706 short	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	SIZEAXIS2=200; CR-SPLIT=2; WAVECAL=NO; GAIN=1		20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
12	SSW 4706 med	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	WAVECAL=NO; SIZEAXIS2=400; CR-SPLIT=2; GAIN=1		80 Secs *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***
13	NNE2 4706 vlong	(8) ETA-CAR-NNE 2	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=NO; SIZEAXIS2=480; WAVECAL=NO; GAIN=1		200 Secs *[==>]*	 ***[1]***
Comments: THIS LONG EXPOSURE IS INTENDED TO MAKE USE OF THE TIME REQUIRED FOR A BUFFER DUMP. *The precise exposure time is not important, provided that it occurs DURING the buffer readout, not before or after. If this trick is not feasible, then this long exposure should be omitted.*								
14	NNE2 4706 med	(8) ETA-CAR-NNE 2	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=4; SIZEAXIS2=200; WAVECAL=NO; GAIN=1		120 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	 ***[1]***
15	NNE 4706 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=2; SIZEAXIS2=200; WAVECAL=NO; GAIN=1	Pattern 4, Exps 15-16 in Visit 64 (4)	20 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[1]***
16	NNE 4706 med	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=2; SIZEAXIS2=400; WAVECAL=NO; GAIN=1	Pattern 4, Exps 15-16 in Visit 64 (4)	60 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[1]***
17	WCAL 4706	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A			*[==>]*	***[1]***
Comments: In this program we include WAVECALS explicitly so we can omit some that are definitely not needed for the program goals, and partly to force some of them into occultation periods.								
18	A 4706 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=2; SIZEAXIS2=100; WAVECAL=NO	Pattern 4, Exps 18-19 in Visit 64 (4)	10 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	 ***[2]***

