11150 - Beta Pic Polarimetry with NICMOS

Cycle: 16, 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?*
05	(1) HR-2020	NIC2	1	03-Nov-2009 21:01:07.0	yes
06	(1) HR-2020	NIC2	1	03-Nov-2009 21:01:14.0	yes
07	(4) SKY-HR-2020	NIC2	1	03-Nov-2009 21:01:19.0	yes
08	(3) HD-68456	NIC2	1	03-Nov-2009 21:01:24.0	yes
59	(9) PSF-HD-57240	NIC2	1	03-Nov-2009 21:01:29.0	yes
60	(1) HR-2020 (5) SKY1-HR-2020	NIC2	1	03-Nov-2009 21:01:38.0	yes
61	(1) HR-2020 (6) SKY2-HR-2020	NIC2	1	03-Nov-2009 21:01:44.0	yes
62	(3) HD-68456	NIC2	1	03-Nov-2009 21:01:50.0	yes
13	(1) HR-2020	NIC2	1	03-Nov-2009 21:01:54.0	yes
14	(1) HR-2020	NIC2	1	03-Nov-2009 21:01:57.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
15	(1) HR-2020	NIC2	1	03-Nov-2009 21:02:00.0	yes
16	(9) PSF-HD-57240	NIC2	1	03-Nov-2009 21:02:04.0	yes
70	(1) HR-2020	WFC3/IR	1	03-Nov-2009 21:02:29.0	yes
71	(1) HR-2020	WFC3/IR	1	03-Nov-2009 21:02:52.0	yes
72	(1) HR-2020	WFC3/IR	1	03-Nov-2009 21:03:19.0	yes
73	(1) HR-2020	WFC3/IR	1	03-Nov-2009 21:03:42.0	yes

16 Total Orbits Used

ABSTRACT

Debris disk stars host transient dust grains that comprise a collisional cascade with sizes ranging from planetesimals to the sub-micron. In addition to the gravity of the host star and any planets present, these grains are subject to size-dependent non-gravitational forces, e.g., corpuscular drag and radiation pressure. When a steep spectrum of grain sizes prevails, such as the Dohnanyi distribution, scattered light images preferentially trace grains with dimensionless size parameter of order unity. Thus images in scattered starlight provide unique windows on the balance of forces acting on grains at a specific size. Therefore, in an A star system such as beta Pic, the near-IR is dominated by grains close to the blow out size and therefore NICMOS traces dust on hyperbolic orbits.

Scattering is fundamentally polarization sensitive, and measurements that record intensity literally see only half the picture. If linear polarization is measured then the elements of the complex scattering matrix can be reconstructed. These matrix elements provide fundamental constraints on the size, composition and structure of the scatterers. Notably, polarimetry can be used to break the degeneracy between scattering asymmetry, g, and the radial dust gradient, which are otherwise covariant in an edge-on disk. Thus, we can use polarimetry to localize the parent bodies in the beta Pic disk.

In beta Pic, dust is thought to originate mainly from the sublimation of cometary bodies near periastron. The irradiation of cometary material leads to sublimation and photodissociation of ices forming porous grains consisting of a matrix of refractory material. Such grains have a characteristic

scattering signature in polarized light that can be distinguished from compact grains that arise from collisional erosion of asteroidal material.

OBSERVING DESCRIPTION

We will use NICMOS NIC-2 coronagraphy to obtain high contrast polarimetric observations of Beta Pictoris. In order to obtain a full complement of angles and to image each disk extension along the long axes of NIC-2 (relative to the upper left corner location of the coronagraphic hole), our observations are split into four groups of four Visits, where each Visit equals one HST orbit. The four visits in each group are to be executed as a GROUP WITHIN, to minimize PSF variations and to facilitate PSF subtraction. The four Visits include two for Beta Pic, one for Sky, and one for a PSF reference star. The two Beta Pic visits have absolute and relative ORIENT constraints in order to image the disk midplane along specific optimum directions across the NIC-2 detector. Each Visit (except for SKY) begins with an acquisition exposure to acquire the stars behind the occulting spot. For the orbits dedicated to SKY, a dither pattern should be implemented to remove background targets during data reduction.

Visit

Proposal 11150, Visit 05, completed Wed Nov 04 02:03:47 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 106.0D TO 107.0 D; GROUP 05,06,07,08 WITHIN 3.5 Orbits

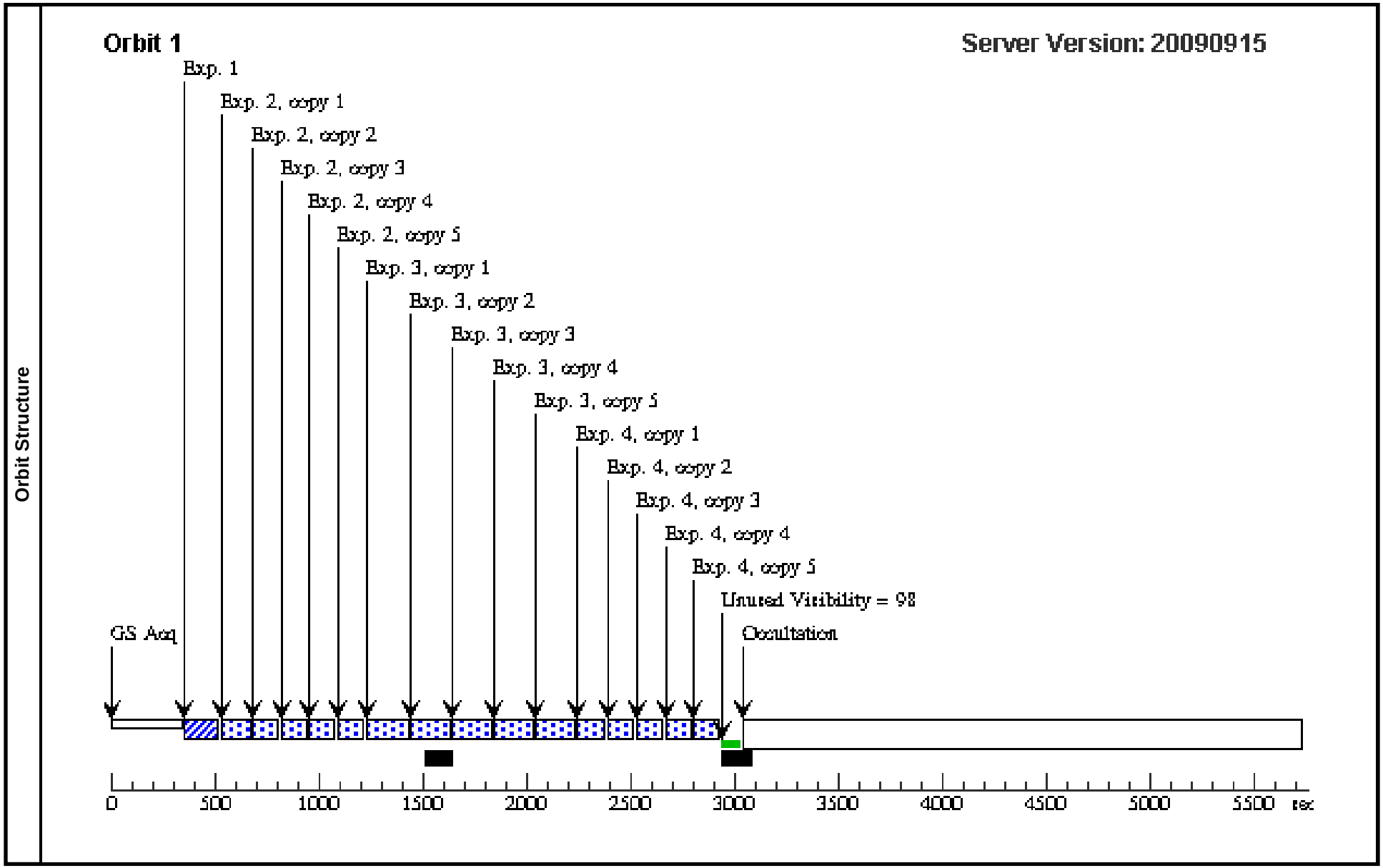
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	*[1]*
2		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
3		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
4		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*


Orbit Structure
Orbit 1
Server Version: 20090915
Exp. 1
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 2, copy 4
Exp. 2, copy 5
Exp. 3, copy 1
Exp. 3, copy 2
Exp. 3, copy 3
Exp. 3, copy 4
Exp. 3, copy 5
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Exp. 4, copy 4
Exp. 4, copy 5
Unused Visibility = 98
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 06, completed Wed Nov 04 02:03:48 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 9.0D TO 11.0D FROM 05

