10620 - Massive Star Formation and the Proper Motions of the OMC-1 Molecular Hydrogen Fingers

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:04:44.0	yes
02	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:04:57.0	yes
03	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:05:11.0	yes
04	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:05:22.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:05:33.0	yes
06	(1) OMC-2GPRIME	NIC2	1	27-Jul-2005 21:05:46.0	yes

6 Total Orbits Used

ABSTRACT

The Orion Molecular Cloud OMC-1 is by far the nearest region of massive star formation, and as such provides a laboratory for studying massive star formation with unprecedented detail. Using NICMOS, eight years ago our group discovered unique molecular hydrogen 'fingers' emanating from the IRc2 area. We propose new NICMOS imaging of the same region to compare with our earlier results. This will determine spatial motions to ~3 AU/year. Using the two data sets, we will: 1) bound the age range of the features and thus address whether all the molecular hydrogen features were produced in a single event - such as an explosion or a stellar merger - or in multiple events/steady outflow; 2) limit the location of the outflow source(s), which remain to be identified despite sub-arcsecond imaging at thermal infrared wavelengths; and 3) characterize inhomogeneities on the 100 AU scale. Together these findings will significantly constrain how massive star formation proceeds in OMC-1. NICMOS achieves the highest quality, near-infrared images for diffuse objects in crowded regions. Because of the complexity of the OMC-1 region, and the difficulty in using Adaptive Optics to measure small position shifts for diffuse, low contrast objects, these high precision proper motion measurements require the stable PSF, high Strehl ratio, and low response in the PSF wings which HST/NICMOS uniquely provides.

OBSERVING DESCRIPTION

Images of Orion BN-IRc in H_2 and the corresponding continuum will be made with NICMOS Camera 2. These images will be compared with previous camera 2 (program 7111) and camera 3 (program 7231) images to search for proper motions in the H_2 features. This program has a goal of seeing (1-sigma) shifts as small as 0.25 pixels. Conceptually, the program consists of 12 camera 2 fields - 2 adjacent fields per visit. These fields are labelled A-L starting in the northeast and proceeding west along each row and and then south to the next row. These fields generally abut either other, but a few have more overlap. The fields were laid out to provide nearly complete coverage of the camera 2 images of program 7111, good coverage over the interesting H_2 features in the Camera 3 image of program 7231, include a range of position angles around BN, and include

features at a vaiety of distances from BN. The phase 1 proposal has a figure showing the approximate position of each field. Each field is observed using the equivalent of a 4 point spiral dither with a spacing of 64 pixels (= 1/4 the full field frame). Thus, there is significant overlap between each dithered position in a field and between the dithered positions in adjacent fields - in general each location on the sky will be observed four different times. The exceptions being at the edge of the mosaic (sky locations observed only once or twice), two small holes in the interior (sky locations observed only three times), and a couple locations where overlap results in more than four measurements. The dither serves to provide coverage of areas blocked by the coronographic hole and bad pixels. The dither and the location of each field are all positioned using pos targs relative to a single target near the center of field G in order to preserve the relative positions of the fields in NICMOS pixels over the orientation range and to make some allowance in the dither patterns for the non-square-ness of the NICMOS pixels. This accounts for all the diagnostic warnings about "target outside of the aperture".There are a few exceptions to the conceptual layout. The larger camera 3 mosaic of program 7231 has a different orientation than this program. Because of this some of the dithered fields mostly cover regions outside of the 7231 mosaic. Images A1 and C1 were moved to cover a more useful area. The H dither was 'stretched' to cover a few interesting H_2 features right at the edge, as was image K4. These opened up the 'holes referred to above. The order of the fields and of each dither position was generally systematic, but there are a few exceptions. The order of dithers containing 'moved' images was optimized to minimize telescope moves. More important was the impact of BN. BN is sufficiently bright that it may cause memeory effects in the NICMOS pixels. Images which contain BN (Fields D and I - one dither position, field E - two dither positions, Field G - all dither positions) were moved to the end of the visit to minimize the effects of this. A blank image was also usually inserted before any image which followed an image which included BN. To save time, the observations setup at one position on the sky and complete both desired filters before moving on to the next position. MULTIACCUM is used because of the large dynamic range expected. Because of the need to very accurately compare these observations with previous measurements, it is necessary to orient the telescope precisely in order to minimize uncertainties caused by distortion (non-square pixels) and the bright diffraction spikes from BN. Because of the necessity of two-gyro observing, it was not possible to use the same orientation as program 7111, so the orientation here differs from program 7111 by 180 degrees. Because these systematic effects are potentially more important than statistical errors, the program uses a tight orientation constraint to line up well with the previous camera 2 measurements, with all orbits using the same orientation. To improve schedulability, this is compensated by giving up some integration time and utilizing a schedulability of 100% for 4 of the visits. Two visits require additional blank images for BN resulting in schedulability being decreased to 70% and 50% for visits 2 and 4.