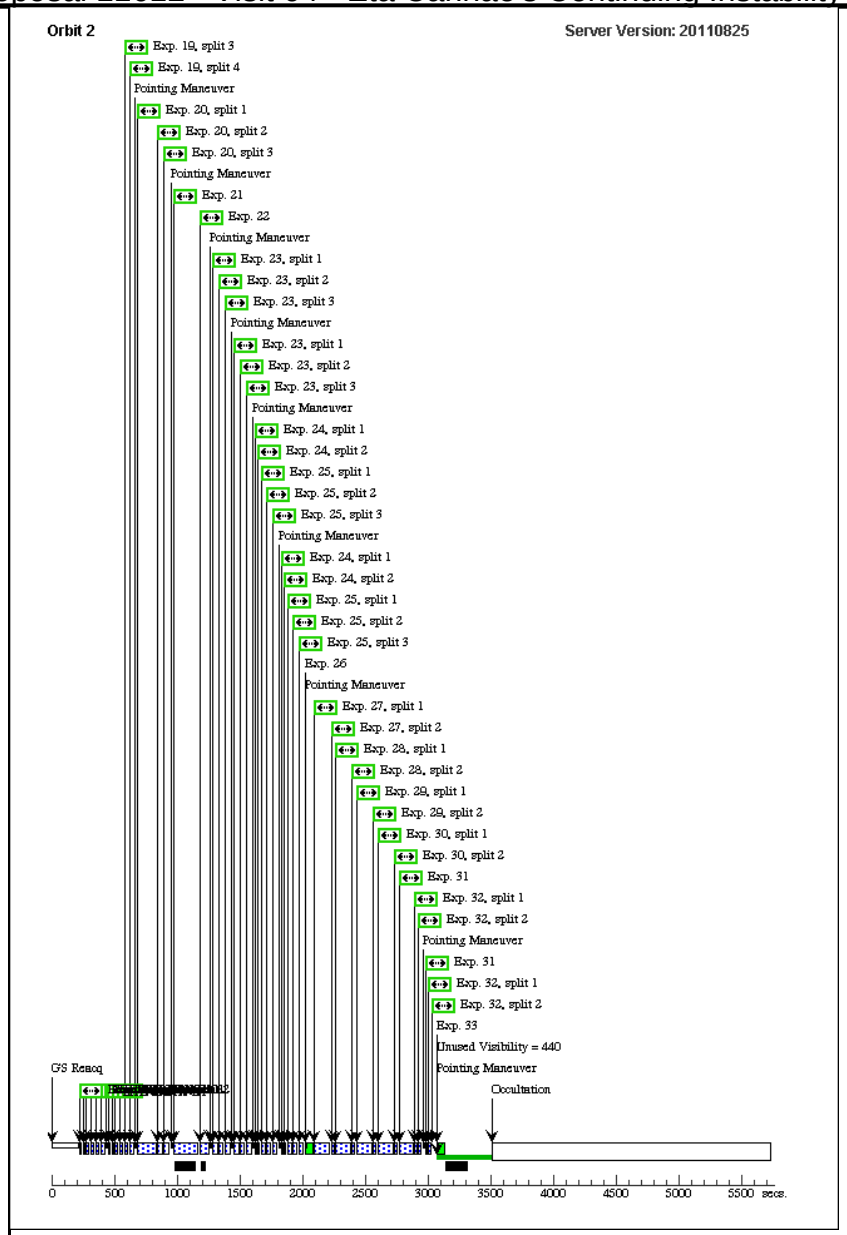
19	A 4706 medium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=4; SIZEAXIS2=200; WAVECAL=NO	Pattern 4, Exps 18-19 in Visit 64 (4)	60 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 1, Split 3)]* *[==>(Pattern 1, Split 4)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 2, Split 3)]* *[==>(Pattern 2, Split 4)]*	***[2]***
20	SSW 3936	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; SIZEAXIS2=200; WAVECAL=NO		90 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: WAVECAL=NO because we are managing WCALs explicitly.								
21	NNE2 3936 180	(8) ETA-CAR-NNE 2	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=NO; SIZEAXIS2=200; WAVECAL=NO		180 Secs *[==>]*	***[2]***
Comments: This long exposure is intended to coincide with a buffer dump.								
22	NNE2 3936 60	(8) ETA-CAR-NNE 2	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=NO; SIZEAXIS2=200; WAVECAL=NO		60 Secs *[==>]*	***[2]***
23	NNE 3936	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; SIZEAXIS2=200; WAVECAL=NO	Pattern 4, Exps 23-23 in Visit 64 (4)	72 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 1, Split 3)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 2, Split 3)]*	***[2]***
24	A 3936 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; SIZEAXIS2=200; WAVECAL=NO	Pattern 4, Exps 24-25 in Visit 64 (4)	6 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	***[2]***
25	A 3936 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; WAVECAL=NO; SIZEAXIS2=320	Pattern 4, Exps 24-25 in Visit 64 (4)	54 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 1, Split 3)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 2, Split 3)]*	***[2]***
26	WCAL 3936	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A			*[==>]*	***[2]***

