14154 - First imaging polarization study of Fomalhaut's 140 AU dust belt

Cycle: 23, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:49.0	yes
02	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:51.0	yes
03	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:53.0	yes
04	(2) VEGA	ACS/WFC	1	25-Sep-2015 21:09:54.0	yes
05	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:56.0	yes
06	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:57.0	yes
07	(1) FOMALHAUT	ACS/WFC	1	25-Sep-2015 21:09:59.0	yes
A1	BIAS	ACS/WFC	1	25-Sep-2015 21:10:00.0	yes
A2	BIAS	ACS/WFC	1	25-Sep-2015 21:10:01.0	yes
A3	BIAS	ACS/WFC	1	25-Sep-2015 21:10:02.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
A4	BIAS	ACS/WFC	1	25-Sep-2015 21:10:03.0	yes

11 Total Orbits Used

ABSTRACT

As one of the nearest exoplanetary systems with multiple dust structures and a candidate extrasolar planet on a highly eccentric orbit, Fomalhaut draws significant attention from observers and theorists alike. However, there is an unresolved debate concerning the fundamental 3D geometry of the system. This strongly impacts our knowledge of grain properties, such as the size distribution, and the question of spin-orbit alignment between the star, the dust belt, and Fomalhaut b. Here we propose the first optical polarization study of Fomalhaut's 140 AU dust belt, which is made feasible by the high-contrast, diffraction-limited imaging capability of ACS/WFC. As demonstrated with another dust belt system, HR 4796A, determining the Stokes parameters is a crucial diagnostic for scattering geometry and dust grain properties. Measuring the grain optical properties through polarization will not only resolve the spin-orbit debate for Fomalhaut, it will also permit a quantitative comparison to other dusty systems, from the primitive porous aggregates that comprise AU Mic's debris disk, to the highly processed interplanetary dust particles in our own solar system.

OBSERVING DESCRIPTION

These observations will obtain wide-field, high-contrast polarimetric imaging of Fomalhaut's dust belt. Our observing technique was validated in GO-9861 (PI Kalas). The bright star Beta Pictoris was placed near the 50 pixel wide WFC chip gap, and we obtained images at three roll angles (one orbit per angle, or ORIENT). We use the roll subtraction to estimate and subtract the stellar PSF. The absence of a coronagraph means that diffraction spikes and a bright pupil ghost dominate large portions of the field. The 14154 observations require specific spacecraft ORIENTs such that the pupil ghost does not overlap with the Fomalhaut's dust belt.

Due to the ORIENT and sequence constraints, the scheduling windows are very few and very brief. We find a single opportunity in 2015 on October 11-12.

Visit 01 has the first ORIENT for Fomalhaut, and Visit 02 and 03 are SAME AS Visit 01. Then Visit 04 has the PSF reference star Vega. A sequence of orbits is specified so that Visits 01,02,03,04 are executed consecutively. We need consecutive orbits to achieve PSF stability that is required for successful PSF subtraction. Ideally we would also have Visits 05,06,07 in the sequence, but a sequence of 7 orbits is difficult to schedule. Therefore for scheduling flexibility, we specify that Visit 05 should occur very soon after Visit 04, but it is not part of the Visit 01-04

sequence. However, Visits 05,06,07 have their own sequence so that they are executed consecutively in three orbits with no interruptions.

The default aperture for a POL observation is pixel 3096,1024 on the WFC1 chip. This is the right half of the WFC1 chip and only half is necessary because of the 35" radius vignetting with POL observations. The default is to have a 2048x2048 subarray on WFC1.

However, we want to place the star on the chip gap to mitigate saturation. Therefore we DO NOT want the default aperture and subarray for POL observations. We therefore specify for every exposure in every orbit a POS-TARG of x=0 arcsec, y=-11.25 arcsec from the WFC aperture (reference pixel 2072,200 on WFC1). This appears to be an allowed configuration in the APT and this should move the targets to the middle of the chip gap.

CALIBRATION ORBITS: As per STScI policy, 4 internal orbits have been added to this proposal for the purpose of obtaining subarray bias frames that are contemporaneous with the science observations. These internal orbits will be charged to STScI's Cycle 23 ACS Calibration Program, not to GO 14154. The ACS Instrument Team at STScI is responsible for producing superbias reference files from the bias frames obtained in this GO proposal.

Visit

Proposal 14154, Visit 01, scheduling Sat Sep 26 01:10:04 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: ORIENT 25D TO 27 D; AFTER 04 BY 0 Orbits TO 2 Orbits; SEQ 01,02,03,05,06,07 WITHIN 6 Orbits