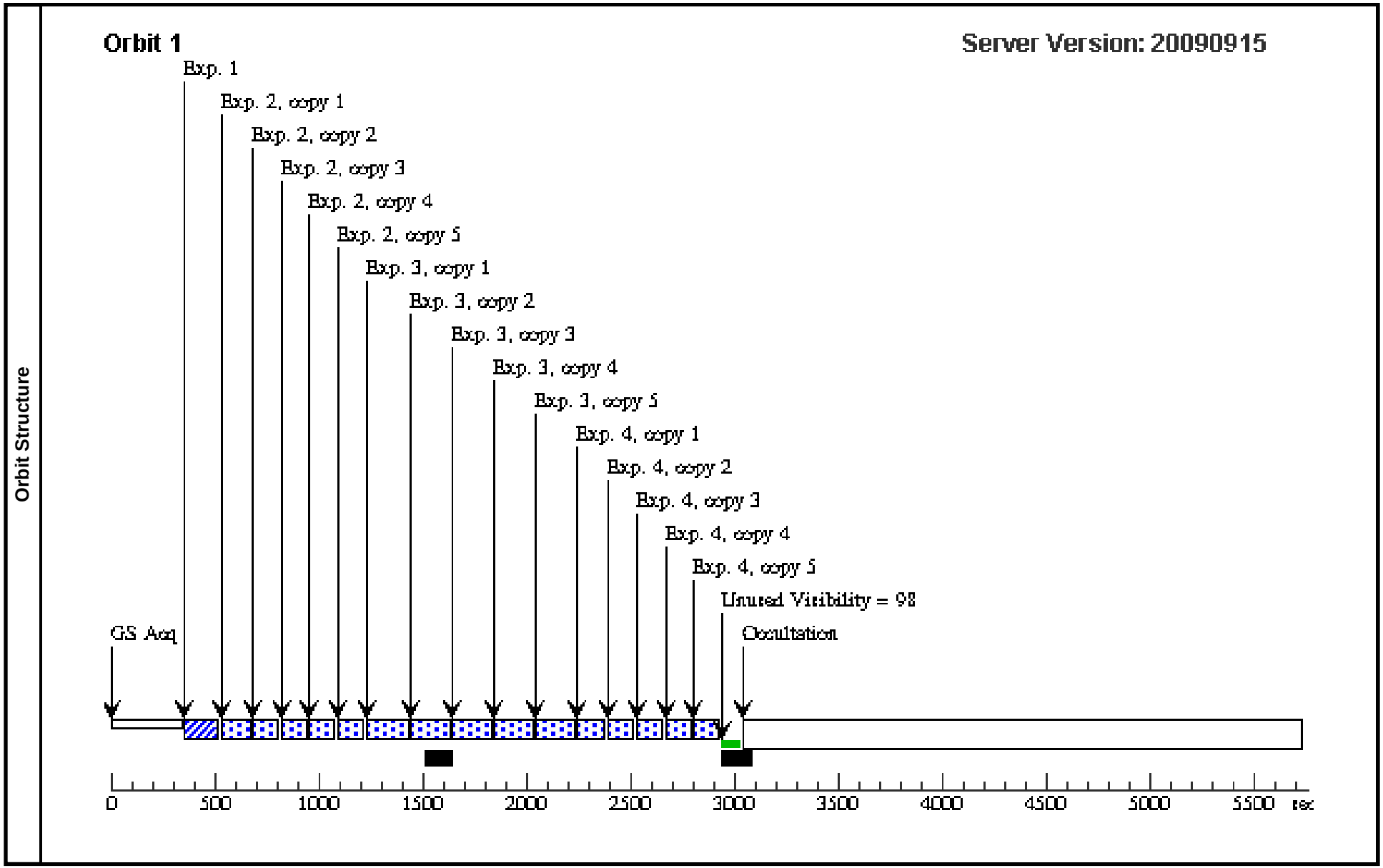
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	*[1]*
2		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
3		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
4		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*


Orbit Structure
Orbit 1
Server Version: 20090915
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Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 2, copy 4
Exp. 2, copy 5
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Exp. 3, copy 2
Exp. 3, copy 3
Exp. 3, copy 4
Exp. 3, copy 5
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Exp. 4, copy 4
Exp. 4, copy 5
Unused Visibility = 98
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 07, completed Wed Nov 04 02:03:49 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%

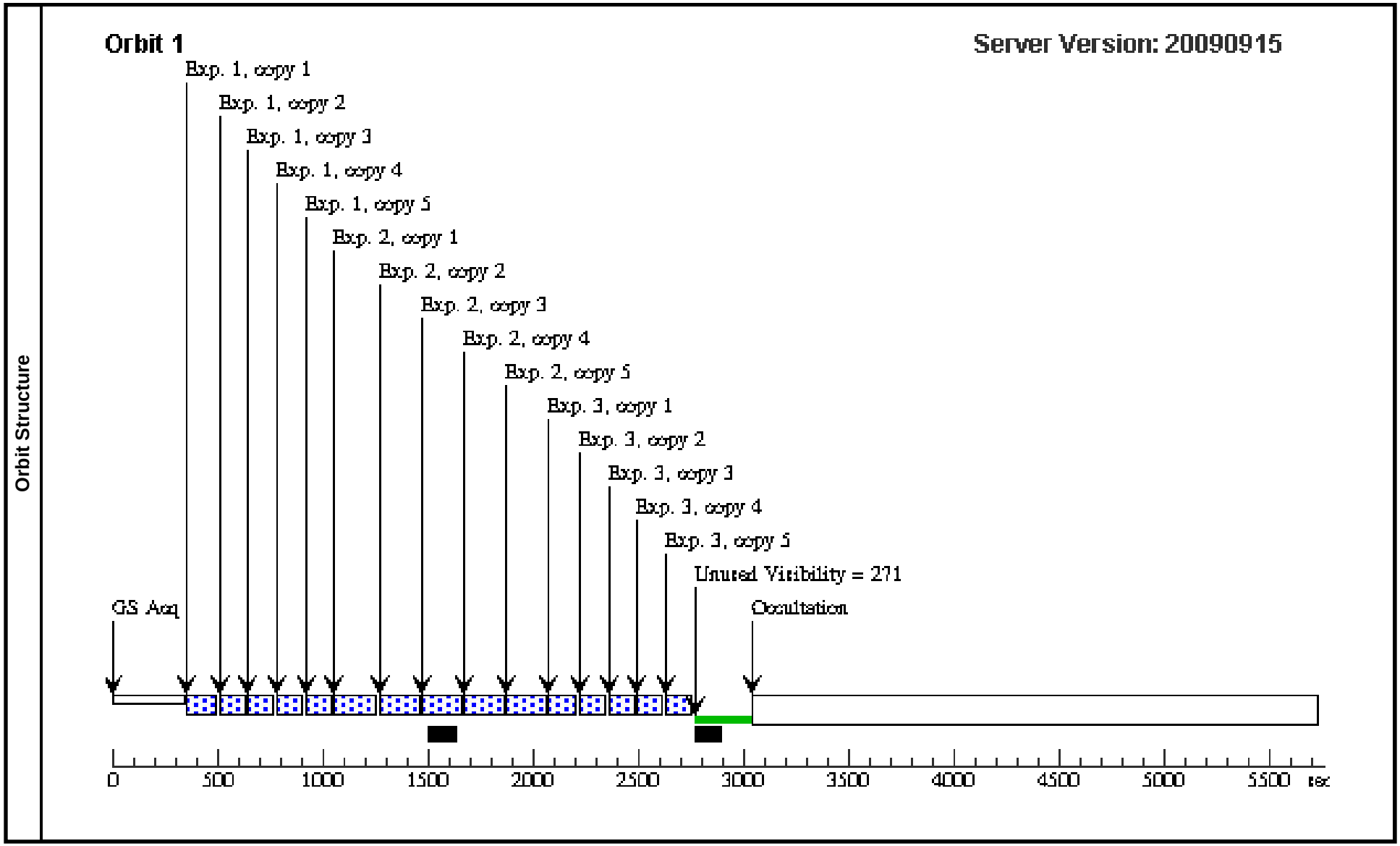
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SKY-HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(4) SKY-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10	GS ACQ SCENARIO BASE1TNS		*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	***[1]***
2		(4) SKY-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	***[1]***
3		(4) SKY-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	***[1]***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Server Version: 20090915
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Exp. 1, copy 3
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Exp. 1, copy 5
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Exp. 2, copy 5
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Exp. 3, copy 2
Exp. 3, copy 3
Exp. 3, copy 4
Exp. 3, copy 5
Unused Visibility = 271
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 08, completed Wed Nov 04 02:03:49 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%

