10719 - Mapping Resources Potential of the Lunar Surface for Human Exploration

Cycle: 14, Proposal Category: NASA

(Availability Mode: AVAILABLE)

INVESTIGATORS

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(5) MOON-OFFSET-1 DARK (1) ARISTARCHUS	ACS/HRC S/C	1	08-Aug-2005 21:04:23.0	yes
02	(2) APOLLO-15 DARK (7) MOON-OFFSET-3	ACS/HRC S/C	1	08-Aug-2005 21:04:49.0	yes
03	(3) APOLLO-17 (6) MOON-OFFSET-2 DARK	ACS/HRC S/C	1	08-Aug-2005 21:05:14.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
11	DARK	S/C	1	08-Aug-2005 21:05:19.0	yes
12	DARK	S/C	1	08-Aug-2005 21:05:20.0	yes
13	DARK	S/C	1	08-Aug-2005 21:05:21.0	yes
21	(5) MOON-OFFSET-1 DARK (1) ARISTARCHUS	ACS/HRC S/C	1	08-Aug-2005 21:05:36.0	yes
22	(2) APOLLO-15 DARK (7) MOON-OFFSET-3	ACS/HRC S/C	1	08-Aug-2005 21:05:58.0	yes
23	(3) APOLLO-17 (6) MOON-OFFSET-2 DARK	ACS/HRC S/C	1	08-Aug-2005 21:06:21.0	yes

9 Total Orbits Used

ABSTRACT

We propose to use the ACS/HRC to delineate UV through visible color units at three test sites on the lunar surface for the purpose of identifying localized areas enriched in potential resources, including TiO2. This pathfinding experiment will make use of HST's unique high resolution imaging capabilities in the near UV. We will observe the Apollo 15 and 17 sites to establish an empirical calibration against sampled lunar soils. We will then observe the Aristarchus Plateau in search of regions enriched in TiO2 at levels that could permit in situ resources utilization activities that support sustained human exploration. Precision mapping of TiO2 abundance and other chemical proxies by virtue of HST's high angular resolution in near UV wavelengths will extend lower resolution Visible-NIR results obtained from orbit by Clementine, and set the stage for future orbital surveys later in the decade. Understanding whether there are lunar near-side sites with adequate resource potential to target human "sorties" and related robotic precursor missions represents an important decision point in NASA's implementation of the President's Vision for Space Exploration. The proposed HST ACS/HRC test data directly support near-term engineering

trades associated with the optimal location for the first human return missions to the Moon. No past, current, or planned future lunar orbiting

spacecraft will have the ability to investigate the near UV aspects of the lunar spectrum at such scales (~ 50m), so the results of the proposed HST observations are unique and relevant to NASA's mission.

OBSERVING DESCRIPTION

These observations of the Moon will need to be done under gyro guiding and before HST transitions to 2-gyro operations (Aug 22, 2005). In order to minimize the pointing undertainty under gyro guiding, the slew distance from the previous pointing should be minimized.

Begin by acquiring guide stars at a pointing just outside of the normal Moon avoidance zone. Then, drop to gyro guiding and slew to the first science target. Observe the target with ACS/HRC in using each of F502N, F344N, F660N, and F250W in turn. Start a new tracking for each exposure in order to minimize error vs. the Moon'a actual motion. Do a POS TARG mosaic in order to allow for gyro pointing uncertainty. This completes the first visit. The 2nd and 3rd visits repeat the same procedure for the two remaining science targets.

The multiple tracking slews per orbit are used to try to achieve a better fit of HST's linear moving target tracks to the non-linear motion of the Moon. The mutiple repeats of the target images with different POS TARGs are intended to generate a rough mosaic of the target area in order to minimize the chance of completely missing the target due to gyro guiding pointing uncertainty.

REAL TIME JUSTIFICATION

none

CALIBRATION JUSTIFICATION

none

ADDITIONAL COMMENTS

none

Visit

Proposal 10719, Visit 01 Tue Aug 09 01:06:25 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 20-AUG-2005:21:00:00 AND 20-AUG-2005:22:00:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-1.