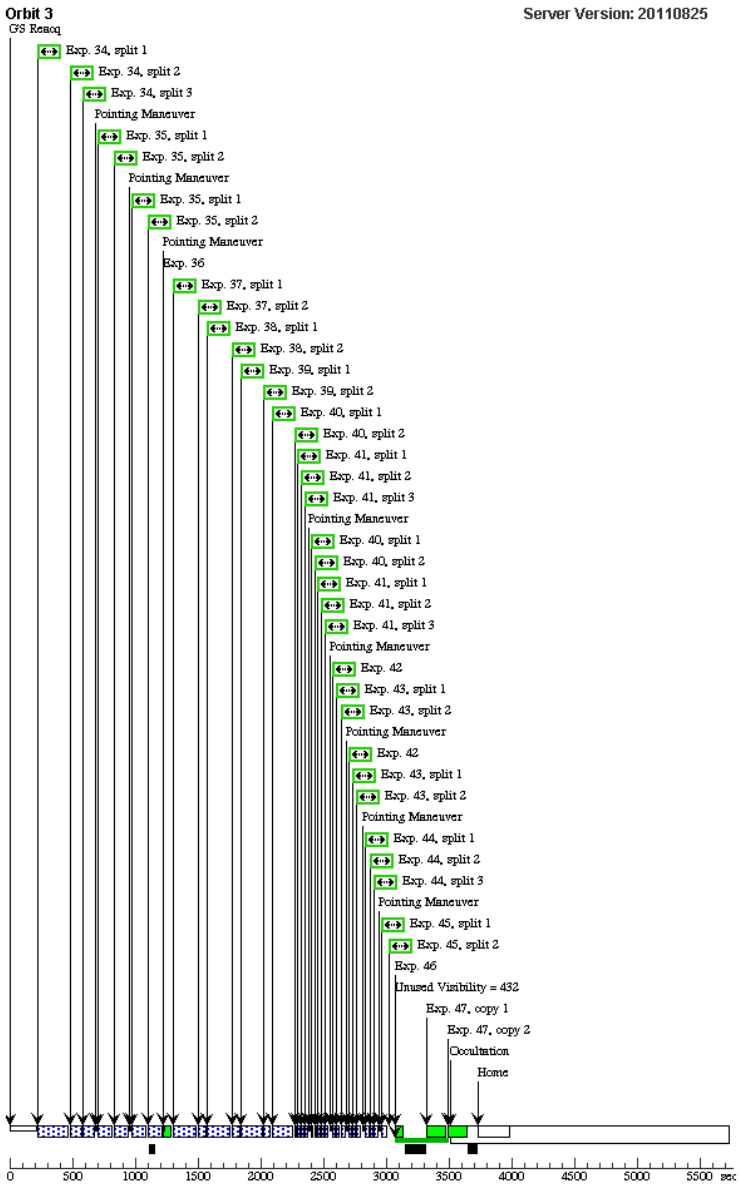
27	A 3680	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3680 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=100		15 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: For photometry, no WCAL needed.								
28	A 3423	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3423 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=100		20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: For photometry, no WAVECAL needed.								
29	A 3305	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3305 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=100		20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: For photometry, no WAVECAL needed.								
30	A 3165	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3165 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=100		20 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: For photometry, no WAVECAL needed.								
31	A 4961 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=NO; SIZEAXIS2=100; WAVECAL=NO	Pattern 4, Exps 31-32 in Visit 64 (4)	0.8 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
32	A 4961 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=2; SIZEAXIS2=100; WAVECAL=NO	Pattern 4, Exps 31-32 in Visit 64 (4)	20 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	***[2]***
33	WCAL 4961	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A			*[==>]*	***[2]***
34	NNE 2557	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A	SIZEAXIS2=160; WAVECAL=NO; CR-SPLIT=3		240 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[3]***
35	A 2557	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A	SIZEAXIS2=160; CR-SPLIT=2; WAVECAL=NO	Pattern 4, Exps 35-35 in Visit 64 (4)	200 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	***[3]***
36	WCAL 2557	WAVE	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A			*[==>]*	***[3]***
37	A 2697	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2697 A	SIZEAXIS2=120; WAVECAL=NO; CR-SPLIT=2		100 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***
Comments: Primary goal photometry, WAVECAL not needed and we don't have enough time for WAVECAL.								
38	A 2794	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2794 A	SIZEAXIS2=120; WAVECAL=NO; CR-SPLIT=2		100 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***
Comments: Primary prupose photometry, WAVECAL not needed.								

39	A 2416	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2416 A	SIZEAXIS2=120; WAVECAL=NO; CR-SPLIT=2		80 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***
Comments: Primary purpose photometry, WAVECAL not needed.								
40	A 7283 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=160; CR-SPLIT=2; GAIN=4	Pattern 4, Exps 40-41 in Visit 64 (4)	3 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	***[3]***
41	A 7283 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=200; CR-SPLIT=3; GAIN=4	Pattern 4, Exps 40-41 in Visit 64 (4)	21 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 1, Split 3)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 2, Split 3)]*	***[3]***
42	NNE 7283 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=120; CR-SPLIT=NO	Pattern 4, Exps 42-43 in Visit 64 (4)	6 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[3]***
43	NNE 7283 med	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=200; CR-SPLIT=2	Pattern 4, Exps 42-43 in Visit 64 (4)	30 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]*	***[3]***
44	SSW 7283 med	(7) ETA-CAR-SSW	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=200; CR-SPLIT=3; GAIN=4		42 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[3]***
45	NNE2 7283	(8) ETA-CAR-NNE2	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	WAVECAL=NO; SIZEAXIS2=200; CR-SPLIT=2		60 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***
46	WCAL 7283	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A			*[==>]*	***[3]***
47	FFLAT 7283	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A			*[==>(Copy 1)]* *[==>(Copy 2)]*	***[3]***