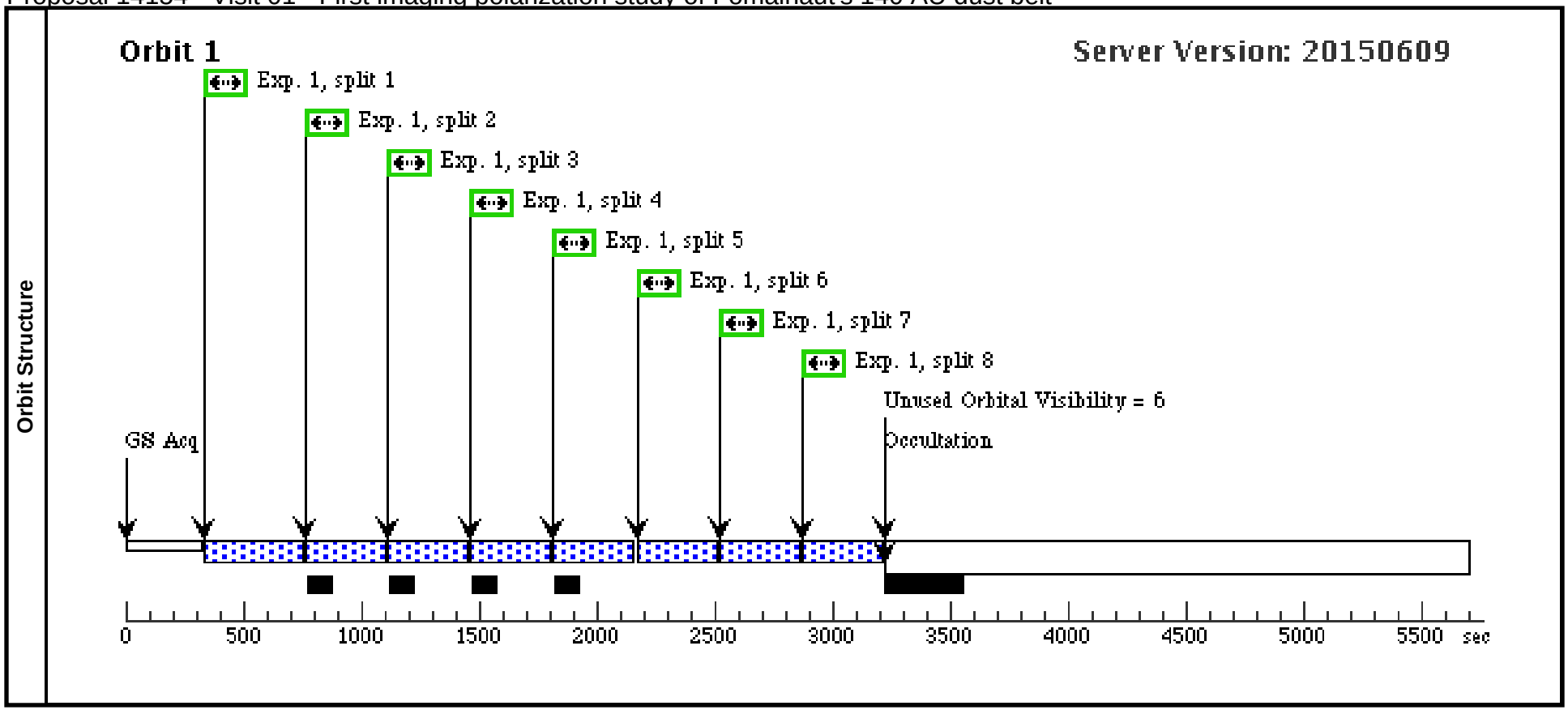
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL0V	CR-SPLIT=8; GAIN=2.0			1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 02, scheduling Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 01

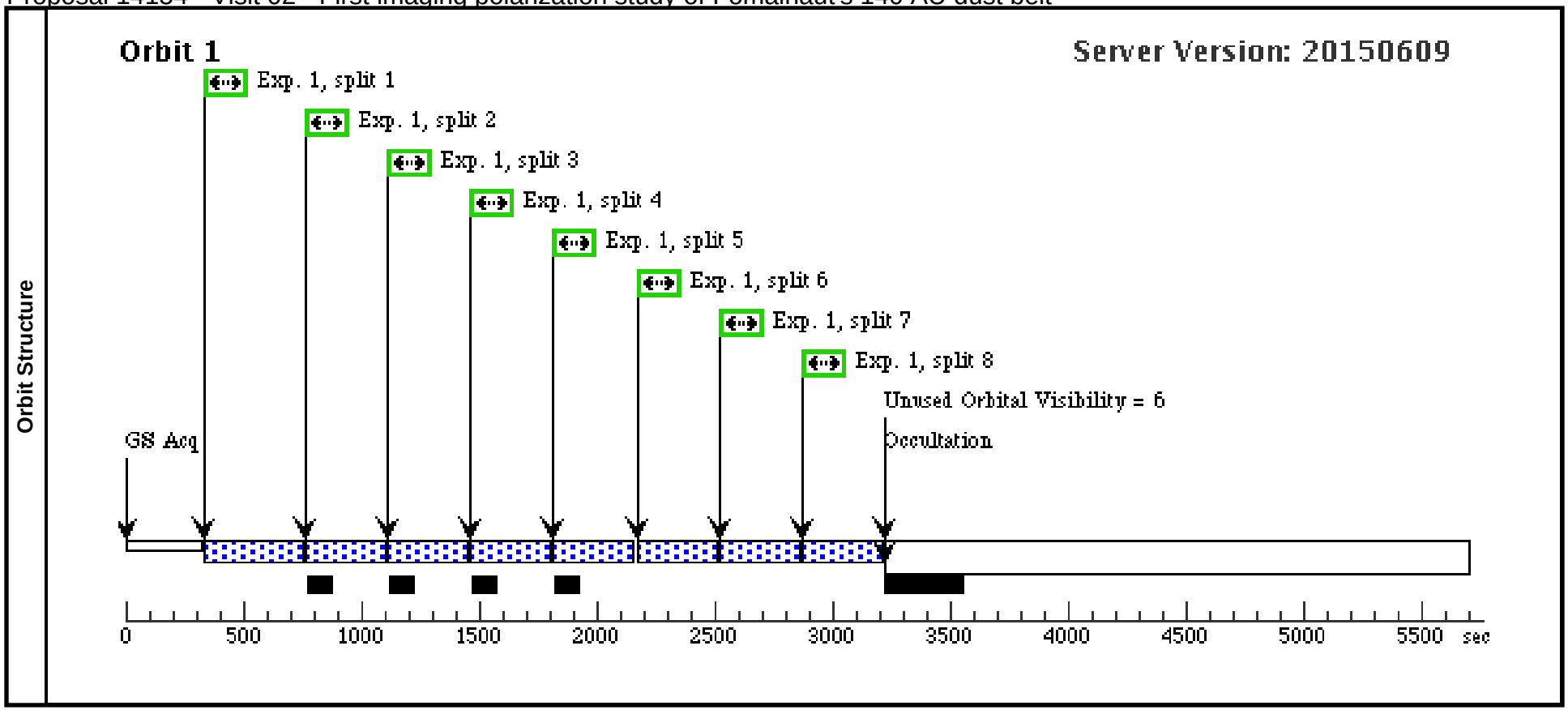
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL60V	CR-SPLIT=8; GAIN=2.0	POS TARG 0,0		1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 03, scheduling Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 01