Diagnostics

(Visit 01) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 01) Warning: EXPOSURE REQUIRES SPECIAL COMMANDING

(Visit 01) Warning: UNKNOWN PROPOSAL TYPE

(Visit 01) Warning: EXPOSURE REQUIRES SPECIAL COMMANDING

(Visit 01) Warning: EXPOSURE REQUIRES SPECIAL COMMANDING

(Visit 01) Warning: EXPOSURE REQUIRES SPECIAL COMMANDING

(Visit 01) Warning: EXPOSURE REQUIRES SPECIAL COMMANDING

(Visit 01) Warning: Number of Gyros overrides default value.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	MOON-OFFSET-1	RA: 23 47 5.1900 (356.7716250d) Dec: -08 22 11.67 (-8.36991d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(1)	ARISTARCHUS	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-310.64,LAT=24.88	NOT ECL P OF ARISTARCHUS BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(5) MOON-OFFSET-1	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	***[1]***

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE G YRO		82.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.									
3	F658N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
10	F502N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
11	F502N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

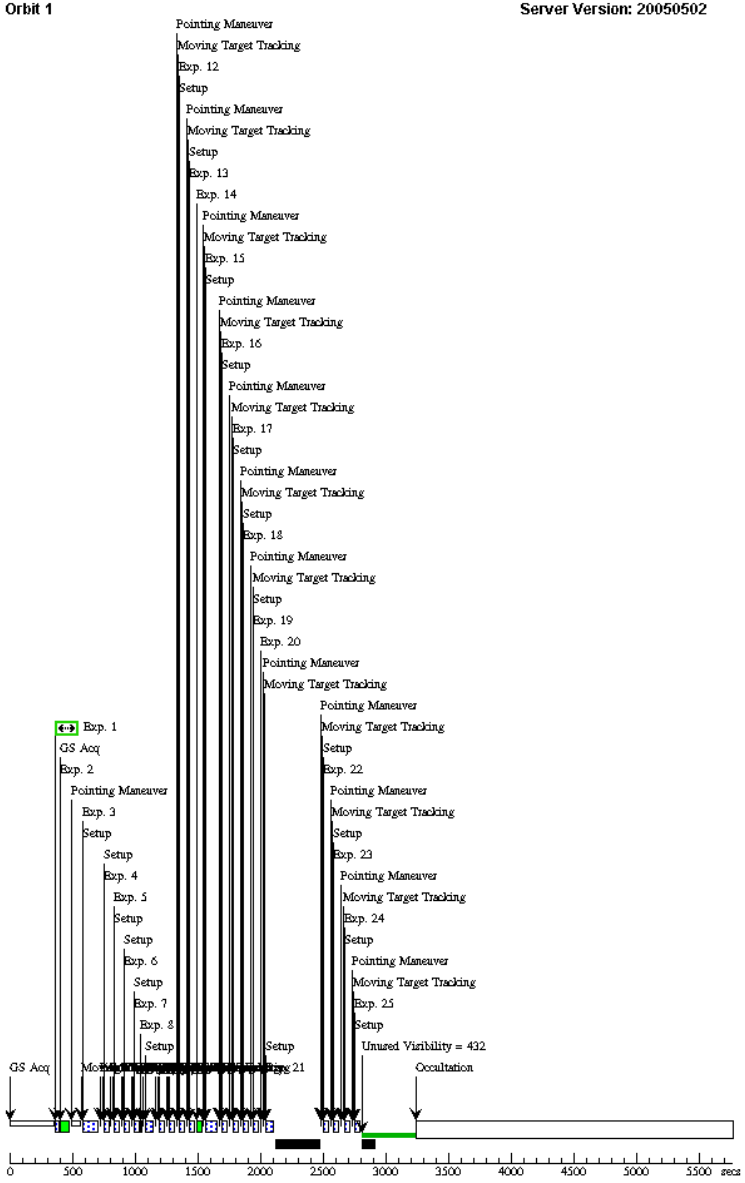
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
17	F250W 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
18	F250W 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
24	F344N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
25	F344N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 10719, Visit 02 Tue Aug 09 01:06:29 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 19-AUG-2005:22:30:00 AND 19-AUG-2005:23:30:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-3.

Diagnostics

(Visit 02) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 02) Warning: Number of Gyros overrides default value.