Orbit Structure




Orbit 2
Server Version: 20110825
Exp. 19, split 3
Exp. 19, split 4
Pointing Maneuver
Exp. 20, split 1
Exp. 20, split 2
Exp. 20, split 3
Pointing Maneuver
Exp. 21
Exp. 22
Pointing Maneuver
Exp. 23, split 1
Exp. 23, split 2
Exp. 23, split 3
Pointing Maneuver
Exp. 23, split 1
Exp. 23, split 2
Exp. 23, split 3
Pointing Maneuver
Exp. 24, split 1
Exp. 24, split 2
Exp. 25, split 1
Exp. 25, split 2
Exp. 25, split 3
Pointing Maneuver
Exp. 24, split 1
Exp. 24, split 2
Exp. 25, split 1
Exp. 25, split 2
Exp. 25, split 3
Exp. 26
Pointing Maneuver
Exp. 27, split 1
Exp. 27, split 2
Exp. 28, split 1
Exp. 28, split 2
Exp. 29, split 1
Exp. 29, split 2
Exp. 30, split 1
Exp. 30, split 2
Exp. 31
Exp. 32, split 1
Exp. 32, split 2
Pointing Maneuver
Exp. 31
Exp. 32, split 1
Exp. 32, split 2
Exp. 33
Unused Visibility = 440
Pointing Maneuver
GS Reacq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500 secs.


Orbit 3
Server Version: 20110825
GS Reaoq
Exp. 34, split 1
Exp. 34, split 2
Exp. 34, split 3
Pointing Maneuver
Exp. 35, split 1
Exp. 35, split 2
Pointing Maneuver
Exp. 35, split 1
Exp. 35, split 2
Pointing Maneuver
Exp. 36
Exp. 37, split 1
Exp. 37, split 2
Exp. 38, split 1
Exp. 38, split 2
Exp. 39, split 1
Exp. 39, split 2
Exp. 40, split 1
Exp. 40, split 2
Exp. 41, split 1
Exp. 41, split 2
Exp. 41, split 3
Pointing Maneuver
Exp. 40, split 1
Exp. 40, split 2
Exp. 41, split 1
Exp. 41, split 2
Exp. 41, split 3
Pointing Maneuver
Exp. 42
Exp. 43, split 1
Exp. 43, split 2
Pointing Maneuver
Exp. 42
Exp. 43, split 1
Exp. 43, split 2
Pointing Maneuver
Exp. 44, split 1
Exp. 44, split 2
Exp. 44, split 3
Pointing Maneuver
Exp. 45, split 1
Exp. 45, split 2
Exp. 46
Unused Visibility = 432
Exp. 47, copy 1
Exp. 47, copy 2
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11612, Visit 67 Mon Jan 09 12:01:32 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD

Special Requirements: ORIENT 162.6D TO 170.6 D; BETWEEN 01-JUL-2010:00:00:00 AND 30-OCT-2010:00:00:00

Comments: ORIENT is intended to duplicate slit orientation used for previous Aug 2009 and Mar 2010 observations. Optimum value is 166.6 deg. --
--
Two comments about possible calendar dates for this visit: *
1. According to APT Visit Planner, dates between 9 Aug and 28 Aug 2010 are feasible. If convenient, we prefer the last part of that interval, preferably after 20 August.
2. The Visit Planner shows a gap (not-feasible) in 10--16 August. However, if we reduce the exposure list by a small amount, this gap disappears and the entire period 9--28 Aug 2010 becomes OK with Visit Planner.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ETA-CAR-A	RA: 10 45 3.5910 (161.2649625d)		V=6.5+/-1.0	Reference Frame: GSC1
		Dec: -59 41 4.10 (-59.68447d)		F(2200) = 3.0 +/-1.5 E-12	
		Equinox: J2000			
		Plate Id: ZZZQ			