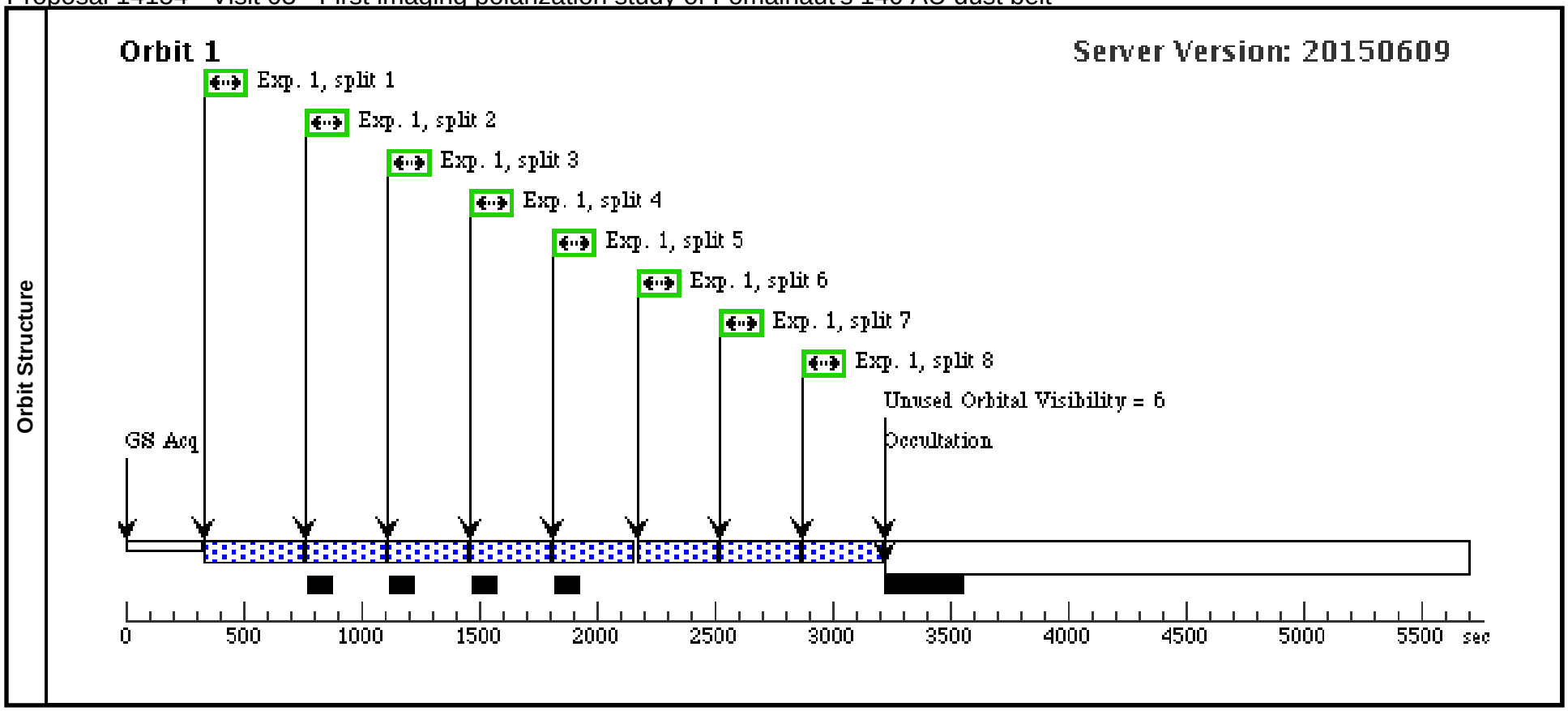
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL120V	CR-SPLIT=8; GAIN=2.0	POS TARG 0,0		1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 04, implementation Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: (none)