Visit

Proposal 10620, Visit 01 Thu Jul 28 01:05:49 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; ORIENT 272.0D TO 272.0 D

Comments: All visits need to have the same orientation. It is assumed that this visit is executed first and the other visits have the same orientation as this visit. If desireable, any other visit can be executed first within the orientation range specified for this visit - as long as all subsequent visits have the same orient as the visit that is executed first.
Fields A and D are in this visit. Field A1 has been moved to cover a more useful area at the edge of the program 7231 field. The last position in the D field dither contains BN, and so has an embedded blank between the line and continuum images.

Diagnostics

(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 01) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

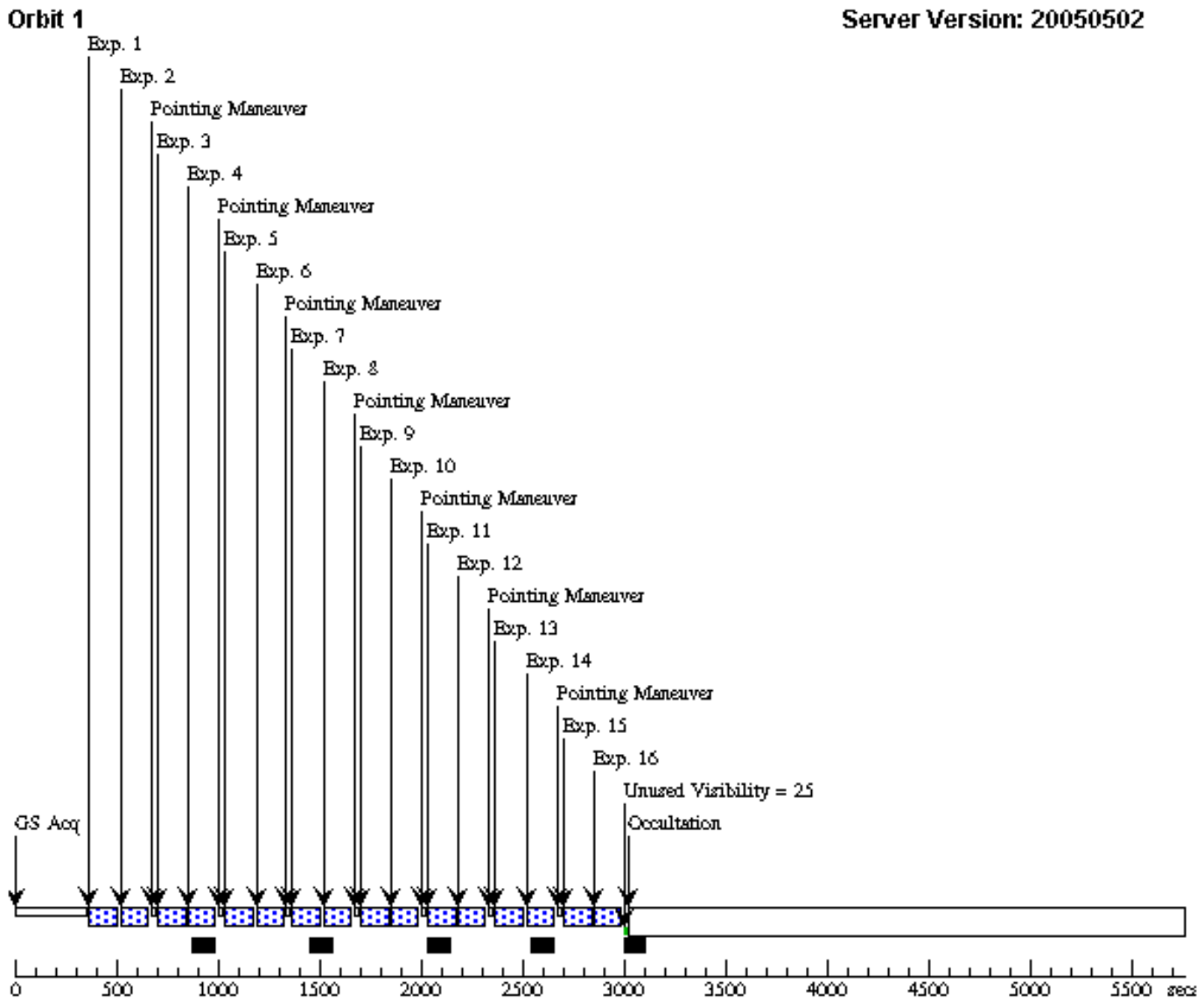
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field A H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG -31.1387,-30.8955; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field A H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field A H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG -37.8221,-21.2501		*[==>]*	***[1]***
4	Field A H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field A H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG -25.0628,-21.2501		*[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6	Field A H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***
7	Field A H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -25.0628,-30.8955		*[==>]*	***[1]***
8	Field A H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field D H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -15.7972,-26.9017		*[==>]*	***[1]***
10	Field D H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field D H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -6.07584,-26.9017		*[==>]*	***[1]***
12	Field D H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 11		*[==>]*	***[1]***
13	Field D H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -15.7972,-17.2563		*[==>]*	***[1]***
14	Field D H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 13		*[==>]*	***[1]***
15	Field D H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -6.07584,-17.2563		*[==>]*	***[1]***
16	Field D H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 15		*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10620, Visit 02 Thu Jul 28 01:05:50 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 70%; SAME ORIENT AS 01