Comments: Eta Car can be tricky to acquire because of the surrounding nebulosity that may affect the positions of official guide stars. Since the old GSC1 was very incomplete and very unreliable in this region, for observations of Eta Car from 1991 to 2007 we used a special catalog, ZZZQ (prepared by KD in 1989), in the GSC1 system. In dozens of acquisitions ZZZQ never failed.
*The improved GSC is **probably** OK, but we are nervous about it because it has not been verified for Eta Car. For some of the observations in this program, a failed acquisition would be disastrous because they sample a time-sensitive event.*
--
In the J2000 ICRS reference frame, the position of Eta Car A is 10h 45m 03.563s, -59deg 41' 04.14" with a rms uncertainty of roughly 0.2".

(6)	ETA-CAR-NNE	Offset from ETA-CAR-A by		V=9+/-1	Offset Position (ETA-CAR-NNE)
		RA Offset: 0.0089 Secs			Reference Frame: GSC1
		Dec Offset: 0.117 Arcsec			

Comments: If the STIS slit PA is close to 120 deg or 300 deg, then this position ETA-CAR-NNE gives a slit centerline that is 0.135 arcsec from the centerline for position ETA-CAR-A.

Exposures

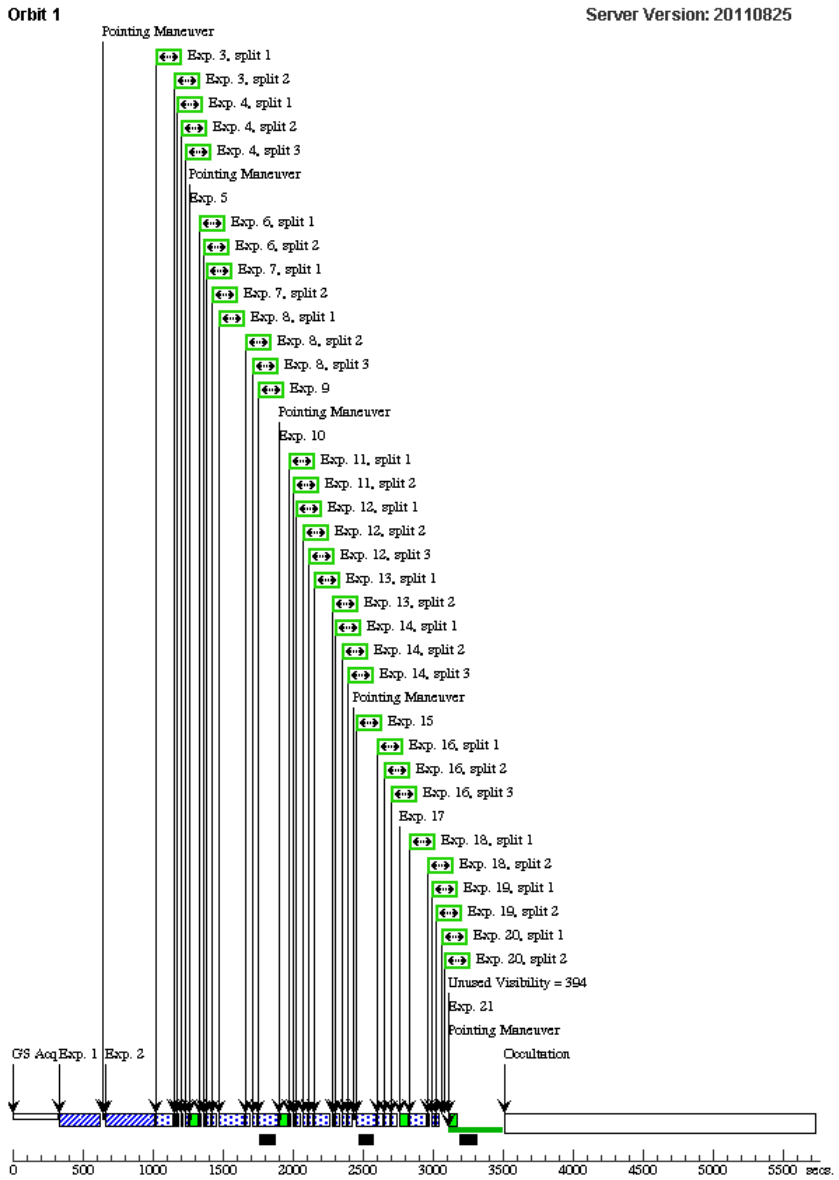
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	ACQ 1	(1) ETA-CAR-A	STIS/CCD, ACQ, F25ND3	MIRROR	ACQTYPE=POINT			0.5 Secs *[==>]*	***[1]***
Comments: Target Acquisition for STIS CCD longslit									
2	ACQ 2	(1) ETA-CAR-A	STIS/CCD, ACQ/PEAK, 52X0.1	G750M 7795 A				0.5 Secs *[==>]*	***[1]***
Comments: This wavelength interval 7795AA has no strong emision lines. Therefore peakup really leads to the star A and not to ejecta blobs like C and D.									
3	A 6768 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=160; CR-SPLIT=2; WAVECAL=NO			0.2 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: Very short integration time because H-alpha emission at 6564 AA is tremendously bright in this object. WAVECAL=NO because we are managing WAVECALS explicitly in this plan -- partly to delete some that are definitely not needed for the program goals, and partly to force some of them into the occultation period.									