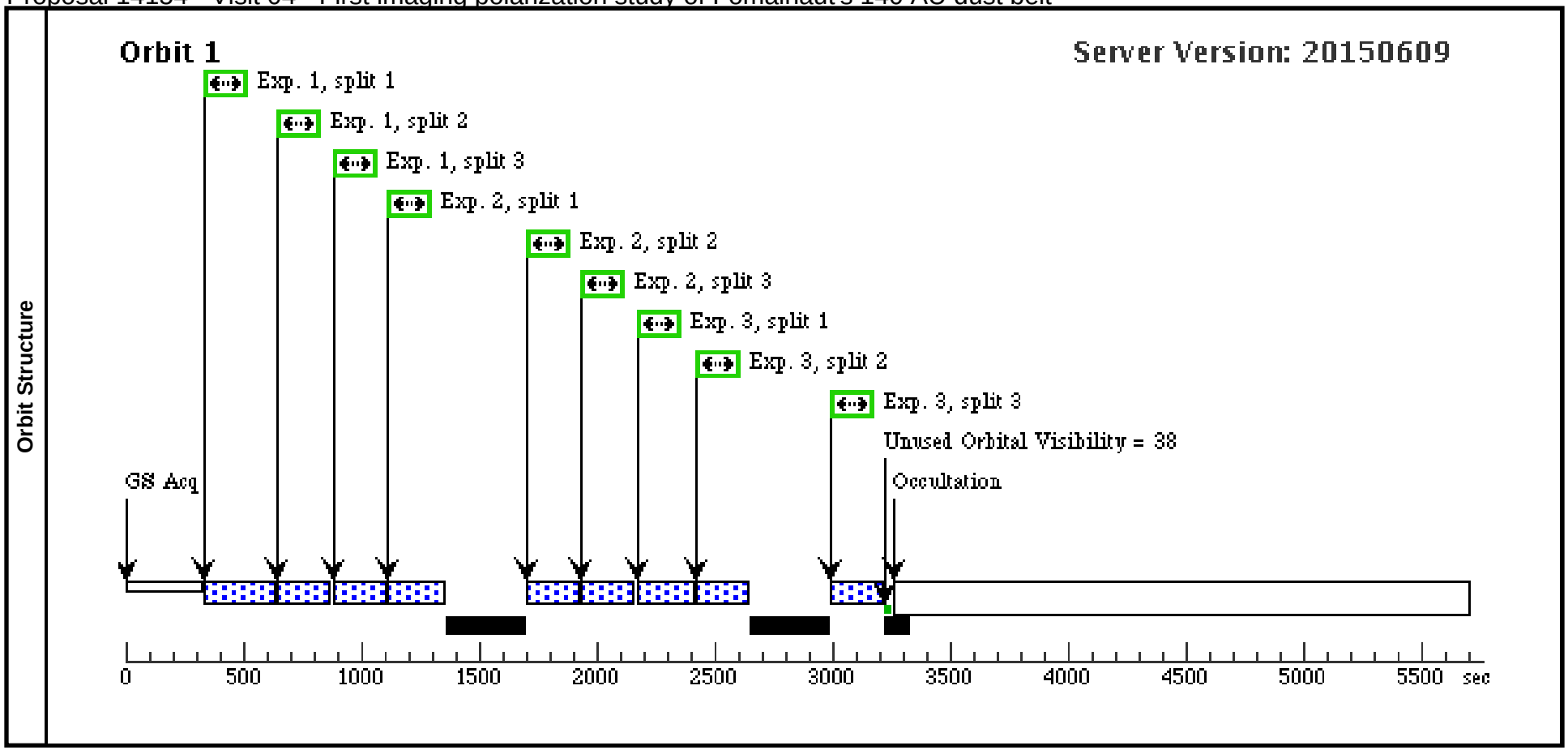
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	VEGA	RA: 18 36 56.3364 (279.2347350d) Dec: +38 47 1.28 (38.78369d) Equinox: J2000	Proper Motion RA: 200.94 mas/yr Proper Motion Dec: 286.23 mas/yr Parallax: 0.13023" Epoch of Position: 2000.0	V=0.03	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) VEGA	ACS/WFC, ACCUM, WFC	F606W POL0V	CR-SPLIT=3; GAIN=2.0	POS TARG 0,0		120 Secs (120 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
2		(2) VEGA	ACS/WFC, ACCUM, WFC	F606W POL60V	CR-SPLIT=3; GAIN=2.0			120 Secs (120 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***
3		(2) VEGA	ACS/WFC, ACCUM, WFC	F606W POL120V	CR-SPLIT=3; GAIN=2.0			120 Secs (120 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 2, split 1
Exp. 2, split 2
Exp. 2, split 3
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Unused Orbital Visibility = 38
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 05, scheduling Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: ORIENT 17D TO 17.1D FROM 01

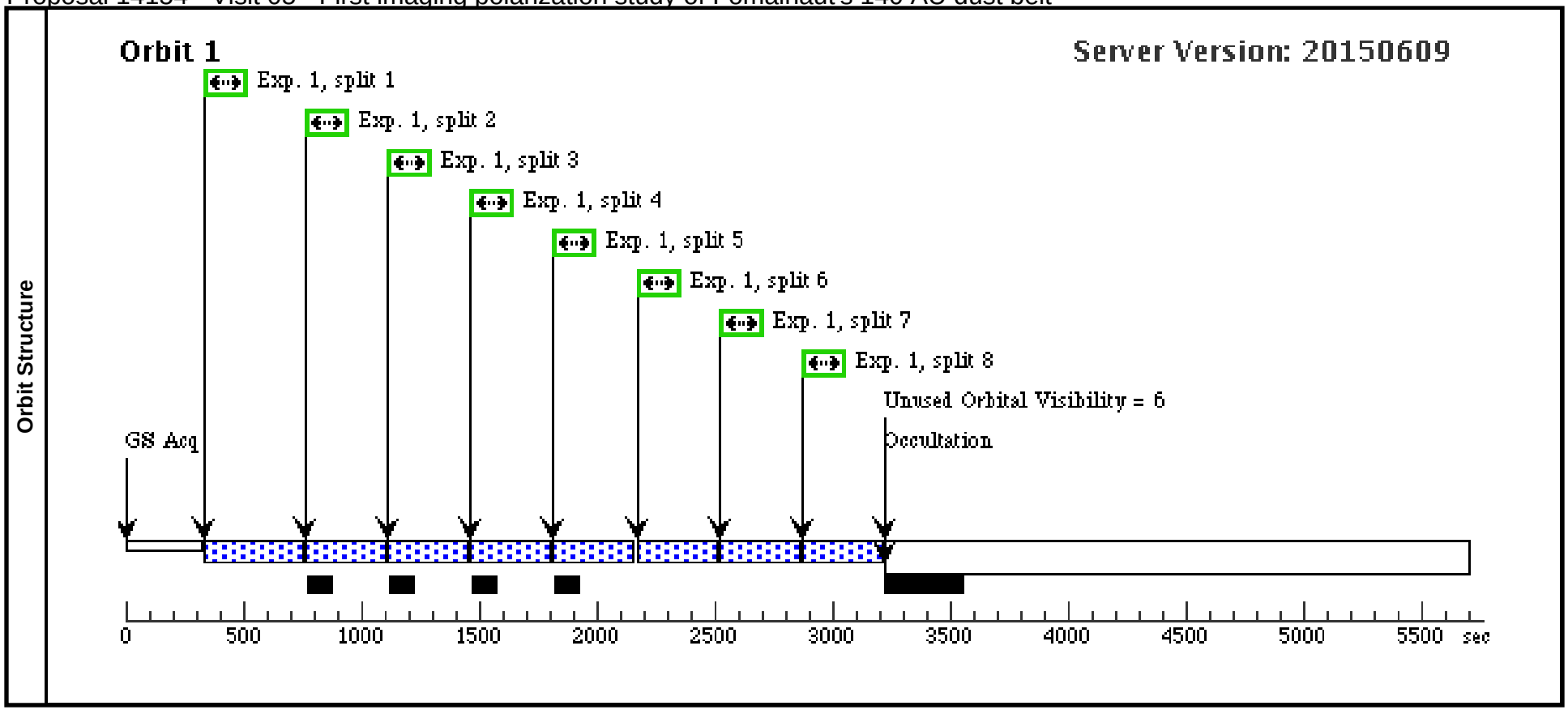
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL0V	CR-SPLIT=8; GAIN=2.0	POS TARG 0,0		1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 06, scheduling Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 05

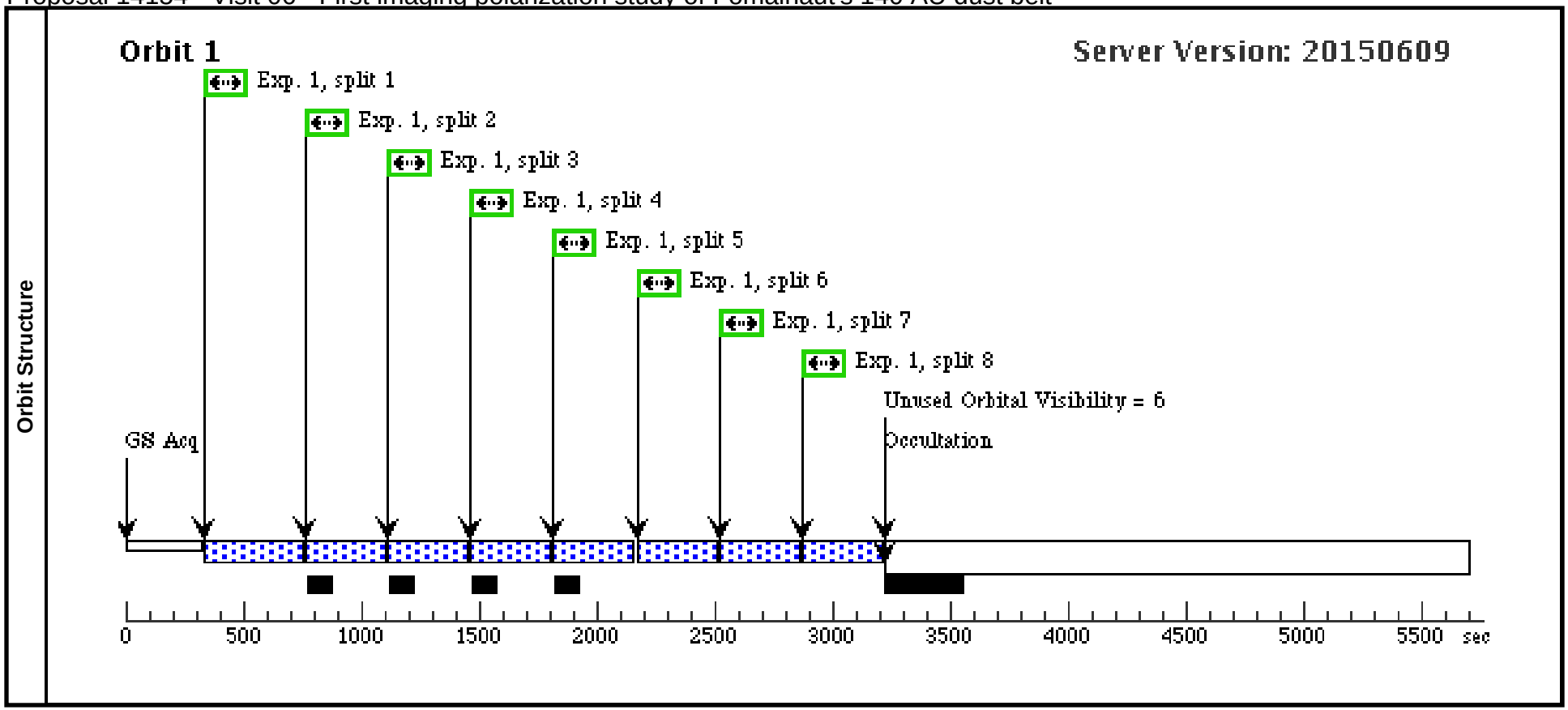
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL60V	CR-SPLIT=8; GAIN=2.0	POS TARG 0,0		1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, Visit 07, scheduling Sat Sep 26 01:10:05 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 05

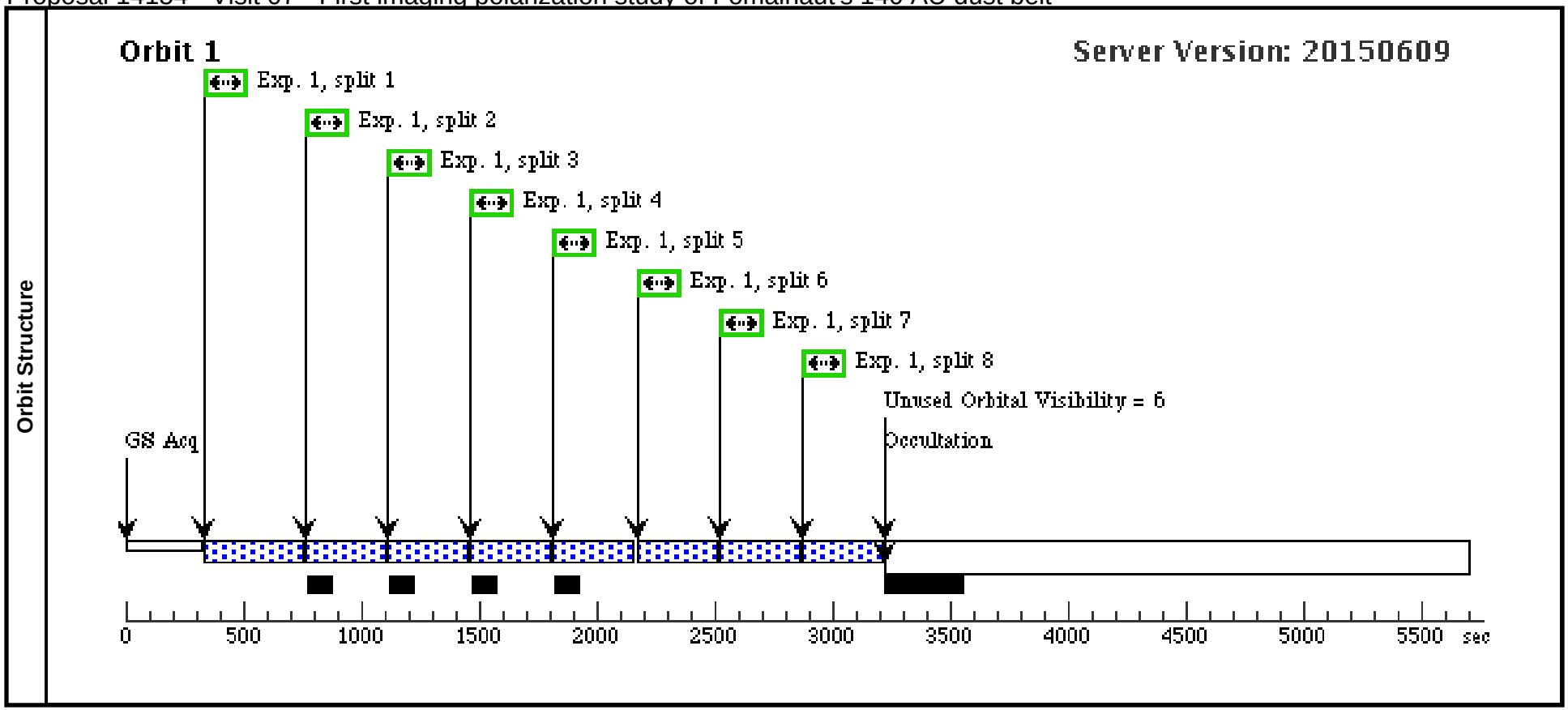
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FOMALHAUT	RA: 22 57 39.0463 (344.4126929d) Dec: -29 37 20.05 (-29.62224d) Equinox: J2000	Proper Motion RA: 328.95 mas/yr Proper Motion Dec: -164.67 mas/yr Parallax: 0.12981" Epoch of Position: 2000.0	V=1.16	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) FOMALHAUT	ACS/WFC, ACCUM, WFC	F606W POL120V	CR-SPLIT=8; GAIN=2.0	POS TARG 0,0		1272 Secs (1272 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]* *[==>(Split 5)]* *[==>(Split 6)]* *[==>(Split 7)]* *[==>(Split 8)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20150609
Exp. 1, split 1
Exp. 1, split 2
Exp. 1, split 3
Exp. 1, split 4
Exp. 1, split 5
Exp. 1, split 6
Exp. 1, split 7
Exp. 1, split 8
Unused Orbital Visibility = 6
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14154, WFC1-2K_BIAS (A1), scheduling Sat Sep 26 01:10:06 GMT 2015

Diagnostic Status: Error

Scientific Instruments: ACS/WFC

Special Requirements: SEQ A1,A2,A3,A4 WITHIN 1 D

Diagnostics

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): This attribute is not allowed to have this value: Calibration_Target = BIAS
It is an Available option and cannot normally be used in a GO proposal.

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): This attribute cannot have this value due to other choices: Spectral_Element=DEF
This value is by default illegal.

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): COMPRESSION is not a valid selection

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): Illegal selection: DEF.

(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): Target BIAS is no longer a valid selection

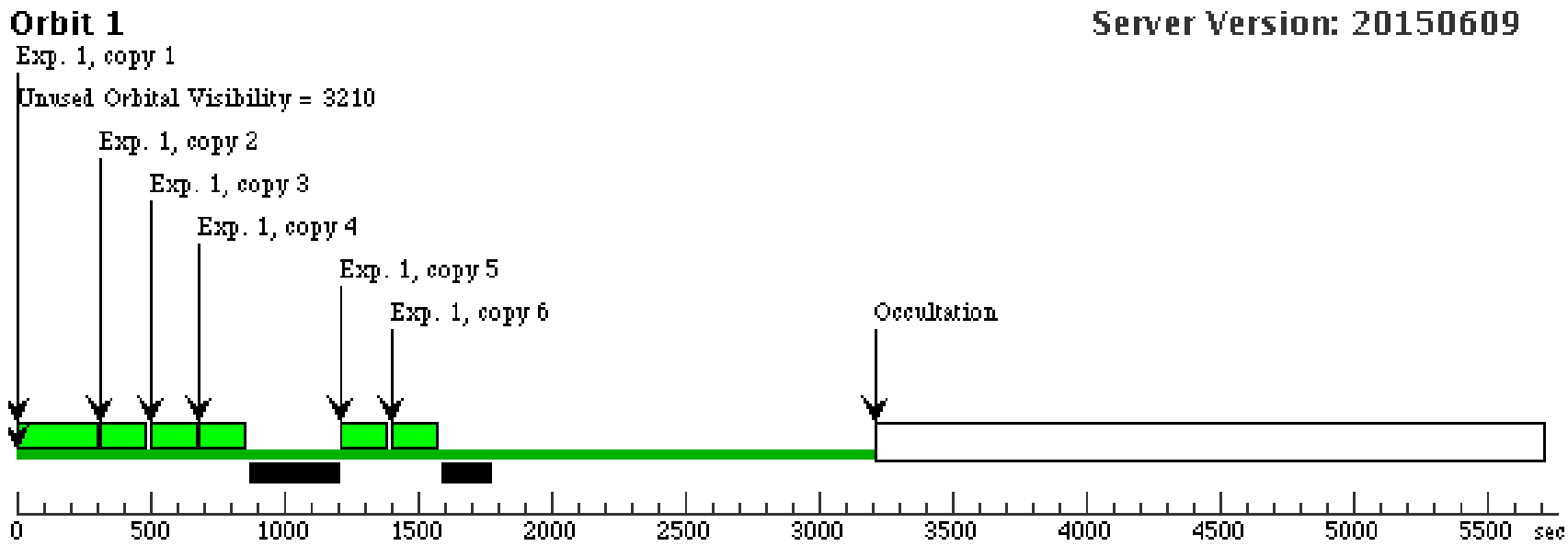
(Exposure 1 (WFC1-2K_BIAS (A1))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION=NONE
The combination of attributes chosen is illegal.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		BIAS	ACS/WFC, ACCUM, WFC1-2K	DEF	GAIN=2.0; COMPRESSION=NONE			0 Secs X 6 (0 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]*	***[1]***

Comments: All visits should be done within one anneal cycle in order to not have to repeat the subarray bias observations.

Orbit Structure



Visit

Proposal 14154, WFC1-2K_BIAS (A2), scheduling Sat Sep 26 01:10:06 GMT 2015

Diagnostic Status: Error

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): COMPRESSION is not a valid selection

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION=NONE
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): Target BIAS is no longer a valid selection

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): This attribute cannot have this value due to other choices: Spectral_Element=DEF
This value is by default illegal.

(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): This attribute is not allowed to have this value: Calibration_Target = BIAS
It is an Available option and cannot normally be used in a GO proposal.

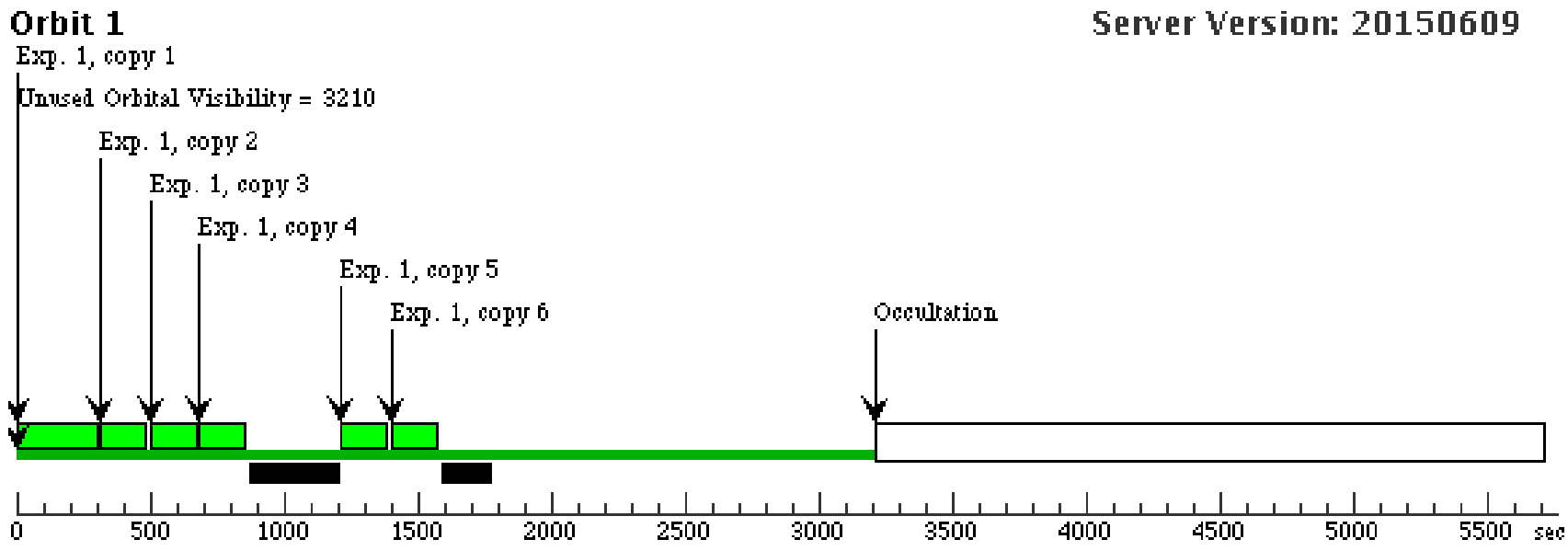
(Exposure 1 (WFC1-2K_BIAS (A2))) Error (Form): Illegal selection: DEF.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		BIAS	ACS/WFC, ACCUM, WFC1-2K	DEF	GAIN=2.0; COMPRESSION=NONE			0 Secs X 6 (0 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]*	***[1]***

Comments: All visits should be done within one anneal cycle in order to not have to repeat the subarray bias observations.

Orbit Structure



Visit

Proposal 14154, WFC1-2K_BIAS (A3), scheduling Sat Sep 26 01:10:06 GMT 2015

Diagnostic Status: Error

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): Illegal selection: DEF.

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): COMPRESSION is not a valid selection

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): Target BIAS is no longer a valid selection

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION=NONE
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): This attribute is not allowed to have this value: Calibration_Target = BIAS
It is an Available option and cannot normally be used in a GO proposal.

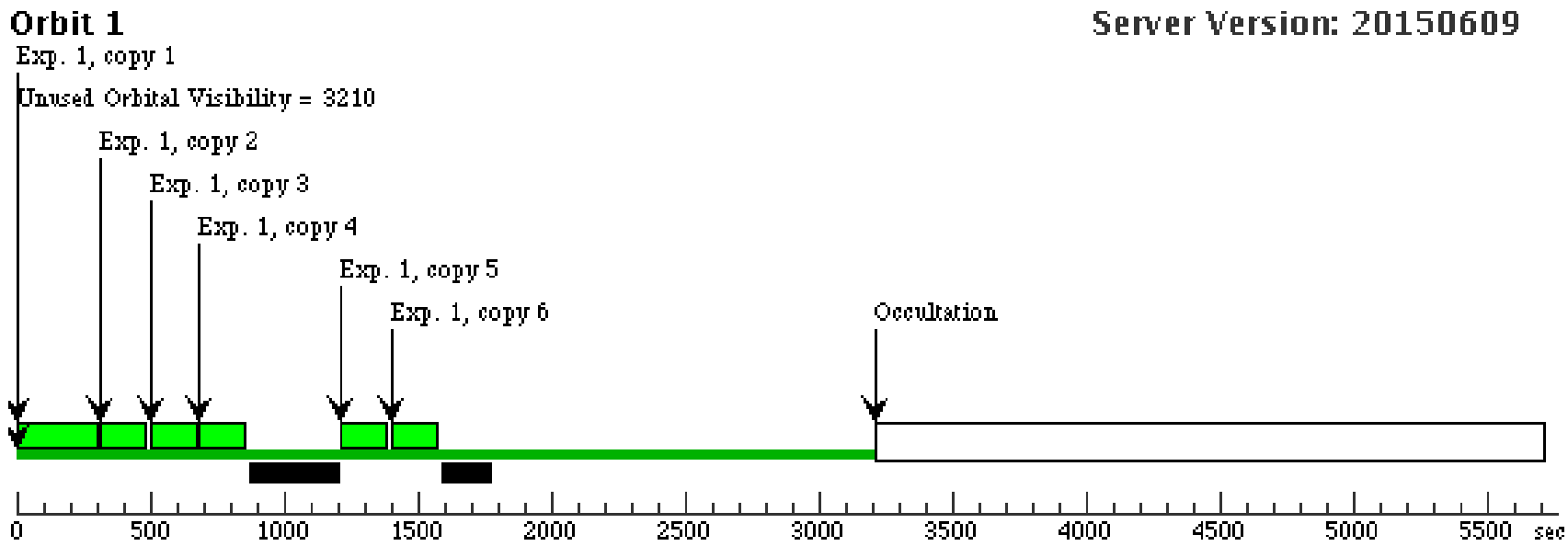
(Exposure 1 (WFC1-2K_BIAS (A3))) Error (Form): This attribute cannot have this value due to other choices: Spectral_Element=DEF
This value is by default illegal.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		BIAS	ACS/WFC, ACCUM, WFC1-2K	DEF	GAIN=2.0; COMPRESSION=NONE			0 Secs X 6 (0 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]*	***[1]***

Comments: All visits should be done within one anneal cycle in order to not have to repeat the subarray bias observations.

Orbit Structure



Visit

Proposal 14154, WFC1-2K_BIAS (A4), scheduling Sat Sep 26 01:10:06 GMT 2015

Diagnostic Status: Error

Scientific Instruments: ACS/WFC

Special Requirements: GROUP A4,01,02,03,04,05,06,07 WITHIN 14D

Diagnostics

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): Illegal selection: DEF.

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): Target BIAS is no longer a valid selection

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): COMPRESSION is not a valid selection

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): This attribute cannot have this value due to other choices: Optional_Parameter=COMPRESSION=NONE
The combination of attributes chosen is illegal.

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): This attribute cannot have this value due to other choices: Spectral_Element=DEF
This value is by default illegal.

(Exposure 1 (WFC1-2K_BIAS (A4))) Error (Form): This attribute is not allowed to have this value: Calibration_Target = BIAS
It is an Available option and cannot normally be used in a GO proposal.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		BIAS	ACS/WFC, ACCUM, WFC1-2K	DEF	GAIN=2.0; COMPRESSION=NONE			0 Secs X 6 (0 Secs) *[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]*	*[1]*

Comments: All visits should be done within one anneal cycle in order to not have to repeat the subarray bias observations.

Orbit Structure