(Visit 02) Warning: UNKNOWN PROPOSAL TYPE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	MOON-OFFSET-3	RA: 22 54 43.6800 (343.6820000d) Dec: -14 37 44.48 (-14.62902d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(2)	APOLLO-15	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-3.634,LAT=26.132	NOT ECL P OF APOLLO-15 BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(7) MOON-OFFSET-3	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	***[1]***

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE GYRO		82.0 Secs *[==>]*	***[1]***

Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3	F658N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***
10	F502N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
11	F502N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
17	F250W 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

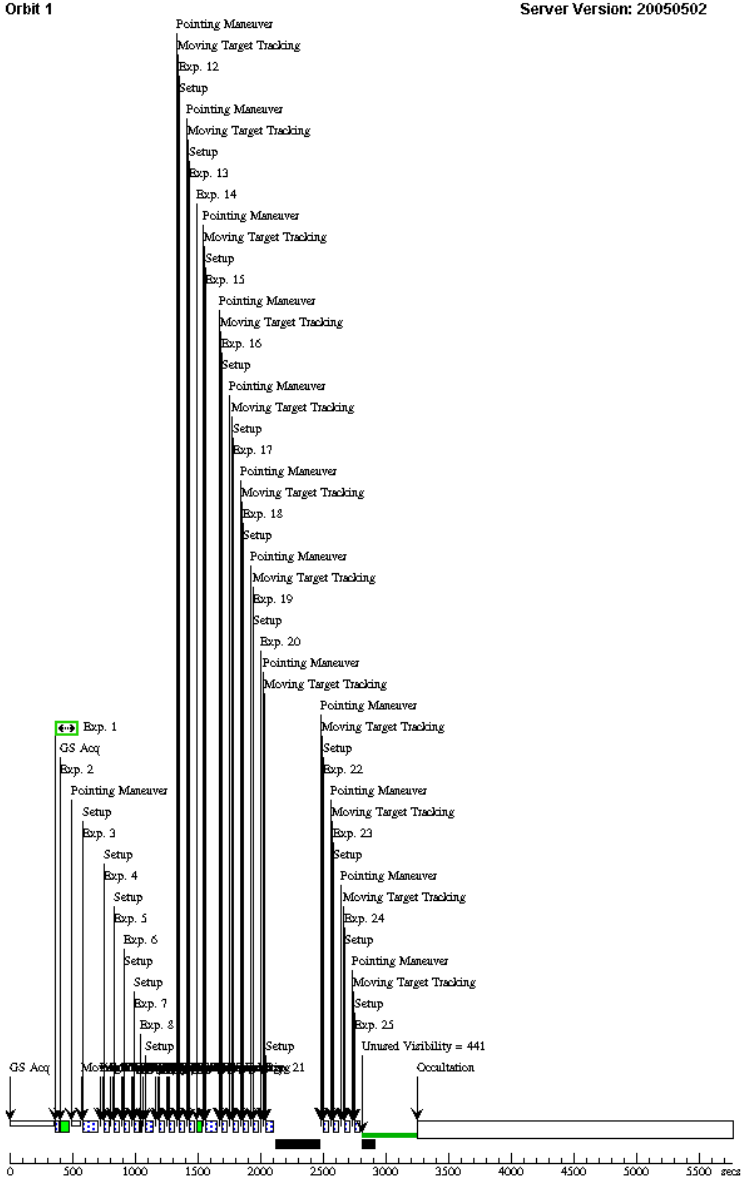
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
18	F250W 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
24	F344N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
25	F344N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 10719, Visit 03 Tue Aug 09 01:06:31 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 16-AUG-2005:22:30:00 AND 16-AUG-2005:23:30:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-2.

Diagnostics

(Visit 03) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 03) Warning: UNKNOWN PROPOSAL TYPE

(Visit 03) Warning: Number of Gyros overrides default value.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	MOON-OFFSET-2	RA: 19 49 24.7400 (297.3530833d) Dec: -27 18 8.84 (-27.30246d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(3)	APOLLO-17	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-30.775,LAT=20.188	NOT ECL P OF APOLLO-17 BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(6) MOON-OFFSET-2	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	*[1]*

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE GYRO		82.0 Secs *[==>]*	*[1]*

Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3	F658N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***
10	F502N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
11	F502N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
17	F250W 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

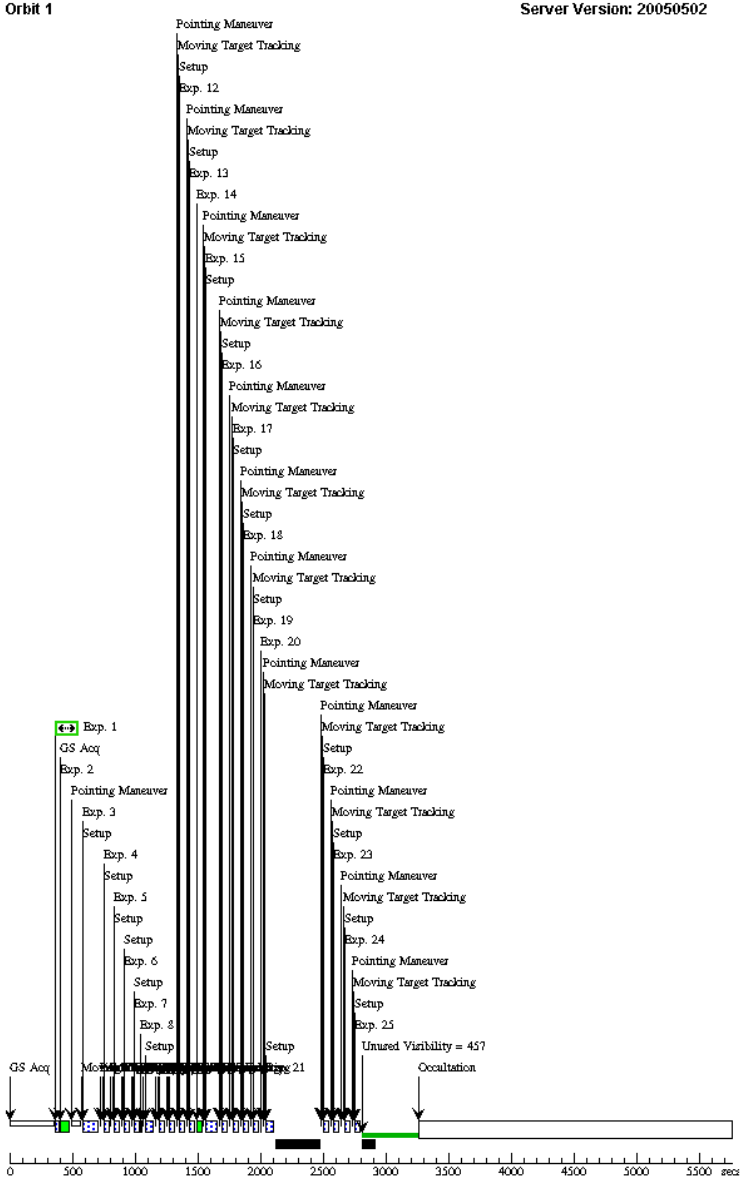
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
18	F250W 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
24	F344N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
25	F344N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 10719, Visit 11 Tue Aug 09 01:06:34 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: S/C

Special Requirements: PARALLEL

Comments: This visit will force a PCPTERM and will be scheduled in parallel with the otherwise unrelated science observation that preceeds a Moon visit. This is part of the AOA minimization strategy.

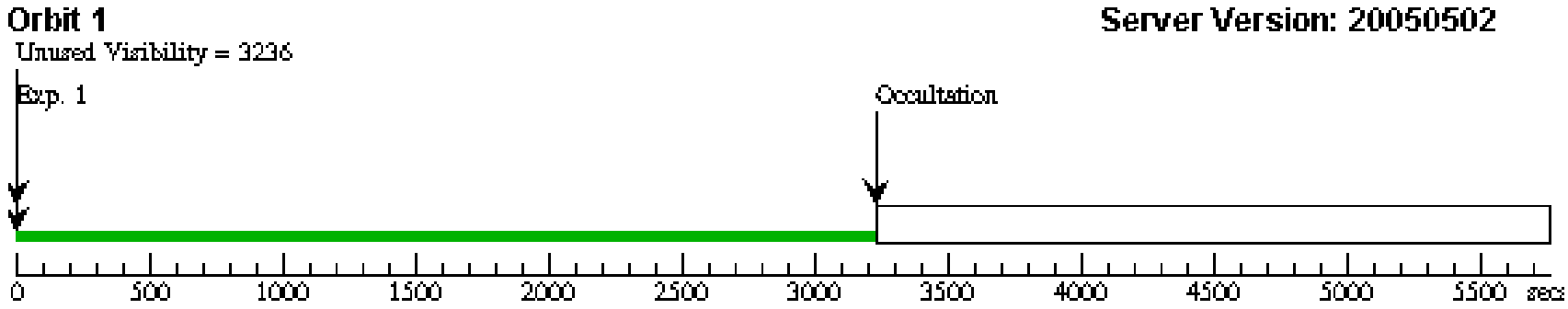
Diagnostics

(Visit 11) Warning: UNKNOWN PROPOSAL TYPE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR EPCPTERM		15.0 Secs [==>]	[1]

Orbit Structure



Visit

Proposal 10719, Visit 12 Tue Aug 09 01:06:34 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: S/C

Special Requirements: PARALLEL

Comments: This visit will force a PCPTERM and will be scheduled in parallel with the otherwise unrelated science observation that preceeds a Moon visit. This is part of the AOA minimization strategy.

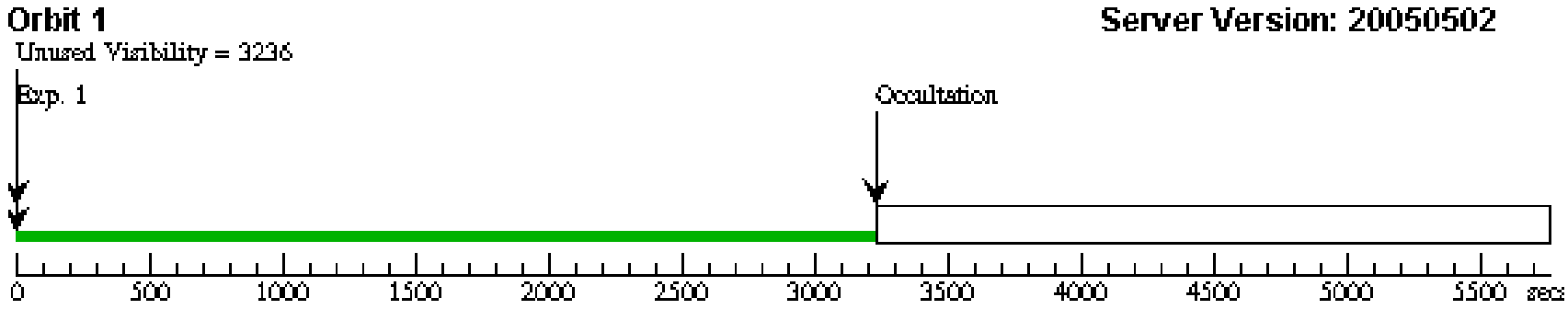
Diagnostics

(Visit 12) Warning: UNKNOWN PROPOSAL TYPE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR EPCPTERM		15.0 Secs [==>]	[1]

Orbit Structure



Visit

Proposal 10719, Visit 13 Tue Aug 09 01:06:34 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: S/C

Special Requirements: PARALLEL

Comments: This visit will force a PCPTERM and will be scheduled in parallel with the otherwise unrelated science observation that preceeds a Moon visit. This is part of the AOA minimization strategy.

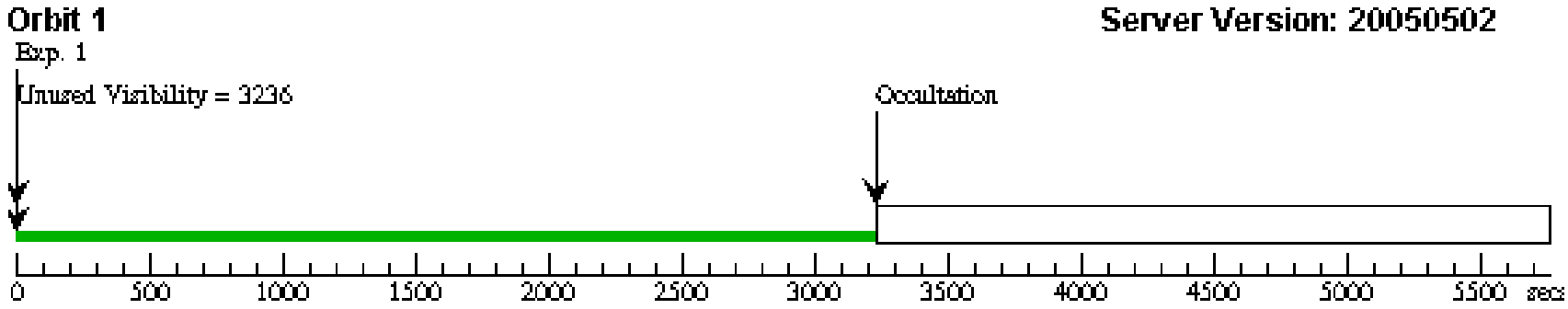
Diagnostics

(Visit 13) Warning: UNKNOWN PROPOSAL TYPE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		DARK	S/C, DATA, NONE			SPEC COM INSTR EPCPTERM		15.0 Secs *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 10719, Visit 21 Tue Aug 09 01:06:34 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 20-AUG-2005:21:00:00 AND 20-AUG-2005:22:00:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-1.

Diagnostics

(Visit 21) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 21) Warning: UNKNOWN PROPOSAL TYPE

(Visit 21) Warning: Number of Gyros overrides default value.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	MOON-OFFSET-1	RA: 23 47 5.1900 (356.7716250d) Dec: -08 22 11.67 (-8.36991d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(1)	ARISTARCHUS	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-310.64,LAT=24.88	NOT ECL P OF ARISTARCHUS BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(5) MOON-OFFSET-1	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	***[1]***

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE GYRO		82.0 Secs *[==>]*	***[1]***

Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3	F658N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***
10	F502N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
11	F502N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW OBSET; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
17	F250W 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

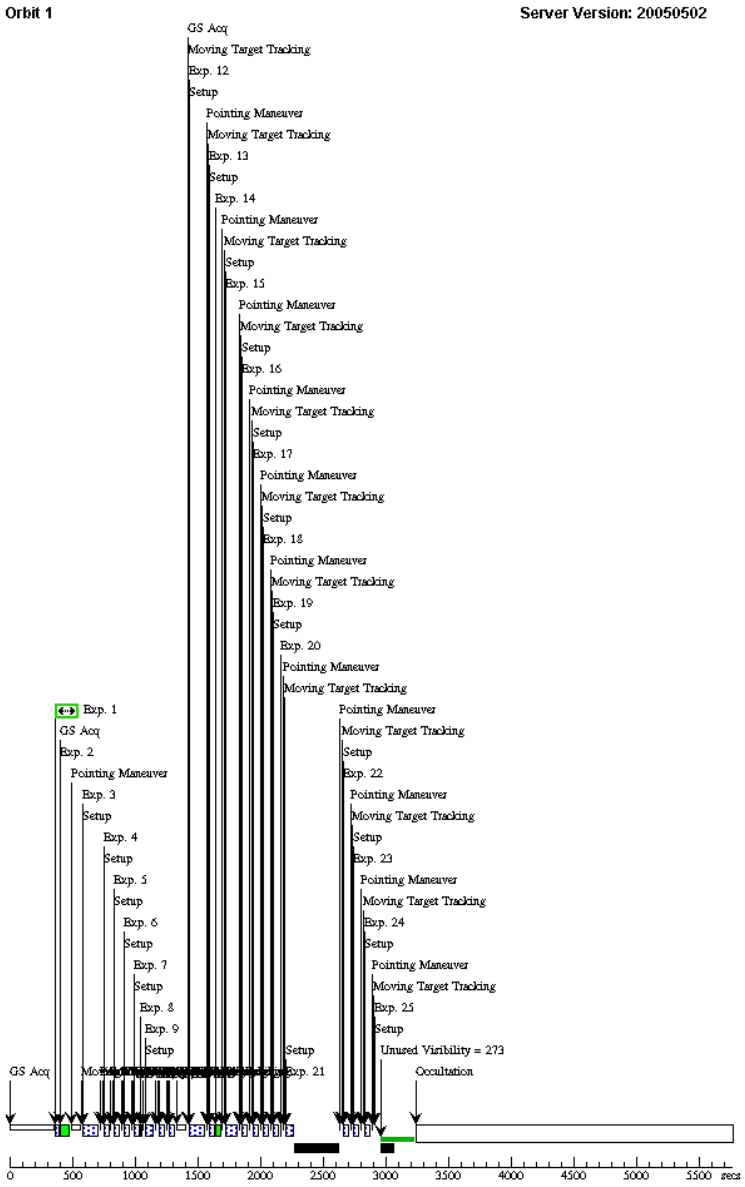
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
18	F250W 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
24	F344N 4	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
25	F344N 5	(1) ARISTARCHUS	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 10719, Visit 22 Tue Aug 09 01:06:37 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 19-AUG-2005:22:30:00 AND 19-AUG-2005:23:30:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-3.

Diagnostics

(Visit 22) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 22) Warning: Number of Gyros overrides default value.

(Visit 22) Warning: UNKNOWN PROPOSAL TYPE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	MOON-OFFSET-3	RA: 22 54 43.6800 (343.6820000d) Dec: -14 37 44.48 (-14.62902d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(2)	APOLLO-15	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-3.634,LAT=26.132	NOT ECL P OF APOLLO-15 BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(7) MOON-OFFSET-3	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	***[1]***

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE GYRO		82.0 Secs *[==>]*	***[1]***

Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3	F658N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***
10	F502N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
11	F502N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW OBSET; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
17	F250W 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

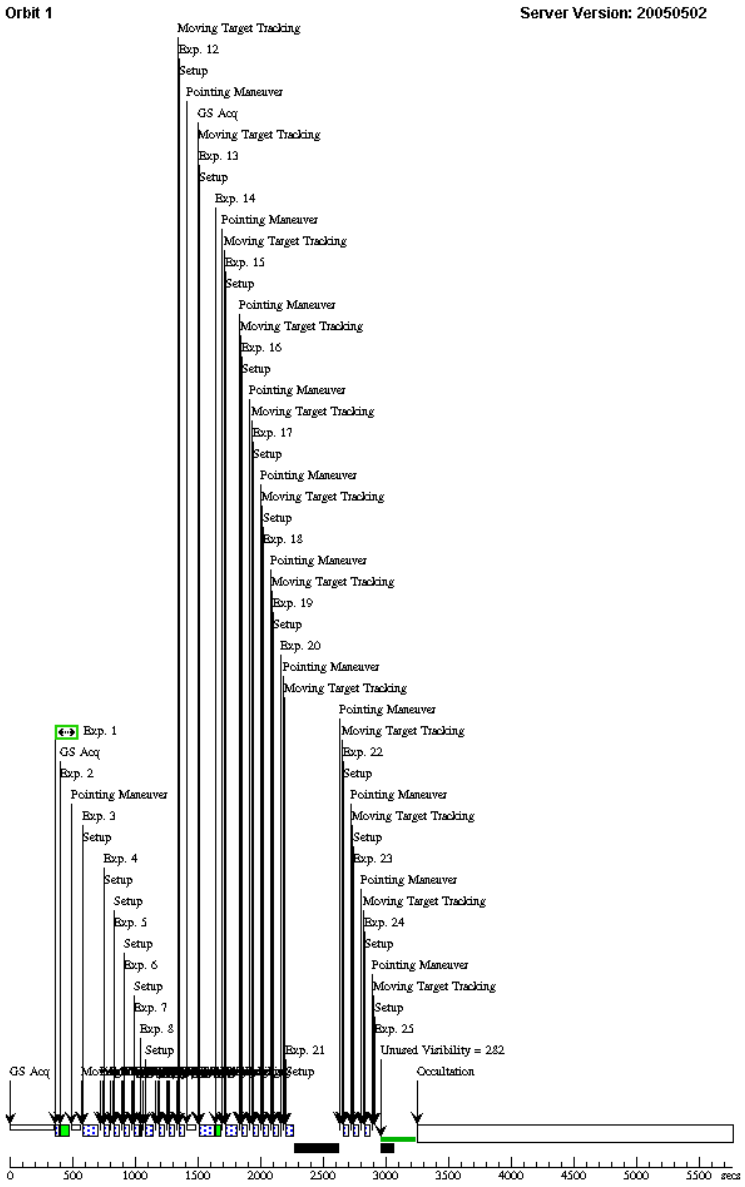
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
18	F250W 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
24	F344N 4	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
25	F344N 5	(2) APOLLO-15	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 10719, Visit 23 Tue Aug 09 01:06:39 GMT 2005

Diagnostic Status: Error

Scientific Instruments: ACS/HRC, S/C

Special Requirements: NUMBER OF GYROS 3; BETWEEN 16-AUG-2005:22:30:00 AND 16-AUG-2005:23:30:00

Comments: Schedule before HST enters 2-gyro operations. Disable parallax correction. BETWEEN requirement to match coordinates of MOON-OFFSET-2.

Diagnostics

(Visit 23) Error: Fixed and Solar System targets may not be used in the same visit

(Visit 23) Warning: Number of Gyros overrides default value.

(Visit 23) Warning: UNKNOWN PROPOSAL TYPE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	MOON-OFFSET-2	RA: 19 49 24.7400 (297.3530833d) Dec: -27 18 8.84 (-27.30246d) Equinox: J2000 Plate Id: (?)		V=20.0+/-0.1	Coordinate Source: MOSS

Comments: This target is used for guide star acquisition prior to slewing to the Moon. The pointing should be leading the Moon's limb by about 9.5 degrees. These target coordinates must be defined for a particular time of observation.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window
(3)	APOLLO-17	STD=EARTH	STD=MOON	TYPE=PGRAPHIC,LONG=-30.775,LAT=20.188	NOT ECL P OF APOLLO-17 BY MOON

Comments: Generate HST-centric ephemeris instead of normal geocentric ephemeris in order to handle the high parallax correction required for the Moon. Concentrate observtations within +/- 3 minutes of the inflection points of the Moon's angular velocity as seen from HST.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	GS Acq	(6) MOON-OFFSET-2	S/C, POINTING, V1			SPEC COM INSTR EJFWSBCBLOCK; GS ACQ SCENARIO BASE13GO		41.0 Secs *[==>]*	***[1]***

Comments: This exposure will result in a guide star acquision to minimize gyro pointing uncertainty before slewing to the Moon. The special commanding moves the SBC filter wheel to the opaque position as an extra precaution against scattered light from the Moon. 41s exposure time accommodates the worst case filter wheel move time.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	F658N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW OBSET; EXP PCS MODE GYRO		82.0 Secs *[==>]*	***[1]***

Comments: This exposure moves the filter wheel into position so that the first F658N science expoure does not have to take the time to do it.

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
3	F658N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
4	F658N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
5	F658N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
6	F658N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
7	F658N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		0.7 Secs *[==>]*	***[1]***
8	F502N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT ; EXP PCS MODE G YRO		20.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F502N science expoure does not have to take the time to do it.									
9	F502N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***
10	F502N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT ; EXP PCS MODE G YRO		1.5 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
11	F502N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
12	F502N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
13	F502N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW OBSET; EXP PCS MODE GYRO		1.5 Secs *[==>]*	***[1]***
14	F250W 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		50.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F250W science expoure does not have to take the time to do it.									
15	F250W 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
16	F250W 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
17	F250W 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
18	F250W 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
19	F250W 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
20	F344N 0	DARK	S/C, DATA, NONE			SPEC COM INSTR EJCCDFWSET; NEW ALIGNMENT; EXP PCS MODE GYRO		19.0 Secs *[==>]*	***[1]***
Comments: This exposure moves the filter wheel into position so that the first F344N science expoure does not have to take the time to do it.									
21	F344N 1	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
22	F344N 2	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
23	F344N 3	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG 14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***
24	F344N 4	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	***[1]***

Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
25	F344N 5	(3) APOLLO-17	ACS/HRC, ACCUM, HRC	F344N	CR-SPLIT=NO	POS TARG -14.5,-12.7; NEW ALIGNMENT; EXP PCS MODE GYRO		4.0 Secs *[==>]*	 ***[1]***

Orbit Structure