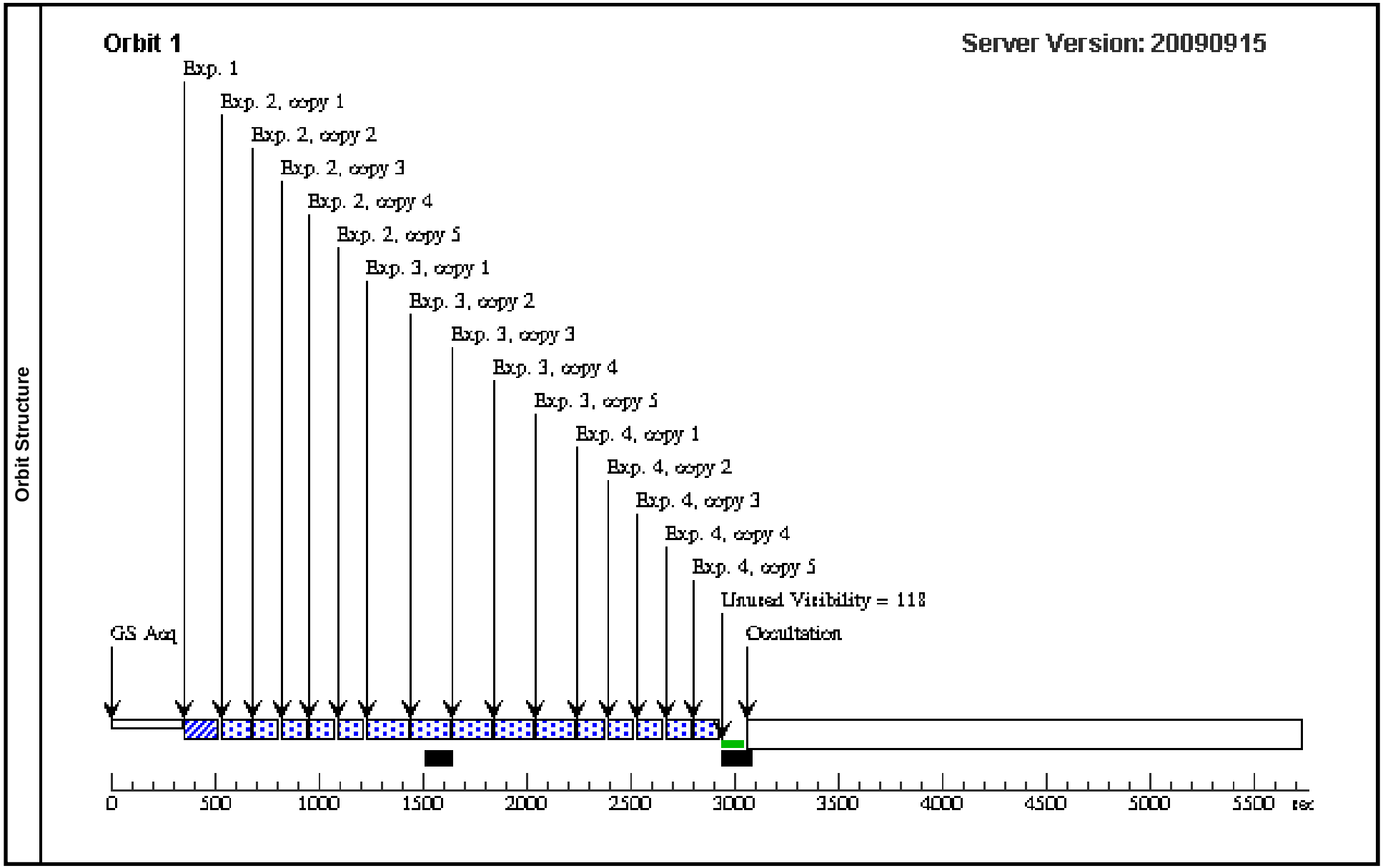
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-68456	RA: 08 09 0.6701 (122.2527921d) Dec: -61 18 8.75 (-61.30243d) Equinox: J2000	Proper Motion RA: -0.0219s/yr Proper Motion Dec: -0.29768"/yr Epoch of Position: 2000.0	V=4.76	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(3) HD-68456	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	*[1]*
2		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
3		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*
4		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]*	*[1]*


Orbit Structure
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Server Version: 20090915
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Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 2, copy 4
Exp. 2, copy 5
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Exp. 3, copy 2
Exp. 3, copy 3
Exp. 3, copy 4
Exp. 3, copy 5
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Exp. 4, copy 4
Exp. 4, copy 5
Unused Visibility = 118
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 59, completed Wed Nov 04 02:03:49 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; SEQ 59,60,61,62 WITHIN 3.9 Orbits

Comments: This is a PSF star. Should come before the first beta Pic visit. The pattern should be PSF-BetaPic-BetaPic-PSF [HR-2020=BetaPic].

Diagnostics

(Visit 59) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	PSF-HD-57240	RA: 07 18 33.5123 (109.6396346d) Dec: -39 12 37.03 (-39.21029d) Equinox: J2000		V=5.249	Reference Frame: ICRS

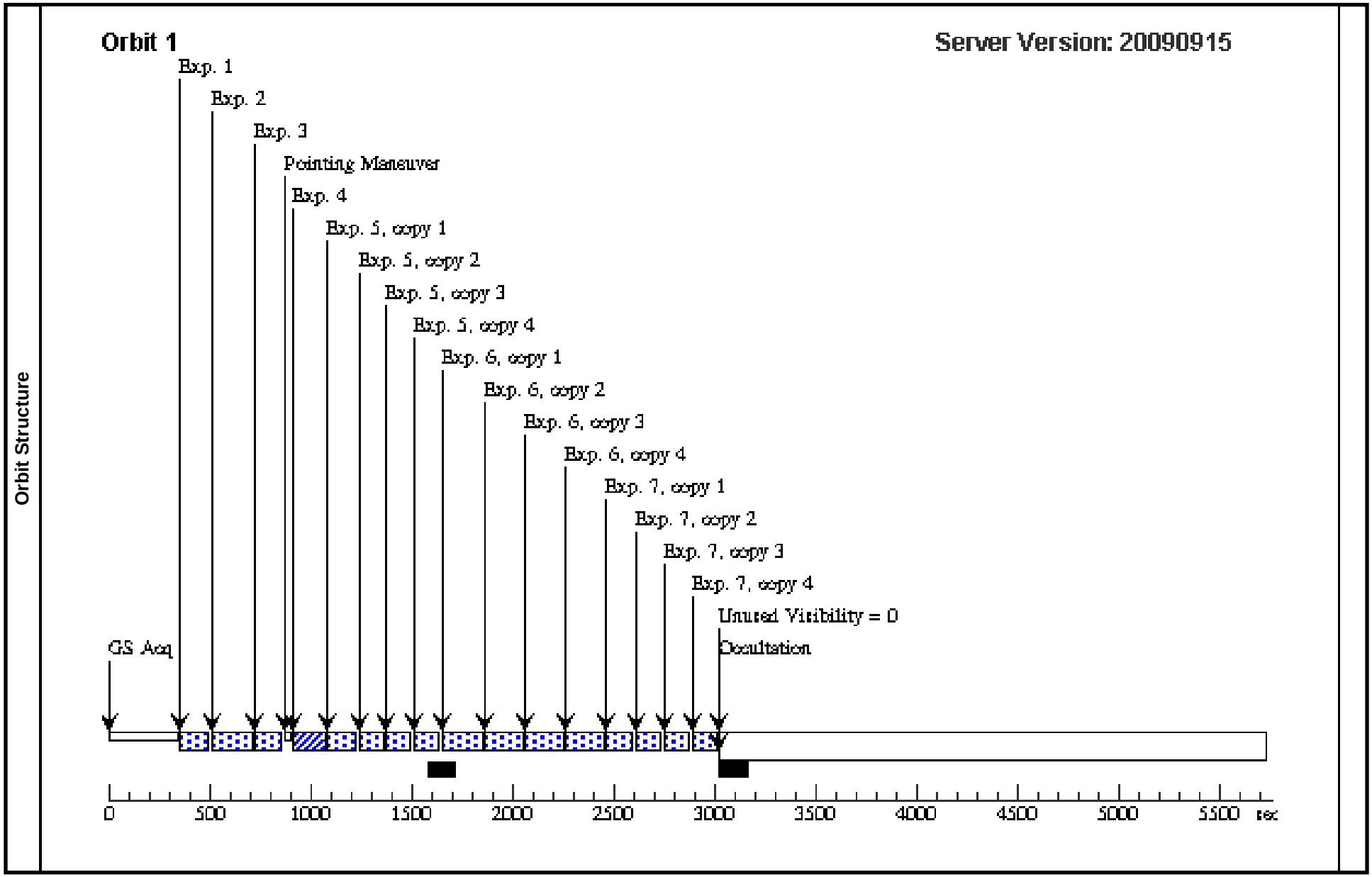
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10	POS TARG 45,-10		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
2		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11	SAME POS AS 1		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
3		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10	SAME POS AS 1		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
4		(9) PSF-HD-57240	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is the coronagraphic acquisition exposure.									
5		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
7		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***


Orbit 1
Server Version: 20090915
Orbit Structure
Exp. 1
Exp. 2
Exp. 3
Pointing Maneuver
Exp. 4
Exp. 5, copy 1
Exp. 5, copy 2
Exp. 5, copy 3
Exp. 5, copy 4
Exp. 6, copy 1
Exp. 6, copy 2
Exp. 6, copy 3
Exp. 6, copy 4
Exp. 7, copy 1
Exp. 7, copy 2
Exp. 7, copy 3
Exp. 7, copy 4
Unused Visibility = 0
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 60, completed Wed Nov 04 02:03:50 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 160.0D TO 165.0 D