4	A 6768 medium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=320; CR-SPLIT=3; WAVECAL=NO			3 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; CR-SPLIT=3 instead of 2, to somewhat reduce the saturated area. WAVECAL=NO because we manage WAVECALS explicitly, see comment for exposure 003.									
5	WCAL 6768	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A				*[==>]*	***[1]***
Comments: In this program we include WAVECALS explicitly so we can omit some that are definitely not needed for the program goals, and partly to force some of them into occultation periods.									
6	NNE 6768 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=160; CR-SPLIT=2; WAVECAL=NO			3 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure; -									
7	NNE 6768 long	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 6768 A	GAIN=4; SIZEAXIS2=400; CR-SPLIT=2; WAVECAL=NO			30 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
Comments: Includes HeI 6680 line, and wings of H-alpha. Central part of H-alpha will saturate heavily in this exposure;									
8	NNE 4706	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=3; WAVECAL=NO; SIZEAXIS2=320; GAIN=1			45 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
Comments: WCAL=NO because we manage wavecals explicitly.									
9	NNE 4706 vlong	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=NO; WAVECAL=NO; SIZEAXIS2=400; GAIN=1			120 Secs *[==>]*	***[1]***
Comments: Extra exposure, very long, to take advantage of buffer-readout that APT Orbit Planner (v 18.2) puts at this time. This exposure has low priority and perhaps it can be deleted if it CANNOT be done during buffer readout.									