Comments: Fields B and E are in this visit. The last two positions in the E field dither contain BN, and so have blanks after them. To allow additional observing time for the blanks, the schedulability has been reduced.

Diagnostics

(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 02) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field B H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -45.265, -13.4132; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field B H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field B H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -45.265, -3.76775		*[==>]*	***[1]***
4	Field B H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field B H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -35.5437,-3.76775		*[==>]*	***[1]***

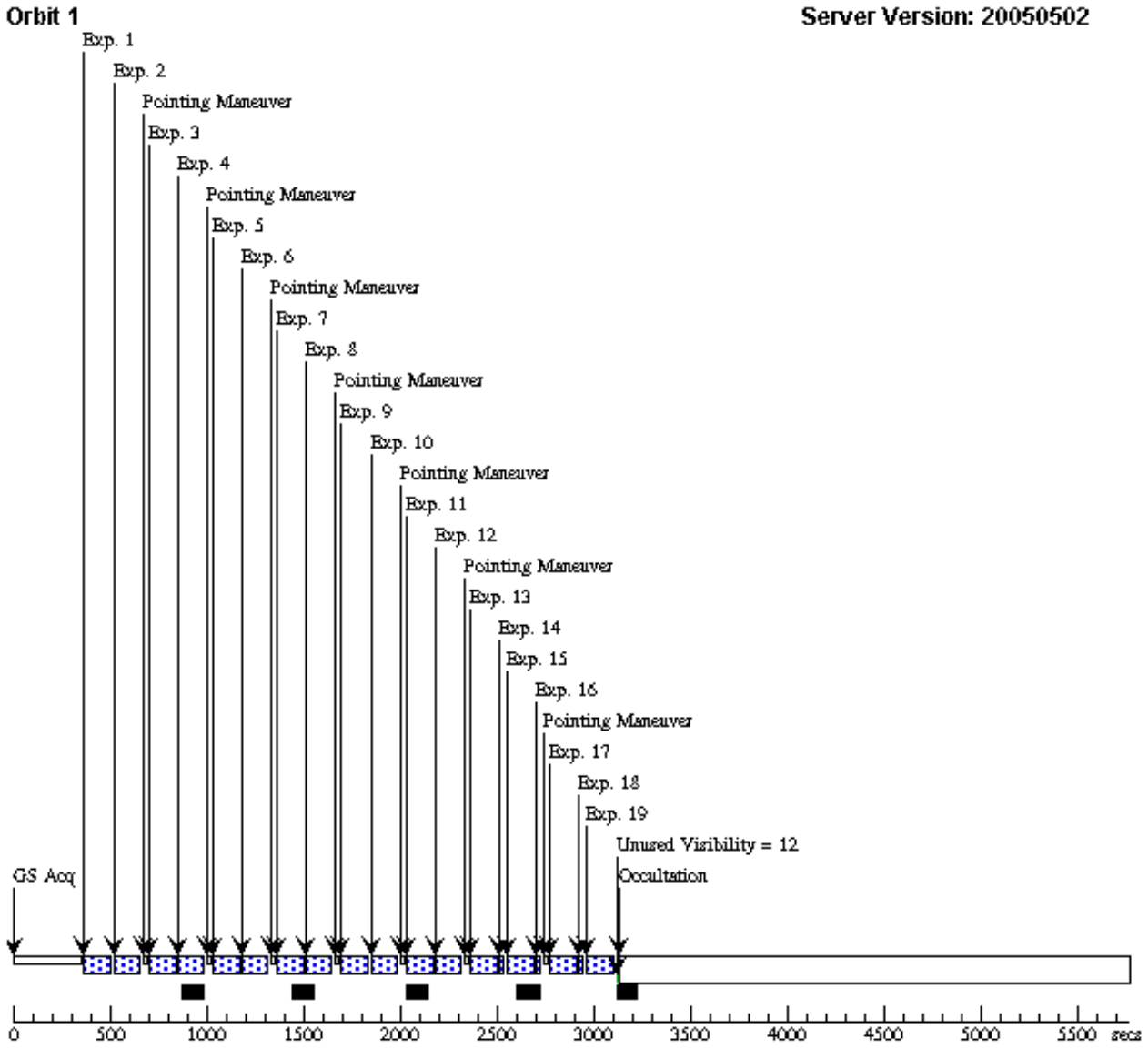
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6	Field B H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***
7	Field B H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -35.5437,-13.4132		*[==>]*	***[1]***
8	Field B H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field E H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -26.278, -9.34402		*[==>]*	***[1]***
10	Field E H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field E H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -26.278, 0.30142		*[==>]*	***[1]***
12	Field E H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 11		*[==>]*	***[1]***
13	Field E H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -16.5567,0.30142		*[==>]*	***[1]***
14	Field E Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 13		5.2 Secs *[==>]*	 ***[1]***
Comments: To clear chip from memory of BN saturation.									
15	Field E H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 13		*[==>]*	***[1]***
16	Field E Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 13		5.2 Secs *[==>]*	 ***[1]***
Comments: To clear chip from memory of BN saturation.									
17	Field E H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -16.5567,-9.34402		*[==>]*	***[1]***
18	Field E Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 17		5.2 Secs *[==>]*	 ***[1]***
Comments: To clear chip from memory of BN saturation.									

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
19	Field E H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 17		*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10620, Visit 03 Thu Jul 28 01:05:52 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Comments: Fields C and F are in this visit. Field C1 has been moved to cover a more useful area at the edge of the program 7231 field.

Diagnostics

(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 03) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE
(Visit 03) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

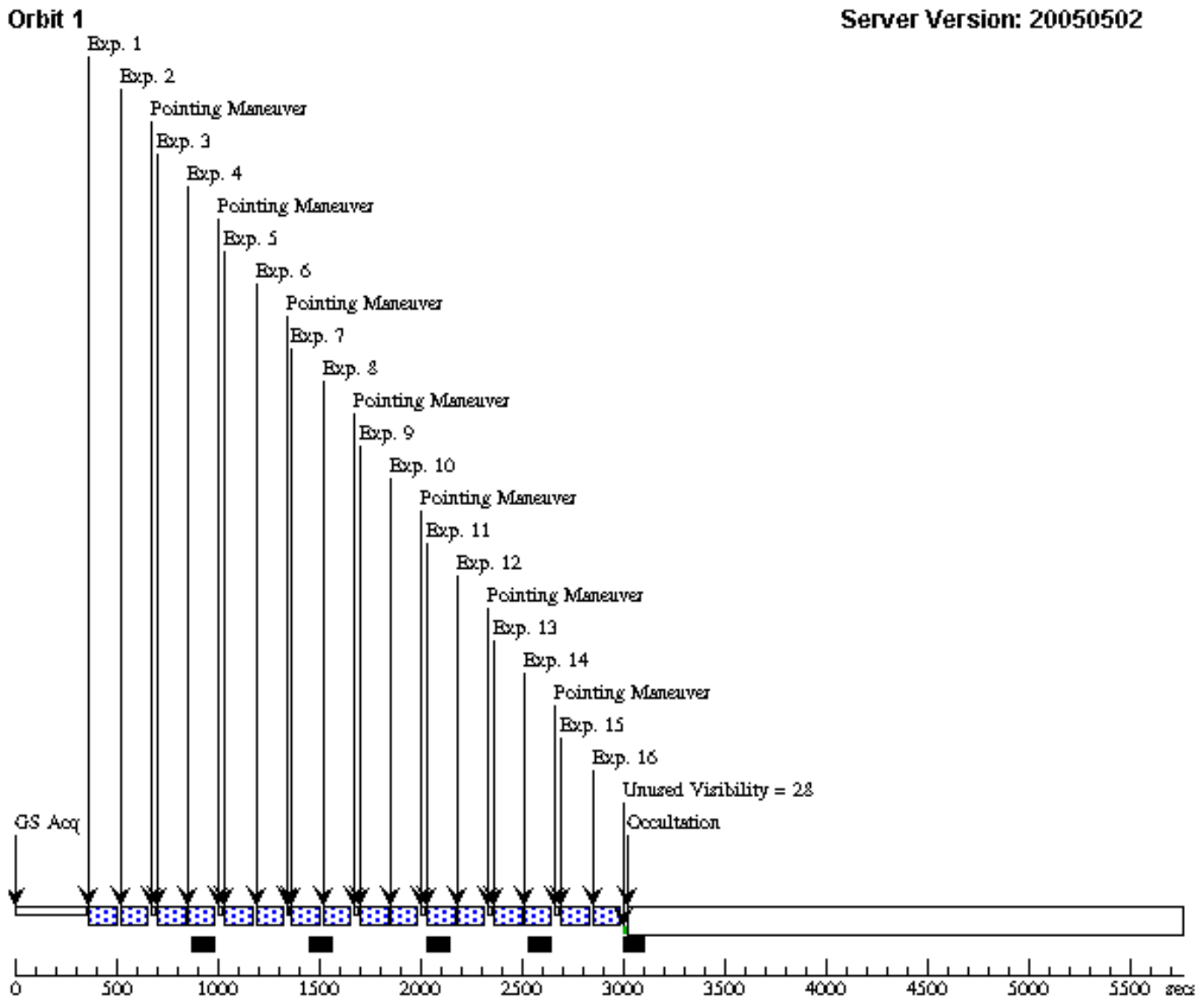
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field C H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -55.442, -4.29523; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field C H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field C H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -50.5814,5.95305		*[==>]*	***[1]***
4	Field C H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field C H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -37.2145,14.3928		*[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6	Field C H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***
7	Field C H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -37.2145,5.95305		*[==>]*	***[1]***
8	Field C H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field F H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -27.9489,10.0222		*[==>]*	***[1]***
10	Field F H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field F H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -27.9489,19.6677		*[==>]*	***[1]***
12	Field F H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 11		*[==>]*	***[1]***
13	Field F H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -18.2275,19.6677		*[==>]*	***[1]***
14	Field F H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 13		*[==>]*	***[1]***
15	Field F H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -18.2275,10.0222		*[==>]*	***[1]***
16	Field F H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 15		*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10620, Visit 04 Thu Jul 28 01:05:53 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 50%; SAME ORIENT AS 01

Comments: Fields H and G are in this visit. Field H has been 'stretched' to cover a larger area at the edge of our field. All four positions in the G field dither contain BN, and so usually have blanks after them. To allow additional observing time for the blanks, the schedulability has been reduced.

Diagnostics

(Visit 04) Warning: POS TARG OUTSIDE OF APERTURE

(Visit 04) Warning: POS TARG OUTSIDE OF APERTURE

(Visit 04) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 04) Warning: POS TARG OUTSIDE OF APERTURE

(Visit 04) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field H H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG -8.96186,14.016; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field H H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field H H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG -10.177, 28.4842		*[==>]*	***[1]***
4	Field H H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field H H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG 0.75948, 28.4842		*[==>]*	***[1]***
6	Field H H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***

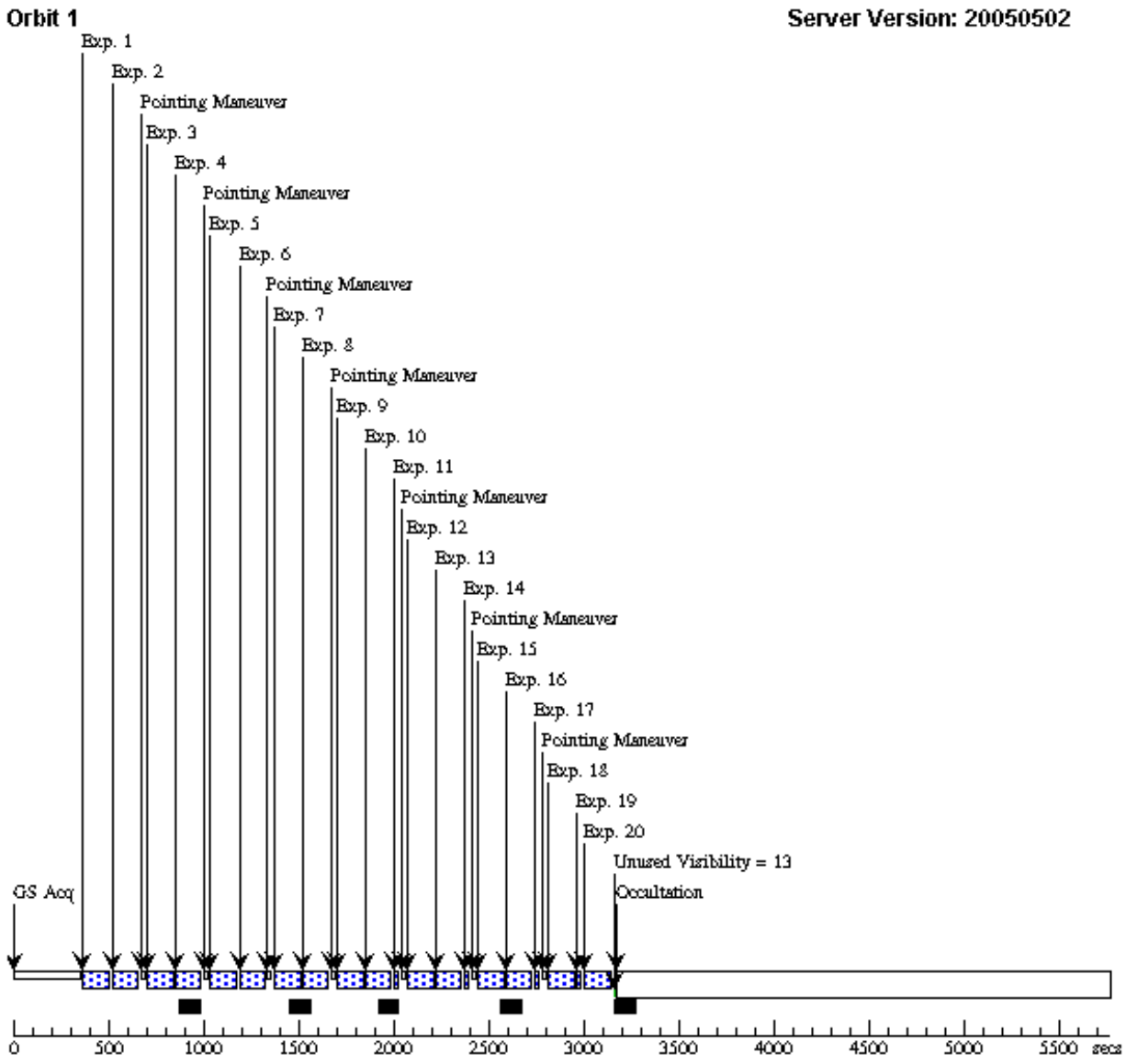
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
7	Field H H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 0.75948, 14.016		*[==>]*	***[1]***
8	Field H H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field G H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -7.2150 6,4.29524		*[==>]*	***[1]***
10	Field G H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field G Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 9		5.2 Secs *[==>]*	***[1]***
Comments: To clear chip from memory of BN saturation.									
12	Field G H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 2.50628, 4.29524		*[==>]*	***[1]***
13	Field G H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 12		*[==>]*	***[1]***
14	Field G Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 12		5.2 Secs *[==>]*	***[1]***
Comments: To clear chip from memory of BN saturation.									
15	Field G H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 2.50628, -5.3502		*[==>]*	***[1]***
16	Field G H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 15		*[==>]*	***[1]***
17	Field G Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 15		5.2 Secs *[==>]*	***[1]***
Comments: To clear chip from memory of BN saturation.									
18	Field G H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG -7.2150 6,-5.3502		*[==>]*	***[1]***
19	Field G Blank	(1) OMC-2GPRIME	NIC2, ACCUM, NIC2-FIX	BLANK	NREAD=9	SAME POS AS 18		5.2 Secs *[==>]*	***[1]***
Comments: To clear chip from memory of BN saturation.									

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
20	Field G H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 18		*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10620, Visit 05 Thu Jul 28 01:05:54 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Comments: Fields J and I are in this visit. The last position in the I field dither contains BN, and so has an embedded blank between the line and continuum images.

Diagnostics

(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 05) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

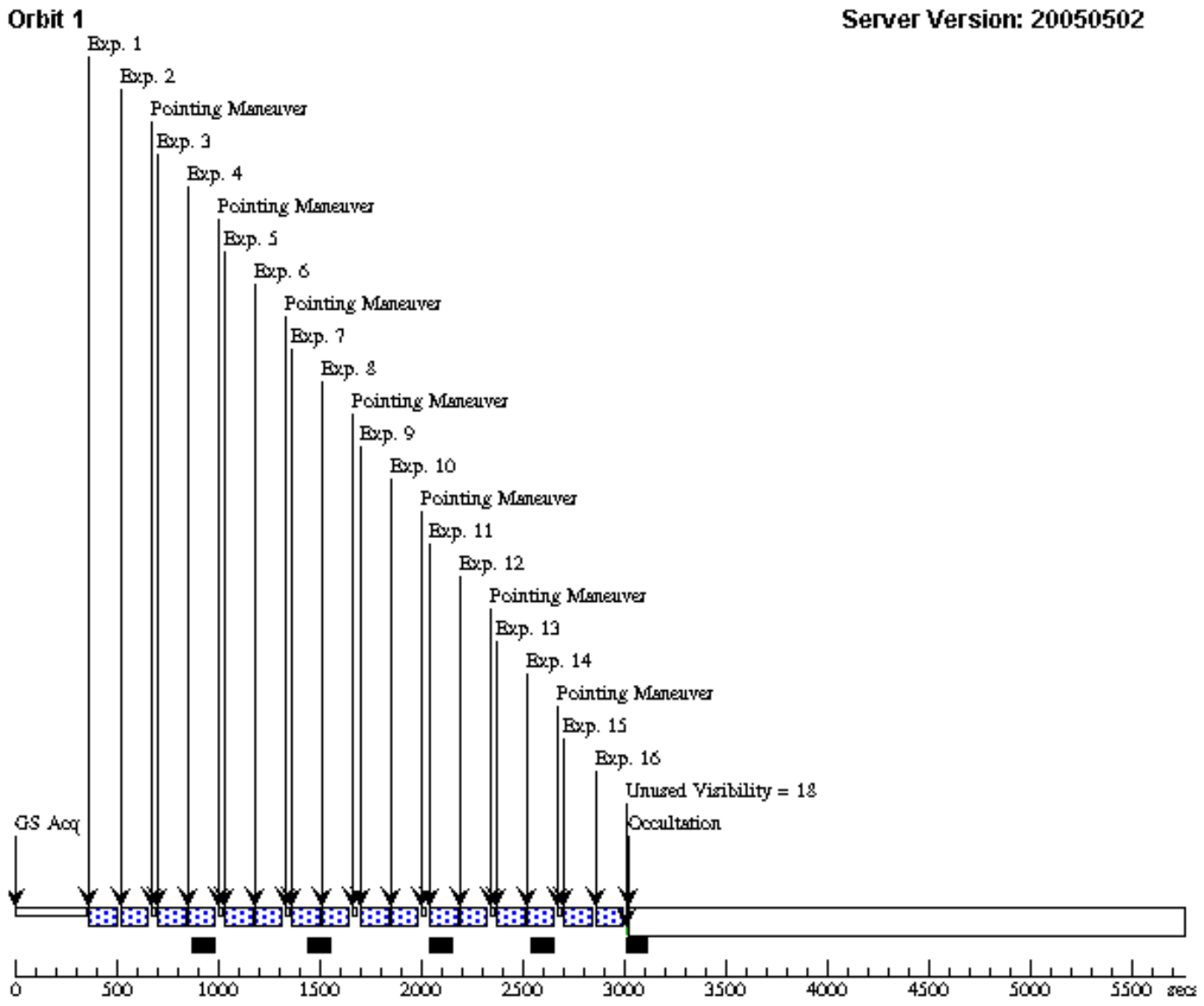
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field J H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG 11.0125, 2.1853; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field J H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field J H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG 11.0125, 11.8307		*[==>]*	***[1]***
4	Field J H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field J H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8; NSAMP=21	POS TARG 20.7338, 11.8307		*[==>]*	***[1]***
6	Field J H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
7	Field J H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 20.7338, 2.1853		*[==>]*	***[1]***
8	Field J H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field I H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 5.08852, -18.8388		*[==>]*	***[1]***
10	Field I H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field I H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 14.8099, -9.19331		*[==>]*	***[1]***
12	Field I H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 11		*[==>]*	***[1]***
13	Field I H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 14.8099, -18.8388		*[==>]*	***[1]***
14	Field I H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 13		*[==>]*	***[1]***
15	Field I H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 5.08852, -9.19331		*[==>]*	***[1]***
16	Field I H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 15		*[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10620, Visit 06 Thu Jul 28 01:05:55 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Comments: Fields K and L are in this visit. Field K4 has been moved to cover a more useful area at the edge of the program 7231 field.

Diagnostics

(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE
(Visit 06) Warning: POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMC-2GPRIME	RA: 05 35 14.0076 (83.8083650d) Dec: -05 22 32.05 (-5.37557d) Equinox: J2000 Plate Id: 06EL		V=(?) H=9.8+/-0.2, K=5.4+/-0.2	Coordinate Source: HST_IMAGE

Comments: GSSS plate saturated. IRc2 position is well known and a large area is being mapped.
The coordinates of the center of NICMOS Camera 2 (APERTURE NIC2-FIX) are determined by offsetting on previous HST NICMOS images (programs 7111 and 7231) from the bright infrared and radio star BN, which has accurate coordinates from measurements with the Very Large Array (VLA). The regions of interest for this Program are extended. The actual telescope pointing could be different by 1 arcsec (much more than the uncertainty in the coordinates) without damaging this Program because the field of view of Camera 2 is 19 arcsec and many partially overlapping fields are being observed.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	Field K H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 26.2021, -24.5657; GS ACQ SCENARIO BASE1NDS		*[==>]*	***[1]***
2	Field K H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 1		*[==>]*	***[1]***
3	Field K H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 26.2021, -14.9203		*[==>]*	***[1]***
4	Field K H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 3		*[==>]*	***[1]***
5	Field K H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 35.9234, -14.9203		*[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
6	Field K H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 5		*[==>]*	***[1]***
7	Field K H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 38.3537, -24.5657		*[==>]*	***[1]***
8	Field K H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 7		*[==>]*	***[1]***
9	Field L H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 22.1009, -5.72698		*[==>]*	***[1]***
10	Field L H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 9		*[==>]*	***[1]***
11	Field L H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 22.1009, 3.91846		*[==>]*	***[1]***
12	Field L H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 11		*[==>]*	***[1]***
13	Field L H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 31.8222, 3.91846		*[==>]*	***[1]***
14	Field L H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 13		*[==>]*	***[1]***
15	Field L H2 Line	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F212N	SAMP-SEQ=STEP8 ; NSAMP=21	POS TARG 31.8222, -5.72698		*[==>]*	***[1]***
16	Field L H2 Ctm	(1) OMC-2GPRIME	NIC2, MULTIACCUM, NIC2-FIX	F215N	SAMP-SEQ=STEP8 ; NSAMP=21	SAME POS AS 15		*[==>]*	***[1]***

Orbit Structure