Fixed Targets

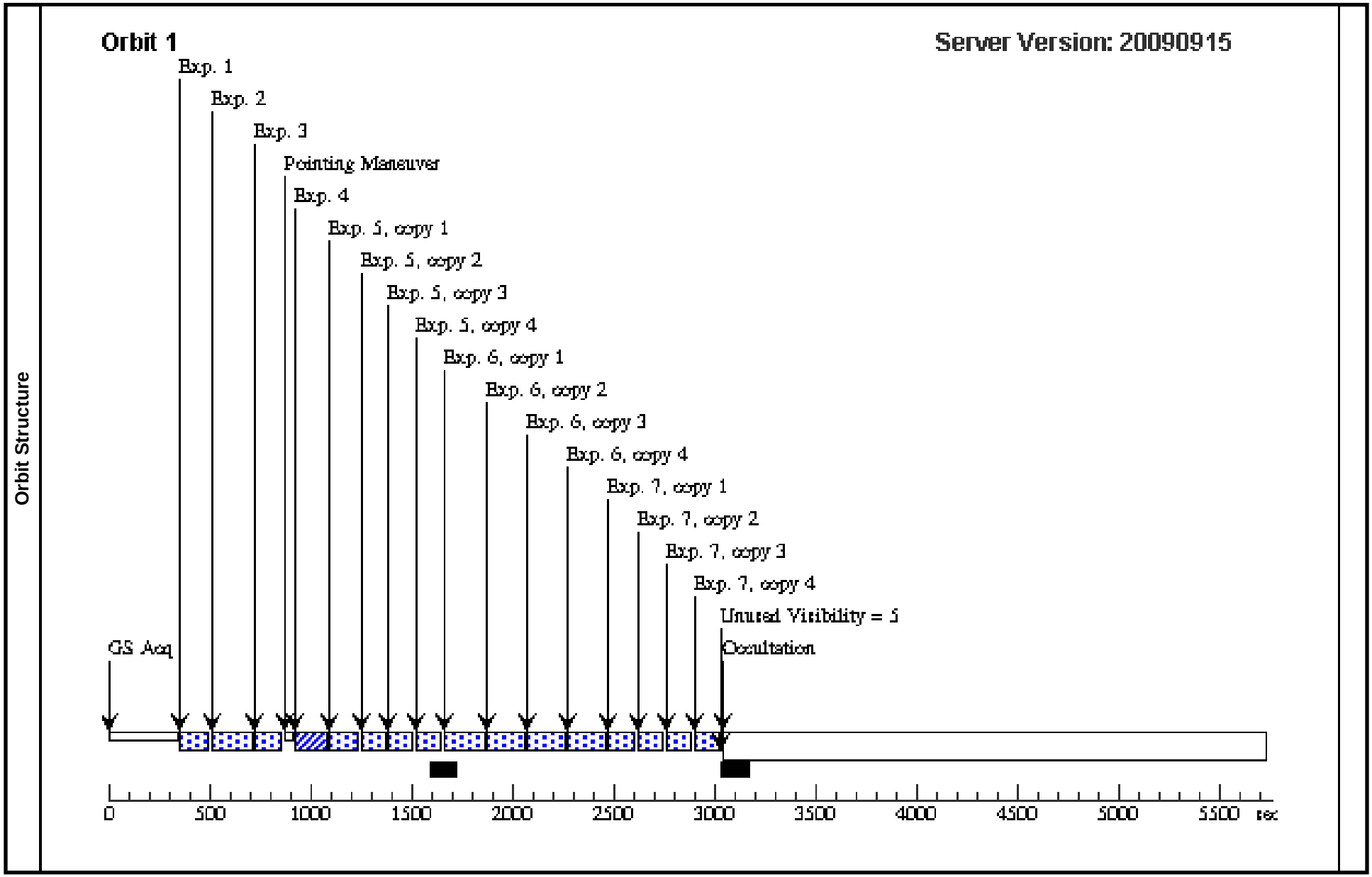
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.					
(5)	SKY1-HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 04 59.45 (-51.08318d) Equinox: J2000		V=18	Reference Frame: ICRS
Comments: Sky Background 2 arcminutes south of Beta Pic.					

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) SKY1-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
2		(5) SKY1-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
3		(5) SKY1-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
4		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is the coronagraphic acquisition exposure.									
5		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
6		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
7		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***


Orbit 1
Server Version: 20090915
Orbit Structure
Exp. 1
Exp. 2
Exp. 3
Pointing Maneuver
Exp. 4
Exp. 5, copy 1
Exp. 5, copy 2
Exp. 5, copy 3
Exp. 5, copy 4
Exp. 6, copy 1
Exp. 6, copy 2
Exp. 6, copy 3
Exp. 6, copy 4
Exp. 7, copy 1
Exp. 7, copy 2
Exp. 7, copy 3
Exp. 7, copy 4
Unused Visibility = 5
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 61, completed Wed Nov 04 02:03:51 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 9D TO 20D FROM 60

Fixed Targets

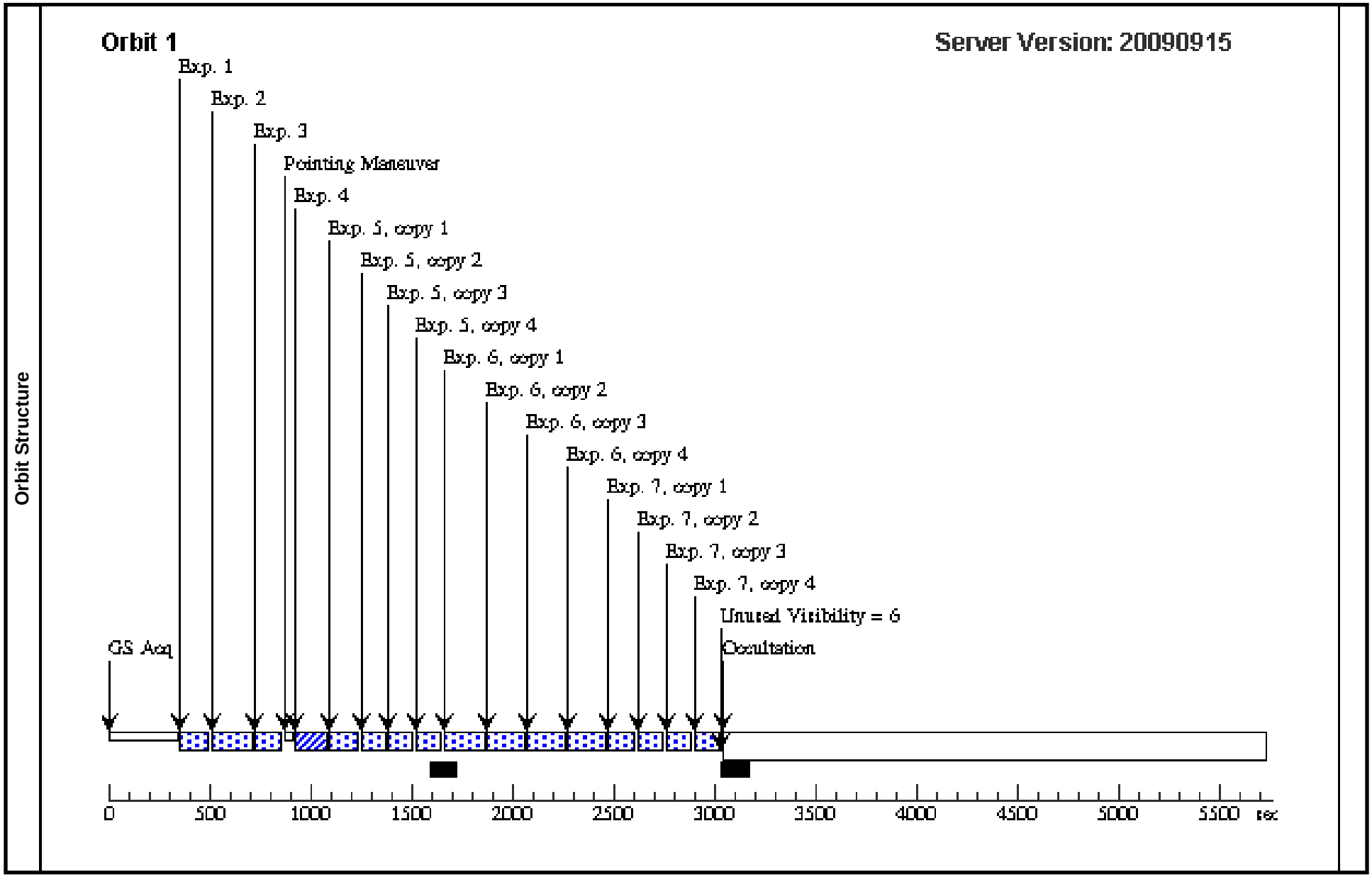
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.					
(6)	SKY2-HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 04 55.45 (-51.08207d) Equinox: J2000		V=18	Reference Frame: ICRS
Comments: Sky Background 2 arcminutes south of Beta Pic.					

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(6) SKY2-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10	POS TARG 0,0		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
2		(6) SKY2-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
3		(6) SKY2-HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
4		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is the coronagraphic acquisition exposure.									
5		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
6		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
7		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***


Orbit 1
Server Version: 20090915
Orbit Structure
Exp. 1
Exp. 2
Exp. 3
Pointing Maneuver
Exp. 4
Exp. 5, copy 1
Exp. 5, copy 2
Exp. 5, copy 3
Exp. 5, copy 4
Exp. 6, copy 1
Exp. 6, copy 2
Exp. 6, copy 3
Exp. 6, copy 4
Exp. 7, copy 1
Exp. 7, copy 2
Exp. 7, copy 3
Exp. 7, copy 4
Unused Visibility = 6
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 62, completed Wed Nov 04 02:03:51 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%

Comments: This is a PSF star. Should come after the last beta Pic visit. The pattern should be PSF-BetaPic-BetaPic-PSF.