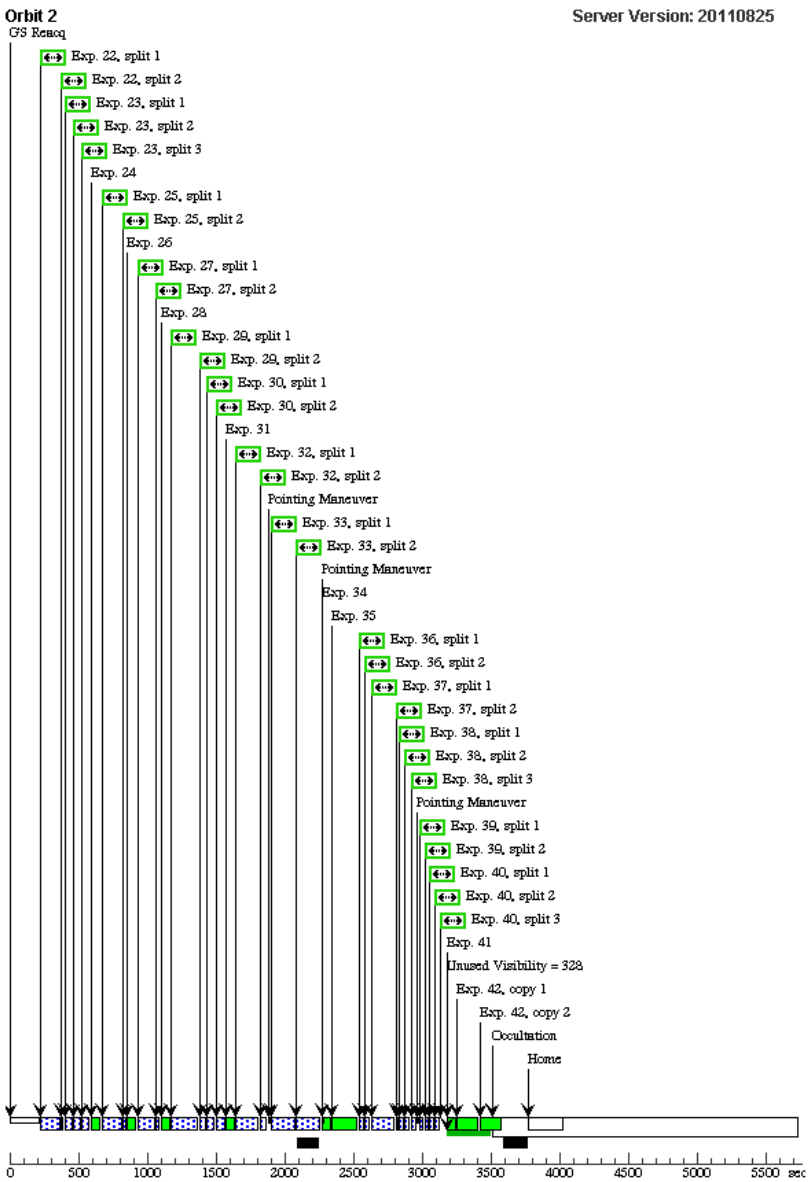
10	WCAL 4706	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A		*[==>]*	***[1]***
Comments: In this program we include WAVECALS explicitly so we can omit some that are definitely not needed for the program goals, and partly to force some of them into occultation periods.							
11	A 4706 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=160; GAIN=1	8 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
12	A 4706 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 4706 A	CR-SPLIT=3; WAVECAL=NO; SIZEAXIS2=320; GAIN=1	45 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
13	A 3936 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=160; GAIN=1	6 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
14	A 3936 med	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; WAVECAL=NO; SIZEAXIS2=320; GAIN=1	48 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
15	NNE 3936 v long	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=NO; WAVECAL=NO; SIZEAXIS2=400; GAIN=1	120 Secs *[==>]*	***[1]***
Comments: This long exposure is intended to coincide with a buffer dump that APT Orbit Planner puts at this time. Same story as for exposure 67.009.							
16	NNE 3936 medium	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A	CR-SPLIT=3; WAVECAL=NO; SIZEAXIS2=320; GAIN=1	72 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[1]***
17	WCAL 3936	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 3936 A		*[==>]*	***[1]***
18	A 4961 short	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=160; GAIN=4	3 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
19	A 4961 medium	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=320; GAIN=1	16 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
20	NNE 4961	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A	CR-SPLIT=2; WAVECAL=NO; SIZEAXIS2=160; GAIN=1	10 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
21	WCAL 4961	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 4961 A		*[==>]*	***[1]***