Diagnostics

(Visit 62) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	HD-68456	RA: 08 09 0.6701 (122.2527921d) Dec: -61 18 8.75 (-61.30243d) Equinox: J2000	Proper Motion RA: -0.0219s/yr Proper Motion Dec: -0.29768"/yr Epoch of Position: 2000.0	V=4.76	Reference Frame: ICRS

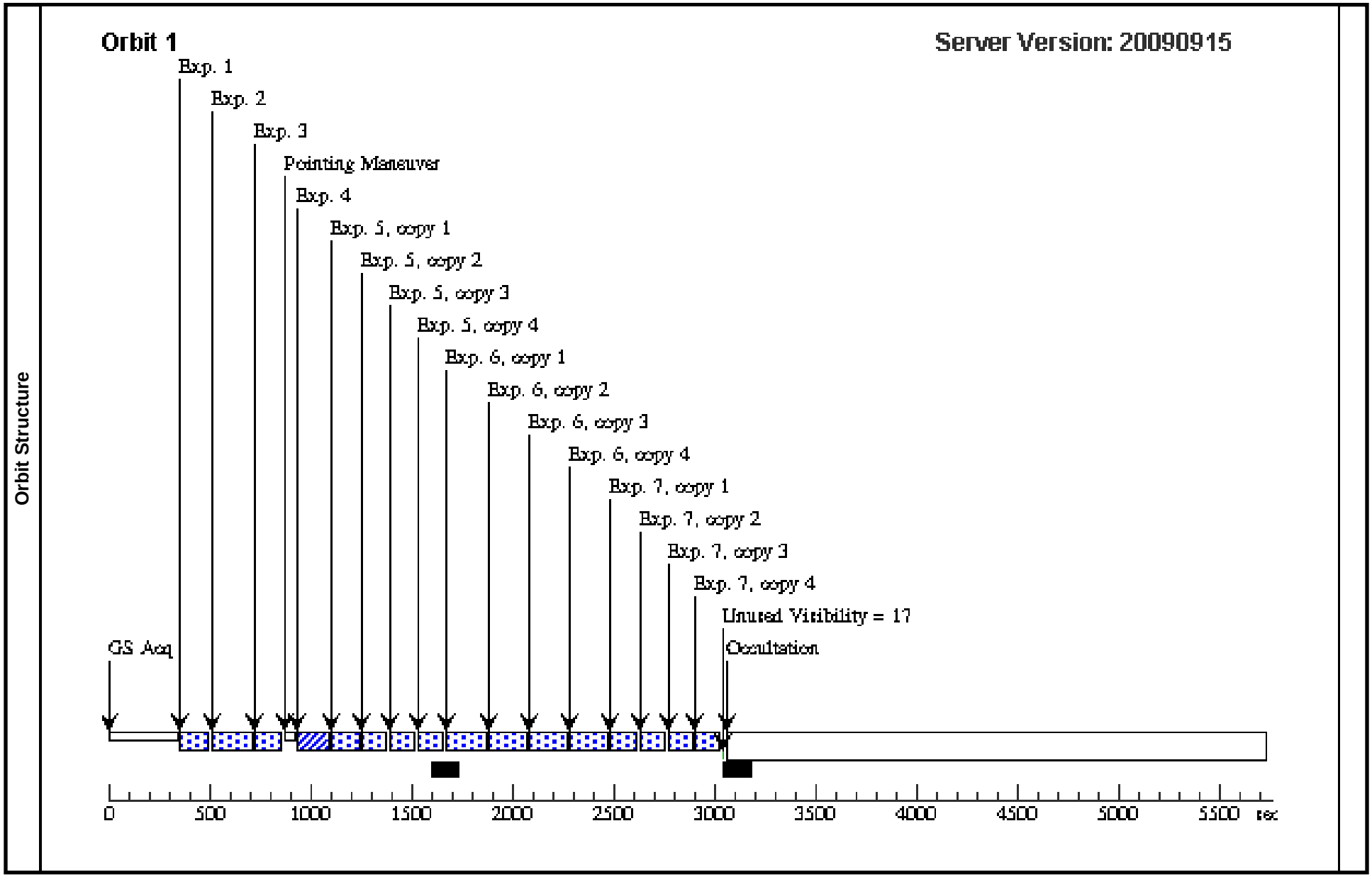
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10	POS TARG 0,-110		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
2		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11	SAME POS AS 1		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
3		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10	SAME POS AS 1		*[==>]*	***[1]***
Comments: These are sky background. ORIENT and GUIDESTAR constraints are not important.									
4		(3) HD-68456	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is the coronagraphic acquisition exposure.									
5		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP64; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
7		(3) HD-68456	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP64; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***


Orbit 1
Server Version: 20090915
Orbit Structure
Exp. 1
Exp. 2
Exp. 3
Pointing Maneuver
Exp. 4
Exp. 5, copy 1
Exp. 5, copy 2
Exp. 5, copy 3
Exp. 5, copy 4
Exp. 6, copy 1
Exp. 6, copy 2
Exp. 6, copy 3
Exp. 6, copy 4
Exp. 7, copy 1
Exp. 7, copy 2
Exp. 7, copy 3
Exp. 7, copy 4
Unused Visibility = 17
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 13, completed Wed Nov 04 02:03:52 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 240.0D TO 248.0 D; GROUP 13,14,15,16 WITHIN 3.5 Orbits

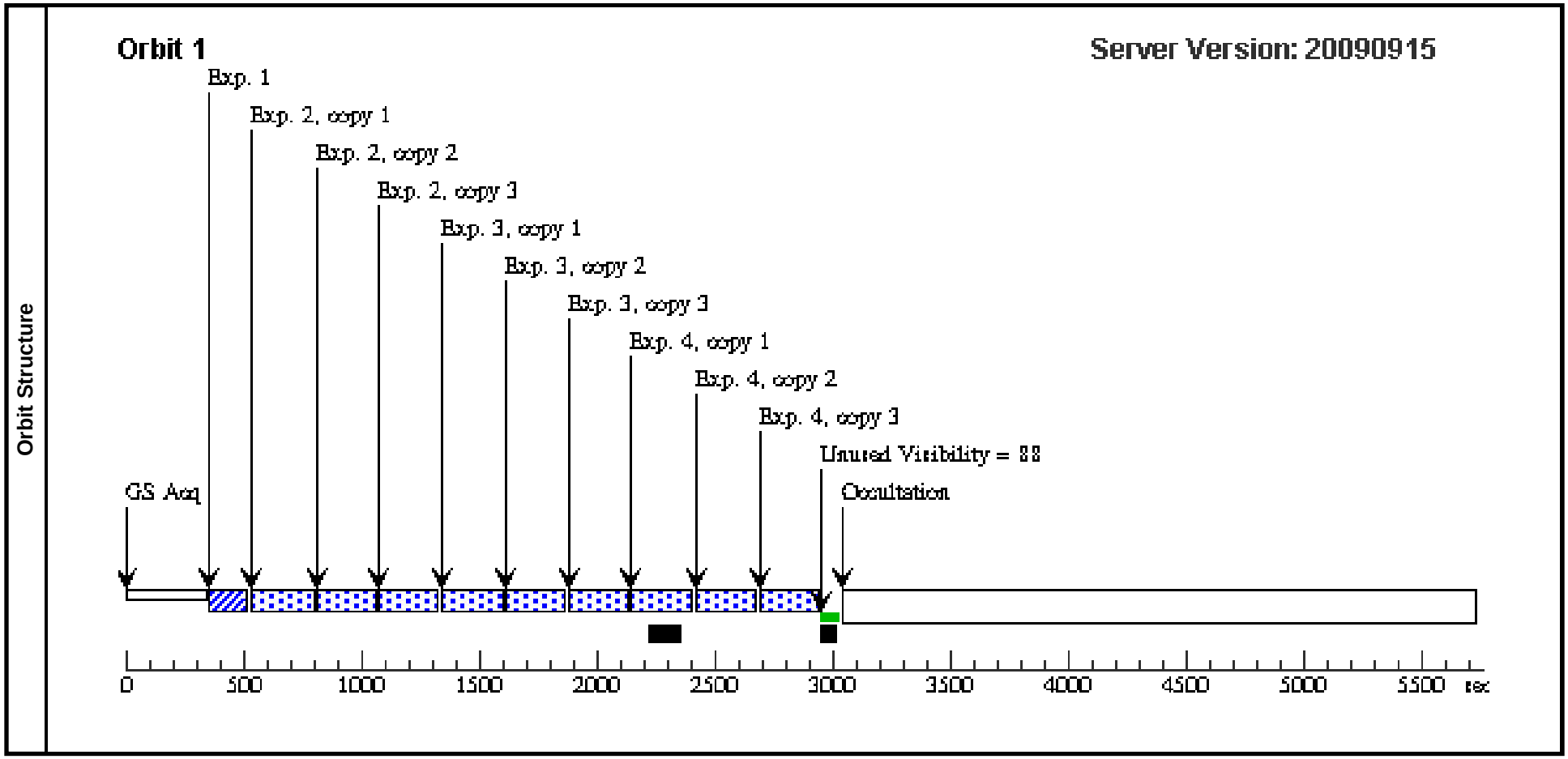
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	 ***[1]***
Comments: This is a coronagraphic acquisition exposure.									
2		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
3		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
4		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20090915
Exp. 1
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3, copy 1
Exp. 3, copy 2
Exp. 3, copy 3
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Unused Visibility = 88
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 14, completed Wed Nov 04 02:03:52 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 4.5D TO 5.0D FROM 13

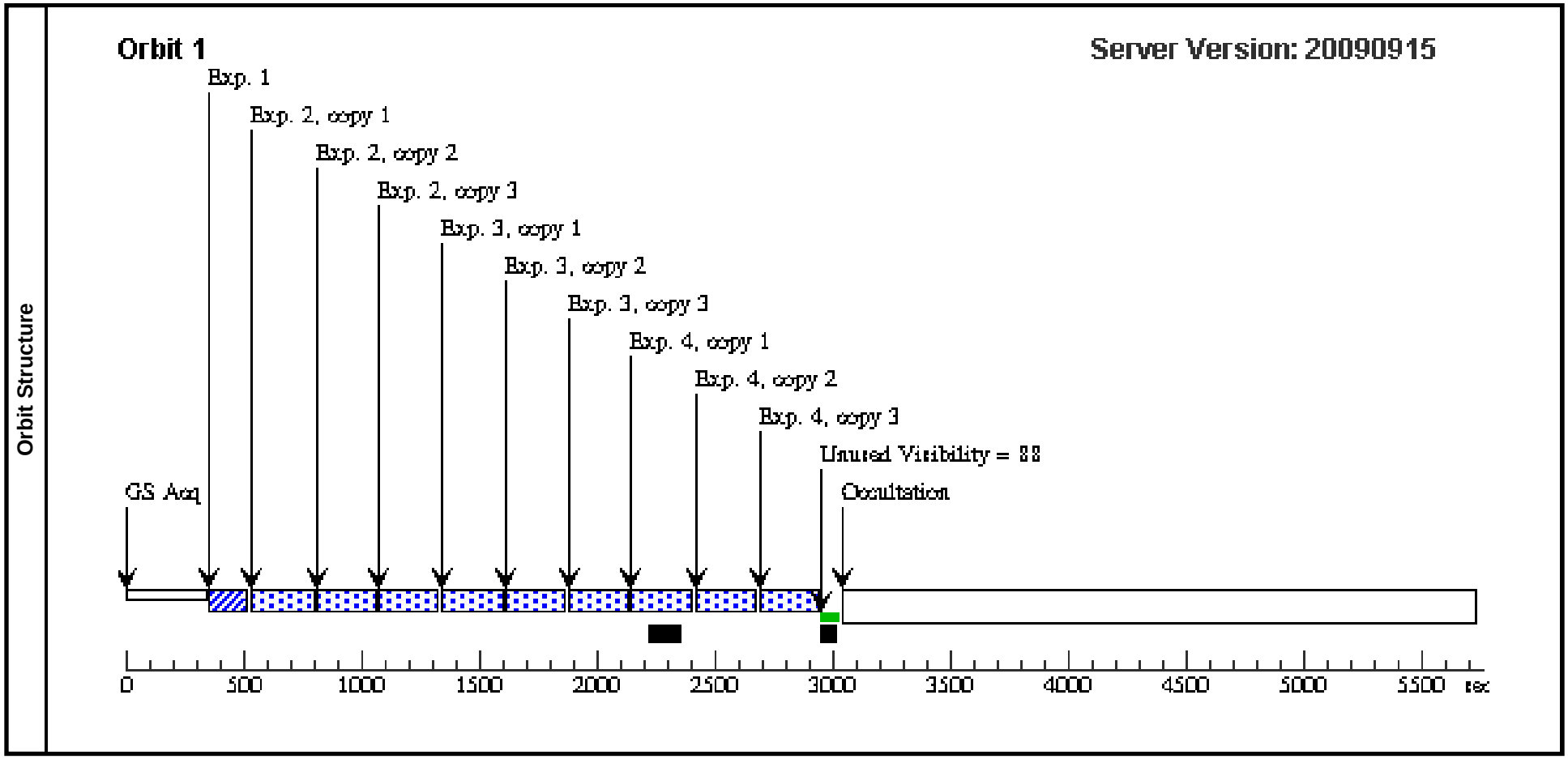
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	 ***[1]***
Comments: This is a coronagraphic acquisition exposure.									
2		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
3		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
4		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20090915
Exp. 1
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3, copy 1
Exp. 3, copy 2
Exp. 3, copy 3
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Unused Visibility = 88
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 15, completed Wed Nov 04 02:03:52 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 8.5D TO 10.0D FROM 13

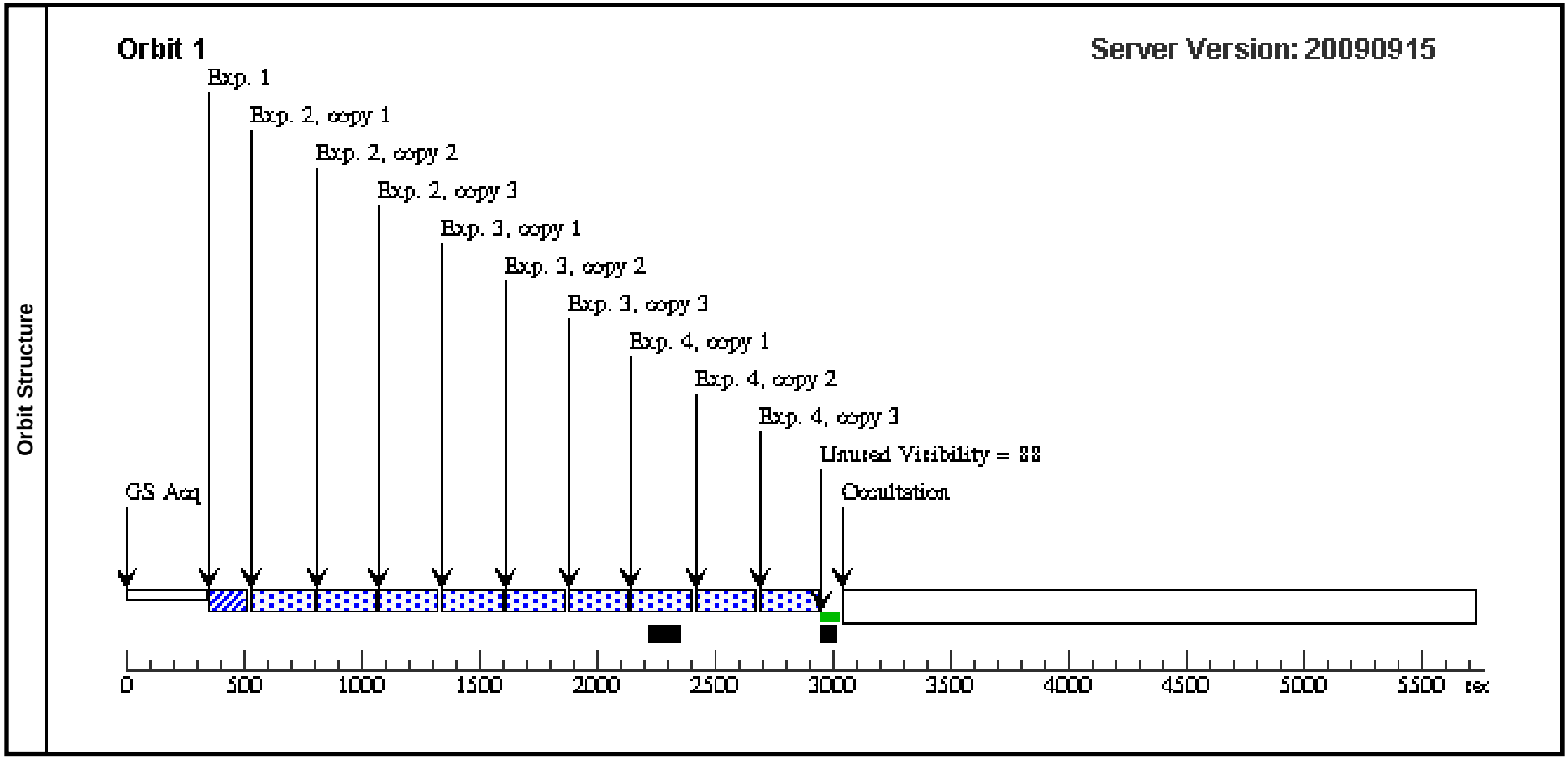
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is a coronagraphic acquisition exposure.									
2		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
3		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
4		(1) HR-2020	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20090915
Exp. 1
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3, copy 1
Exp. 3, copy 2
Exp. 3, copy 3
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Unused Visibility = 88
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 16, completed Wed Nov 04 02:03:53 GMT 2009

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2

Special Requirements: SCHED 100%

Comments: This is a PSF star (target #9)

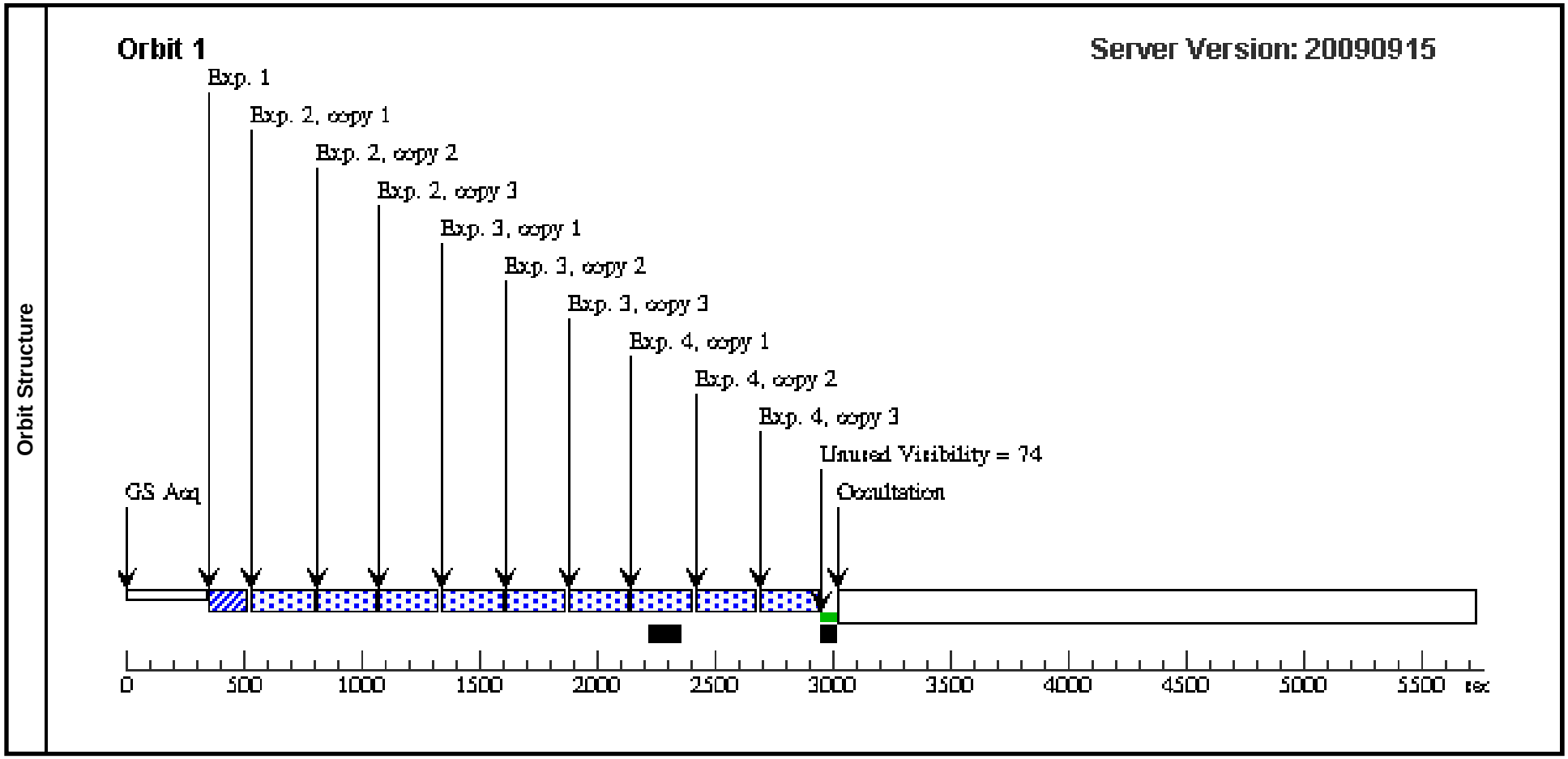
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	PSF-HD-57240	RA: 07 18 33.5123 (109.6396346d) Dec: -39 12 37.03 (-39.21029d) Equinox: J2000		V=5.249	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(9) PSF-HD-57240	NIC2, ACQ, NIC2-ACQ	F216N		GS ACQ SCENARIO BASE1TNS		0.228 Secs *[==>]*	***[1]***
Comments: This is a coronagraphic acquisition exposure.									
2		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL0L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
3		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL120L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***
4		(9) PSF-HD-57240	NIC2, MULTIACCUM, NIC2-CORON	POL240L	SAMP-SEQ=STEP128; NSAMP=11			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20090915
Exp. 1
Exp. 2, copy 1
Exp. 2, copy 2
Exp. 2, copy 3
Exp. 3, copy 1
Exp. 3, copy 2
Exp. 3, copy 3
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3
Unused Visibility = 74
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11150, Visit 70, implementation Wed Nov 04 02:03:53 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: GYRO MODE 3GOBAD; ORIENT 315D TO 325 D; GROUP 70,71,72,73 WITHIN 3.8 Orbits

Diagnostics

(Visit 70) Warning (Form): Gyro Mode overrides default value of 2G.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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

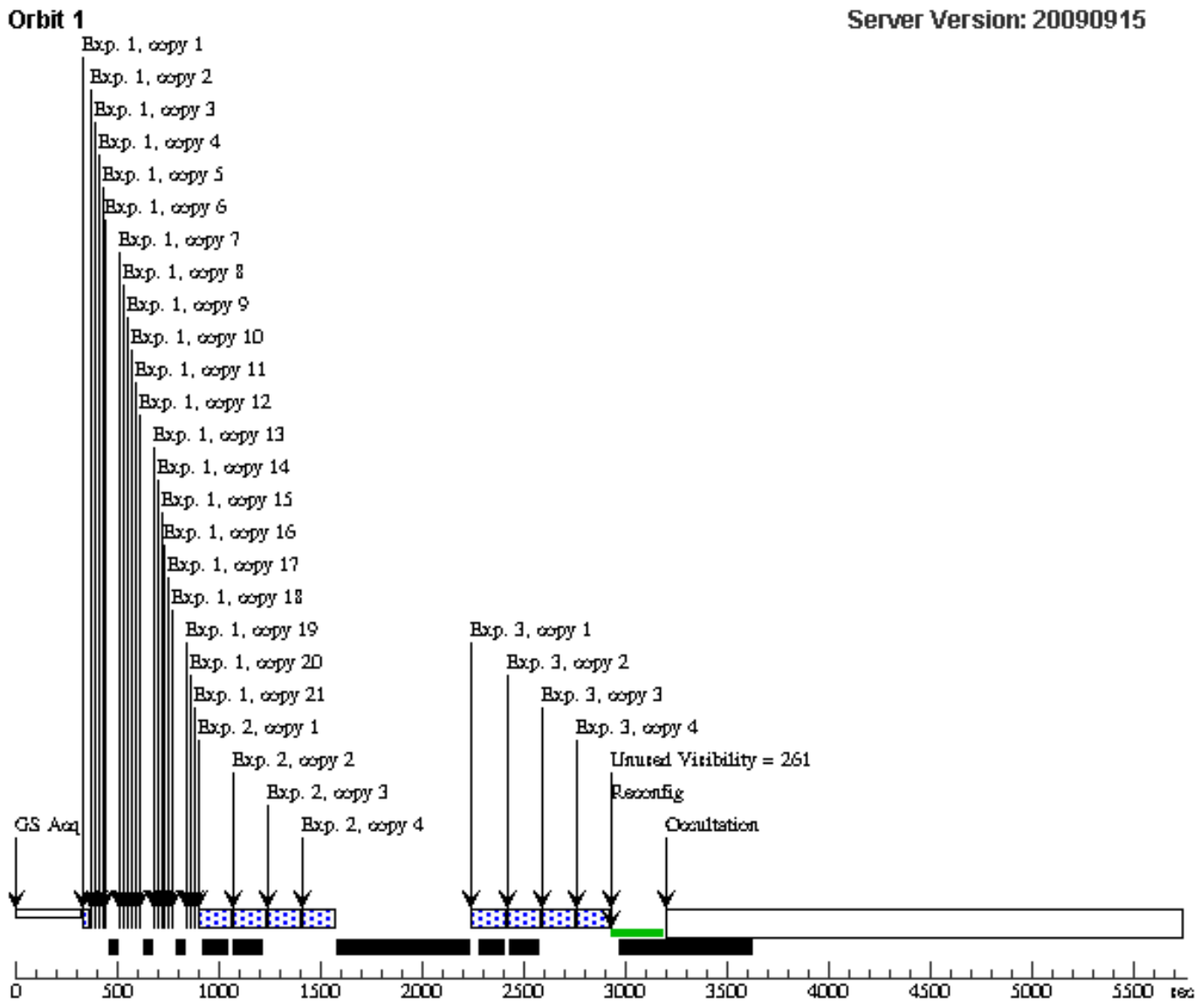
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HR-2020	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F160W	SAMP-SEQ=RAPID; NSAMP=15	GS ACQ SCENARIO BASE1B3		*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
3		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11150, Visit 71, implementation Wed Nov 04 02:03:54 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: GYRO MODE 3GOBAD; ORIENT 8.0D TO 8.1D FROM 70

Diagnostics

(Visit 71) Warning (Form): Gyro Mode overrides default value of 2G.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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

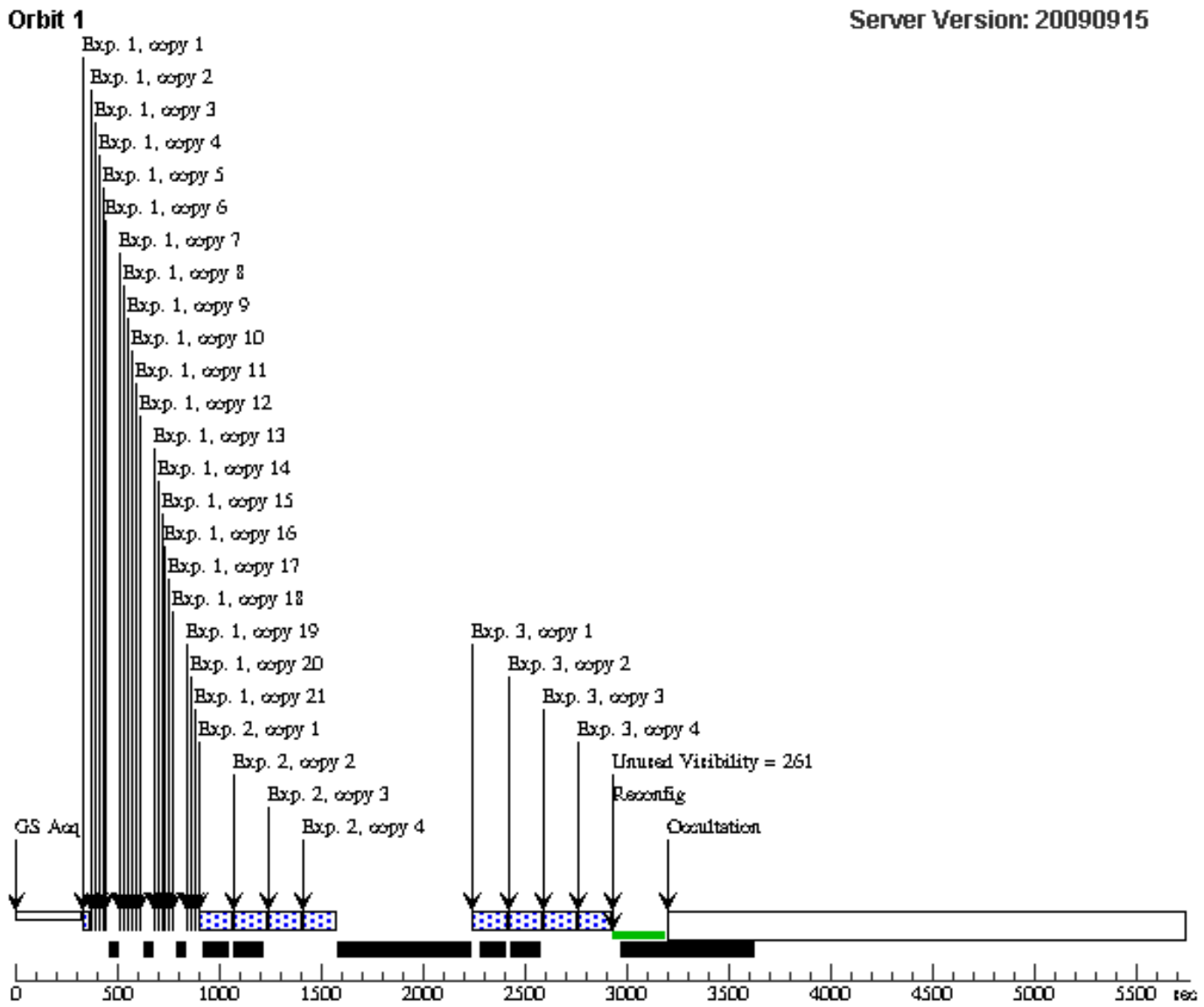
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HR-2020	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F160W	SAMP-SEQ=RAPID; NSAMP=15	GS ACQ SCENARIO BASE1B3		*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
3		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11150, Visit 72, implementation Wed Nov 04 02:03:54 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: GYRO MODE 3GOBAD; ORIENT 8.0D TO 8.1D FROM 71

Diagnostics

(Visit 72) Warning (Form): Gyro Mode overrides default value of 2G.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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

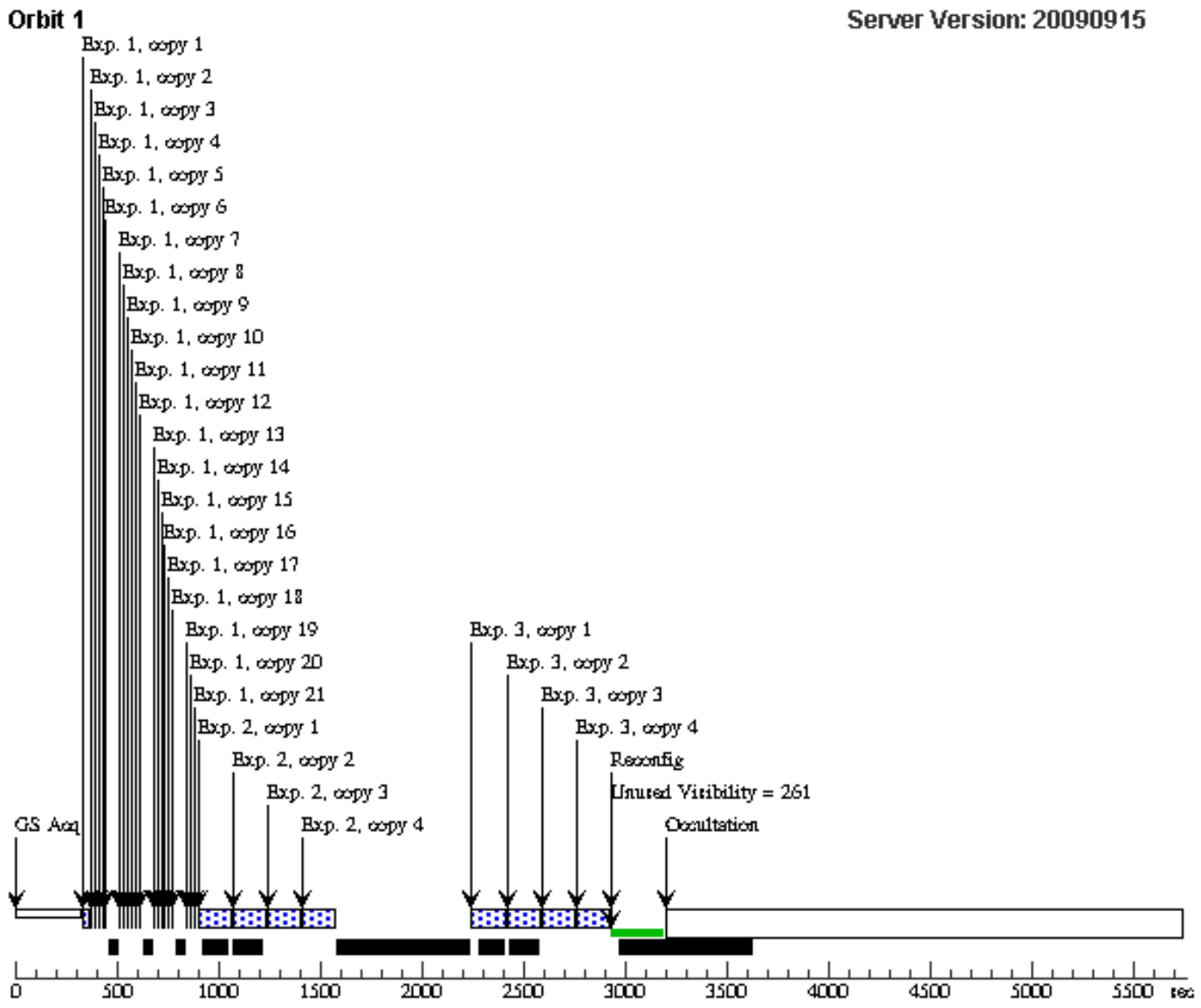
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HR-2020	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F160W	SAMP-SEQ=RAPID; NSAMP=15	GS ACQ SCENARIO BASE1B3		*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
3		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Orbit Structure



Visit

Proposal 11150, Visit 73, implementation Wed Nov 04 02:03:55 GMT 2009

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: GYRO MODE 3GOBAD; ORIENT 8.0D TO 8.1D FROM 72

Diagnostics

(Visit 73) Warning (Form): Gyro Mode overrides default value of 2G.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HR-2020	RA: 05 47 17.0877 (86.8211988d) Dec: -51 03 59.45 (-51.06651d) Equinox: J2000		V=3.861	Reference Frame: ICRS

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/[Actual Dur.]	Orbit
1		(1) HR-2020	WFC3/IR, MULTIACCUM, IRSUB64-FIX	F160W	SAMP-SEQ=RAPID; NSAMP=15	GS ACQ SCENARIO BASE1B3		*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]* *[==>(Copy 5)]* *[==>(Copy 6)]* *[==>(Copy 7)]* *[==>(Copy 8)]* *[==>(Copy 9)]* *[==>(Copy 10)]* *[==>(Copy 11)]* *[==>(Copy 12)]* *[==>(Copy 13)]* *[==>(Copy 14)]* *[==>(Copy 15)]* *[==>(Copy 16)]* *[==>(Copy 17)]* *[==>(Copy 18)]* *[==>(Copy 19)]* *[==>(Copy 20)]* *[==>(Copy 21)]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***
3		(1) HR-2020	WFC3/IR, MULTIACCUM, IR-FIX	F110W	SAMP-SEQ=STEP25; NSAMP=10			*[==>(Copy 1)]* *[==>(Copy 2)]* *[==>(Copy 3)]* *[==>(Copy 4)]*	***[1]***

Orbit Structure