22	A 2000 short	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230LB 2375 A	CR-SPLIT=2; SIZEAXIS2=120; GAIN=1; WAVECAL=NO	12 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Intended to get quick look at entire UV.							
23	A 2000 medium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230LB 2375 A	CR-SPLIT=3; SIZEAXIS2=200; GAIN=1; WAVECAL=NO	120 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: Intended to get quick look at far UV. With this exposure time, the longer wavelengths covered by this grating will be saturated. Compare preceding shorter exposure.							
24	WCAL 2000	WAVE	STIS/CCD, ACCUM, 52X0.1	G230LB 2375 A		*[==>]*	***[2]***
25	A 3680	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3680 A	CR-SPLIT=2; SIZEAXIS2=120; GAIN=1	16 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
26	WCAL 3680	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 3680 A		*[==>]*	***[2]***
27	A 3305	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G430M 3305 A	CR-SPLIT=2; SIZEAXIS2=120; GAIN=1	16 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
28	WCAL 3305	WAVE	STIS/CCD, ACCUM, 52X0.1	G430M 3305 A		*[==>]*	***[2]***
29	A 2557	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	60 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
30	NNE 2557	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A	CR-SPLIT=2; SIZEAXIS2=160; GAIN=1; WAVECAL=NO	90 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
31	WCAL 2557	WAVE	STIS/CCD, ACCUM, 52X0.1	G230MB 2557 A		*[==>]*	***[2]***
32	A 2794	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2794 A	CR-SPLIT=2; SIZEAXIS2=120; GAIN=1; WAVECAL=NO	60 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
33	NNE 2794 long	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G230MB 2794 A	CR-SPLIT=2; SIZEAXIS2=200; GAIN=1; WAVECAL=NO	320 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
Comments: Intended only to take advantage of a STIS buffer dump that APT Orbit Planner puts at this time. Same story as for exposures 67.009 and 67.015.							
34	WCAL 2794	WAVE	STIS/CCD, ACCUM, 52X0.1	G230MB 2794 A		*[==>]*	***[2]***
35	WCAL 2976	WAVE	STIS/CCD, ACCUM, 52X0.1	G230MB 2976 A		*[==>]*	***[2]***

36	A 2976	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G230MB 2976 A	CR-SPLIT=2; SIZEAXIS2=120; GAIN=1; WAVECAL=NO	40 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
37	A 7283 shor t	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=4; SIZEAXIS2=120; WAVECAL=NO; CR-SPLIT=2	5 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
38	A 7283 med ium	(1) ETA-CAR-A	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=4; SIZEAXIS2=200; WAVECAL=NO; CR-SPLIT=3	60 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
Comments: Some pixels on the star will be saturated in this triple exposure.							
39	NNE 7283 medium	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=1; SIZEAXIS2=200; WAVECAL=NO; CR-SPLIT=2	16 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***
40	NNE 7283 l ong	(6) ETA-CAR-NNE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A	GAIN=1; SIZEAXIS2=200; WAVECAL=NO; CR-SPLIT=3	60 Secs *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	***[2]***
41	WCAL 7283	WAVE	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A		*[==>]*	***[2]***
42	FF 7283	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750M 7283 A		*[==>(Copy 1)]* *[==>(Copy 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20110825
GS Reacq
Exp. 22, split 1
Exp. 22, split 2
Exp. 23, split 1
Exp. 23, split 2
Exp. 23, split 3
Exp. 24
Exp. 25, split 1
Exp. 25, split 2
Exp. 26
Exp. 27, split 1
Exp. 27, split 2
Exp. 28
Exp. 29, split 1
Exp. 29, split 2
Exp. 30, split 1
Exp. 30, split 2
Exp. 31
Exp. 32, split 1
Exp. 32, split 2
Pointing Maneuver
Exp. 33, split 1
Exp. 33, split 2
Pointing Maneuver
Exp. 34
Exp. 35
Exp. 36, split 1
Exp. 36, split 2
Exp. 37, split 1
Exp. 37, split 2
Exp. 38, split 1
Exp. 38, split 2
Exp. 38, split 3
Pointing Maneuver
Exp. 39, split 1
Exp. 39, split 2
Exp. 40, split 1
Exp. 40, split 2
Exp. 40, split 3
Exp. 41
Unused Visibility = 328
Exp. 42, copy 1
Exp. 42, copy 2
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec