17887 - LP7 Exploratory Deuterium Exposures

Cycle: 32, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:13.0	yes
2A	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:14.0	yes
2B	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:15.0	yes
3A	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:16.0	yes
3B	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:17.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:17.0	yes
05	DEUTERIUM NONE	COS COS/FUV	1	29-Jan-2025 14:00:18.0	yes

7 Total Orbits Used

ABSTRACT

This program will explore the feasibility of using the deuterium lamps to take gain maps at the LP7 position

OBSERVING DESCRIPTION

This program contains seven visits which will help explore the feasibility of using the deuterium lamps to take gain maps at the LP7 position.

Visit 01: Take short deuterium exposures at all allowed current values using both lamps in order to determine the appropriate current to use for the subsequent visits. Note that CURRENT = HIGH is not currently allowed.

Visit 2A: Take deuterium exposures at 1327/1291/1055/1623/1533 using the FLAT1 lamp
Visit 2B: Take deuterium exposures at 1327/1291/1055/1623/1533 using the FLAT2 lamp

Visit 3A: Take deuterium exposures at several defocus positions for G130M/1291
Visit 3B: Take deuterium exposures at several defocus positions for G160M/1533

Visit 04: Take spectra at non-standard cenwaves in an attempt to increase the extent of the cross-dispersion profile

Visit 05: Take data with the aperture closer to the soft stop

The visits have scheduling constraints so that the results of the the earlier ones can be incorporated in the later ones. For example, Visits 2A and 2B are scheduled to be at least 3 weeks after visit 01 so that the optimal lamp current can be used in the later visits.

Visits 04 and 05 may not be needed if the earlier visits show that the use of the deuterium lamp at LP7 is either definitely feasible or definitely infeasible.

The general procedure for collecting data in each visit is given below.

* Take an exposure at LP1 to set up the aperture position and HV. These exposures will use G130M/1309.

* Adjust the aperture in the cross dispersion direction so that the deuterium lamp will illuminate the LP2/LP5/LP6 region on the detector, e.g. as close to LP7 as we currently use in the annual gain map program. These values are LAPXSTP = -267, or XAPER = -114

* Take the deuterium lamp exposures at the appropriate cenwave using both detector segments. The exposure length varies between visits since the data will be used in different ways:
- 20 second exposures are used for flux measurements
- 50 second exposures are used for determining positions
- 100 second exposures are used for determining spectral footprints

Note that these exposures all use the LP1 HV, since this minimized overheads, and it is only one step above the nominal LP2/LP5/LP6 HV, so won't have any noticeable effect on the charge extracted.

* Return the aperture to the HOME position

Lamp currents for both lamps are identical:
* Low: 3 mA
* Medium: 7 mA
* High: 17 mA

The count rates are expected to be different for the two lamps because of a different optical path and a different usage history.

For reference, the soft and hard stops for the apertures are listed below. All aperture moves are within these ranges.

MEB1:
SOFT STOPS = -275 to 275
HARD STOPS = -282 to 285

MEB2:
SOFT STOPS = -275 to 275
HARD STOPS = -284 to 283

The initial exposure of each visit uses the FCA_LP1 aperture position, LAPXSTP = -153. Thus all XAPER values are relative to that position.

Proposal 17887 - Lamp Current Measurements (01) - LP7 Exploratory Deuterium Exposures

Visit	**Proposal 17887, Lamp Current Measurements (01), completed** Wed Jan 29 19:00:18 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS, COS/FUV Special Requirements: (none) *Comments: Take lamp exposures for both deuterium lamps for both G130M/1309 and G160M/1600 at all allowed currents. CURRENT = HIGH is not allowed.*
Diagnostics	(Lamp Current Measurements (01)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT

Exposures

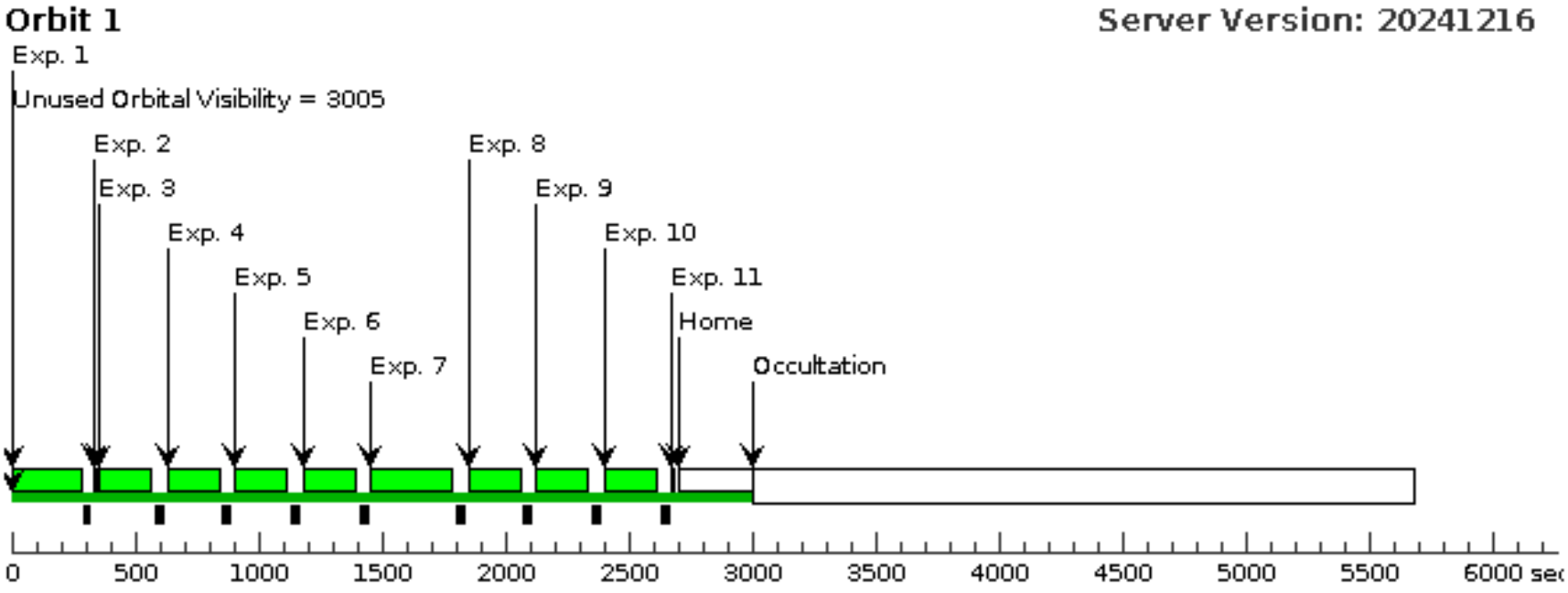
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.									
2	Move Aperture to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*									
3	G130M/1309; FLAT1; Low Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=LOW; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			20 Secs (20 Secs) *[==>]*	***[1]***
4	G130M/1309; FLAT1; Medium Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			20 Secs (20 Secs) *[==>]*	***[1]***
5	G130M/1309; FLAT2; Low Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=LOW; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT LOW		20 Secs (20 Secs) *[==>]*	***[1]***
6	G130M/1309; FLAT2; Medium Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		20 Secs (20 Secs) *[==>]*	***[1]***

7	G160M/1600; FLAT1; Low Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=LOW; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1		20 Secs (20 Secs) *[==>]*	
8	G160M/1600; FLAT1; Medium Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1		20 Secs (20 Secs) *[==>]*	
9	G160M/1600; FLAT2; Low Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=LOW; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT LOW	20 Secs (20 Secs) *[==>]*	
10	G160M/1600; FLAT2; Medium Current	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1600 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	20 Secs (20 Secs) *[==>]*	
11	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0	QESIPARM XSTEPS 114	0 Secs (0 Secs) *[==>]*	***[1]***

Comments: Return aperture to nominal position by setting XAPER=0

**HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*

Orbit Structure



Proposal 17887 - Exposures at multiple cenwaves; FLAT1 (2A) - LP7 Exploratory Deuterium Exposures

Visit	**Proposal 17887, Exposures at multiple cenwaves; FLAT1 (2A), completed** Wed Jan 29 19:00:18 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS, COS/FUV Special Requirements: AFTER 01 BY 21 D TO 35 D; PARALLEL *Comments: Collect deuterium data at a variety of cenwaves at the LP2/5/6 position in order to determine the cross-dispersion profiles and count rates.* *Lamp current may be adjusted based on results from visit 01*
Diagnostics	(Exposures at multiple cenwaves; FLAT1 (2A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT

Exposures

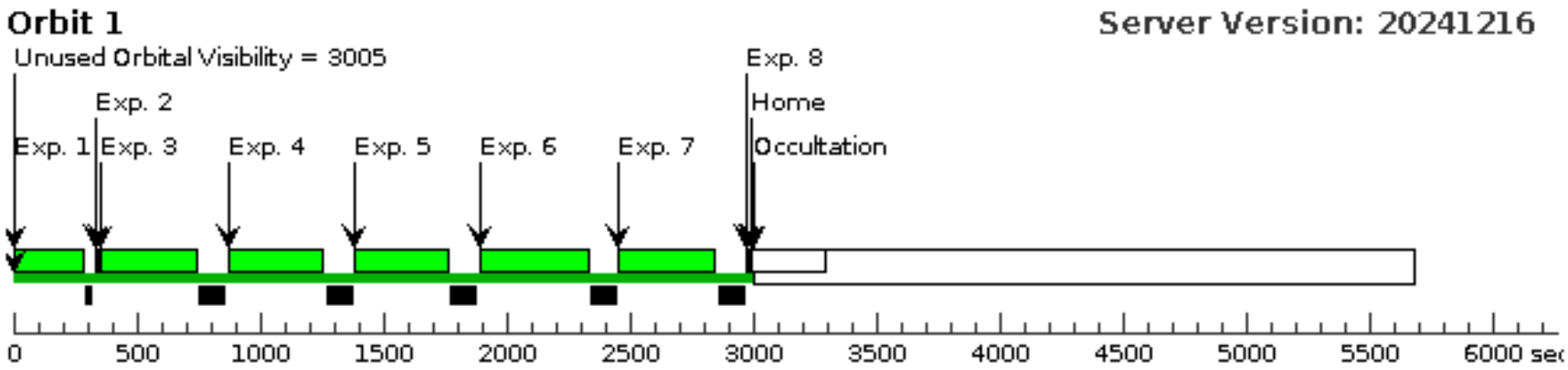
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
	Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.								
2	Move Aperture to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
	Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector. *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*								
3	G130M/1055; FLAT1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1055 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			100 Secs (100 Secs) *[==>]*	***[1]***
4	G130M/1291; FLAT1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			100 Secs (100 Secs) *[==>]*	***[1]***
5	G130M/1327; FLAT1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1327 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			100 Secs (100 Secs) *[==>]*	***[1]***
6	G160M/1533; FLAT1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			100 Secs (100 Secs) *[==>]*	***[1]***

	7	G160M/1623; FLAT1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1623 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1		100 Secs (100 Secs) *[==>]*	*[1]*
	8	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0	QESIPARM XSTEPS 114	0 Secs (0 Secs) *[==>]*	*[1]*

Comments: Return aperture to nominal position by setting XAPER=0

**HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*

Orbit Structure



Proposal 17887 - Exposures at multiple cenwaves; FLAT2 (2B) - LP7 Exploratory Deuterium Exposures

Visit	**Proposal 17887, Exposures at multiple cenwaves; FLAT2 (2B), completed** Wed Jan 29 19:00:18 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS, COS/FUV Special Requirements: AFTER 01 BY 21 D TO 35 D; PARALLEL *Comments: Collect deuterium data at a variety of cenwaves at the LP2/5/6 position in order to determine the cross-dispersion profiles and count rates* *Lamp current may be adjusted based on results from visit 01*
Diagnostics	(Exposures at multiple cenwaves; FLAT2 (2B)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT

Exposures

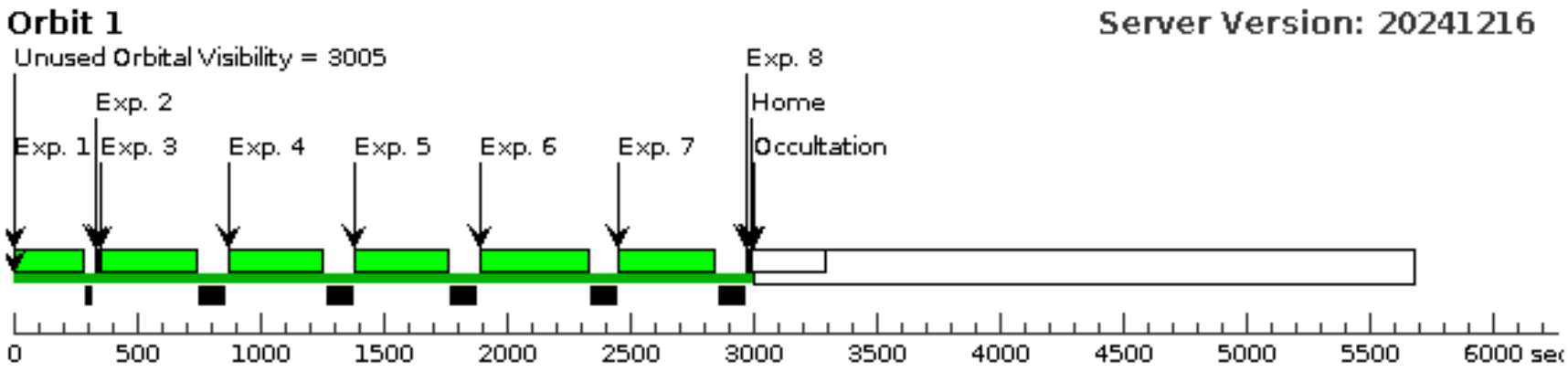
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.									
2	Move Aperture to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector. *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*									
3	G130M/1055; FLAT2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1055 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		100 Secs (100 Secs) *[==>]*	***[1]***
4	G130M/1291; FLAT2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		100 Secs (100 Secs) *[==>]*	***[1]***
5	G130M/1327; FLAT2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1327 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		100 Secs (100 Secs) *[==>]*	***[1]***
6	G160M/1533; FLAT2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		100 Secs (100 Secs) *[==>]*	***[1]***

	7	G160M/1623; FLAT2	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1623 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	100 Secs (100 Secs) *[==>]*	***[1]***
	8	Return Aperture to Nominal Position	NONE	COS, ALIGN/APER		XAPER=0	QESIPARM XSTEPS 114	0 Secs (0 Secs) *[==>]*	***[1]***

Comments: Return aperture to nominal position by setting XAPER=0

**HOWEVER*, because of the TRANS rules, the "QESIPARM XSTEPS +114" [(0 - -114) = +114] Special Requirement is necessary to move the aperture to its correct location.*

Orbit Structure



Proposal 17887 - G130M/1291 FLAT2 at multiple focus positions (3A) - LP7 Exploratory Deuterium Exposures

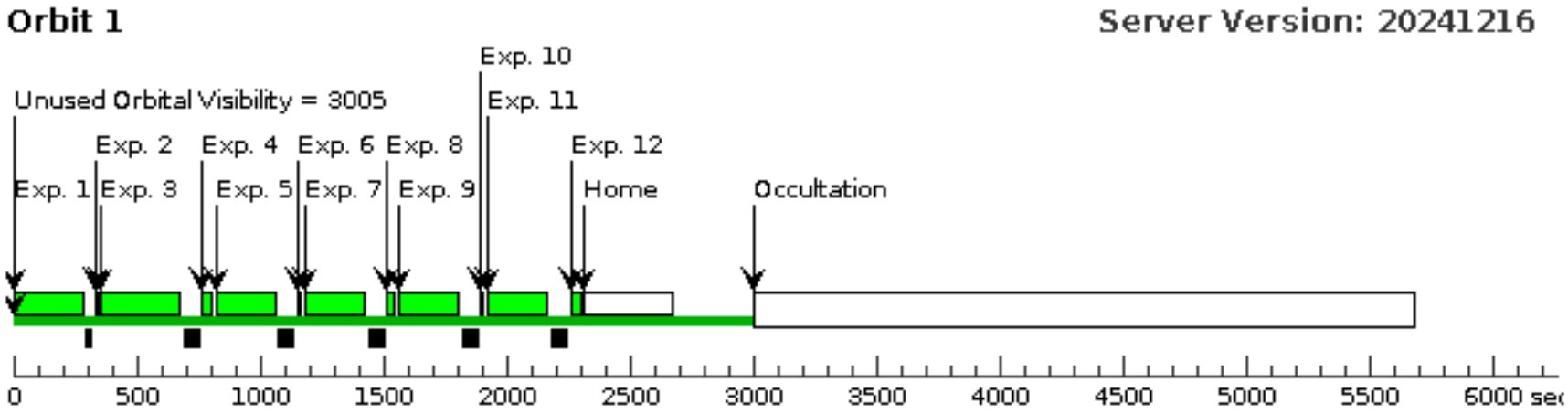
Visit	**Proposal 17887, G130M/1291 FLAT2 at multiple focus positions (3A), implementation** Wed Jan 29 19:00:18 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS, COS/FUV Special Requirements: AFTER 2A BY 21 D TO 90 D *Comments: Collect deuterium data at several focus positions to determine the effect on the cross-dispersion profiles.* *Cenwave(s), lamp number(s) and lamp current(s) were updated after visits 01, 2A, and 2B executed.* *G130M/1291/LP1 nominal focus value is -170 absolute , so relative focus values of -2000 to +2000 are within the soft stops of -2900 and +2505 (absolute).*
Diagnostics	(G130M/1291 FLAT2 at multiple focus positions (3A)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
	Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.								
2	Aperture Adjustment to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
	Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector. *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*								
3	G130M/1291 Exposure at LP1 focus position	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
4	Adjust Focus to -2000	NONE	COS, ALIGN/OSM		FOCUS=-2000			0 Secs (0 Secs) *[==>]*	***[1]***
5	G130M/1291 Exposure at -2000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
6	Adjust Focus to -1000	NONE	COS, ALIGN/OSM		FOCUS=-1000			0 Secs (0 Secs) *[==>]*	***[1]***
7	G130M/1291 Exposure at -1000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
8	Adjust Focus to +1000	NONE	COS, ALIGN/OSM		FOCUS=1000			0 Secs (0 Secs) *[==>]*	***[1]***

	9	G130M/1291 Exposure at +1000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	50 Secs (50 Secs) *[==>]*	*[1]*
	10	Adjust Focus to +2000	NONE	COS, ALIGN/OSM		FOCUS=2000		0 Secs (0 Secs) *[==>]*	*[1]*
	11	G130M/1291 Exposure at +2000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1291 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	50 Secs (50 Secs) *[==>]*	*[1]*
	12	Return to Nominal Focus	NONE	COS, ALIGN/OSM		FOCUS=0		0 Secs (0 Secs) *[==>]*	*[1]*

Orbit Structure



Proposal 17887 - G160M/1533 FLAT2 at multiple focus positions (3B) - LP7 Exploratory Deuterium Exposures

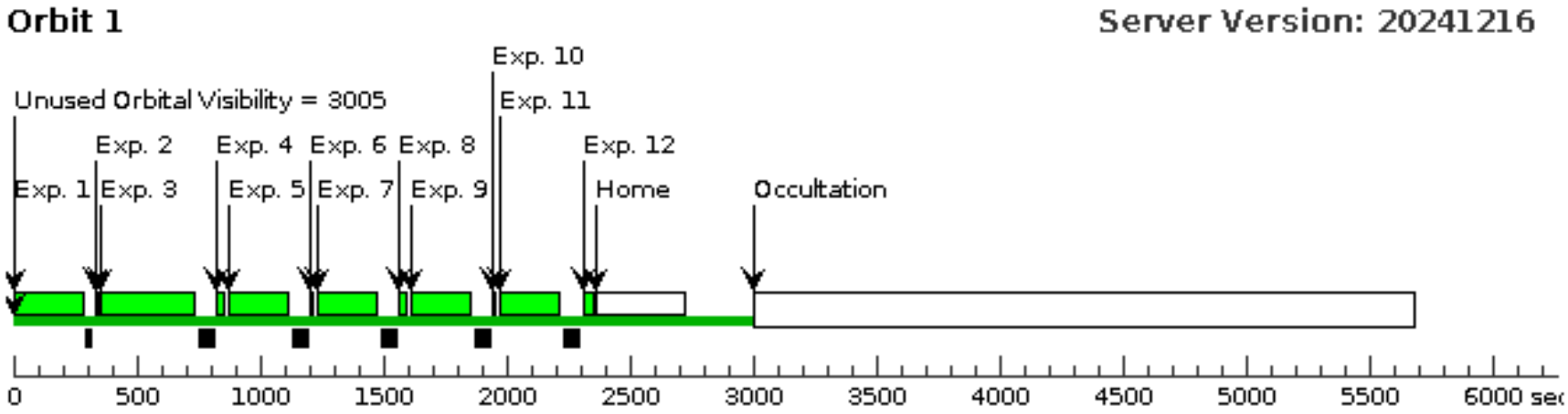
Visit	**Proposal 17887, G160M/1533 FLAT2 at multiple focus positions (3B), implementation** Wed Jan 29 19:00:18 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS, COS/FUV Special Requirements: AFTER 2A BY 21 D TO 90 D *Comments: Collect deuterium data at several focus positions to determine the effect on the cross-dispersion profiles.* *Cenwave(s), lamp number(s) and lamp current(s) were updated after visits 01, 2A, and 2B executed.* *G160M/1533/LP1 nominal focus value is -999 absolute , so relative focus values of -1800 to +2000 are within the soft stops of -2900 and +2505 (absolute).*
Diagnostics	(G160M/1533 FLAT2 at multiple focus positions (3B)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
	Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.								
2	Aperture Adjustment to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
	Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector. *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*								
3	G160M/1533 Exposure at LP1 focus position	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
4	Adjust Focus to -1800	NONE	COS, ALIGN/OSM		FOCUS=-1800			0 Secs (0 Secs) *[==>]*	***[1]***
5	G160M/1533 Exposuree at -1800	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
6	Adjust Focus to -1000	NONE	COS, ALIGN/OSM		FOCUS=-1000			0 Secs (0 Secs) *[==>]*	***[1]***
7	G160M/1533 Exposure at -1000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM		50 Secs (50 Secs) *[==>]*	***[1]***
8	Adjust Focus to +1000	NONE	COS, ALIGN/OSM		FOCUS=1000			0 Secs (0 Secs) *[==>]*	***[1]***

	9	G160M/1533 Exposure at +1000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	50 Secs (50 Secs) *[==>]*	*[1]*
	10	Adjust Focus to +2000	NONE	COS, ALIGN/OSM		FOCUS=2000		0 Secs (0 Secs) *[==>]*	*[1]*
	11	G160M/1533 Exposure at +2000	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G160M 1533 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1	QESIPARM USELAMP FLAT2; QESIPARM CURRENT MEDIUM	50 Secs (50 Secs) *[==>]*	*[1]*
	12	Return to Nominal Focus	NONE	COS, ALIGN/OSM		FOCUS=0		0 Secs (0 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17887, Exposures at Non-Standard Cenwaves (04), implementation Wed Jan 29 19:00:18 GMT 2025

Diagnostic Status: No Diagnostics

Scientific Instruments: COS, COS/FUV

Special Requirements: AFTER 3A BY 21 D TO 90 D; ON HOLD

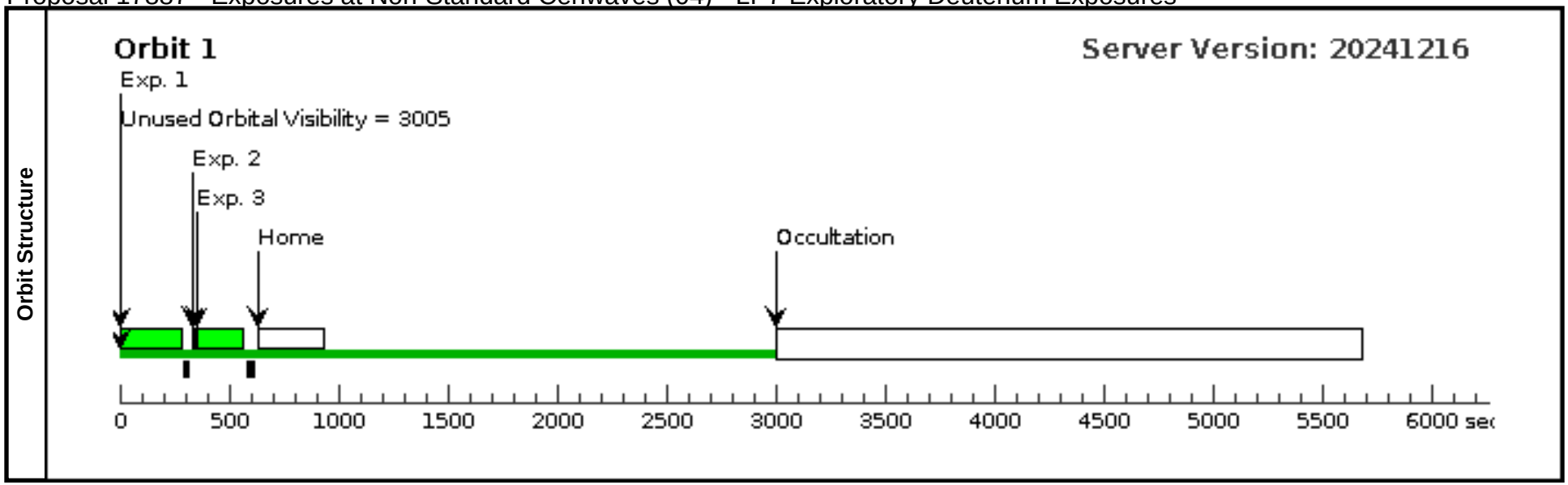
Comments: Take deuterium exposures with OSM1 rotation values that don't correspond to any currently defined cenwave.

Cenwave(s), lamp number(s), lamp current(s) and OSM1 rotations will not be finalized until after visits 01, 2A, 2B, 3A, and 3B execute.

On Hold Comments: On Hold until information is available from earlier visits

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	***[1]***
	Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.								
2	Aperture Adjustment to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	***[1]***
	Comments: Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector. *FCA LAPXSTP value at LP1 is -153* *Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267* *Therefore, XAPER is set to -267 - -153 = -114*								
3	First of several Exposures	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			20 Secs (20 Secs) *[==>]*	***[1]***
	Comments: ADD Exposures as appropriate								


Orbit Structure
Orbit 1
Server Version: 20241216
Exp. 1
Unused Orbital Visibility = 3005
Exp. 2
Exp. 3
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17887, Exposures Closer to the Aperture Soft Stop (05), implementation Wed Jan 29 19:00:19 GMT 2025

Diagnostic Status: No Diagnostics

Scientific Instruments: COS, COS/FUV

Special Requirements: AFTER 04 BY 21 D TO 90 D; ON HOLD

Comments: Take deuterium exposures with the aperture block closer to the soft stop than have been previously obtained

Cenwave(s), lamp number(s), lamp current(s) and lamp currents will not be finalized until after visits 01, 2A, 2B, 3A, and 3B execute.
Aperture block position will be determined after consultation with Alan Welty and GSFC.

On Hold Comments: On Hold until information is available from earlier visits

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Initial Exposure at LP1	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=196; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			5 Secs (5 Secs) *[==>]*	*[1]*

Comments: Short exposure to set aperture to LP1, which is near the center of the aperture range used in this program. It also sets the HV to the LP1 values.

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	Aperture Adjustment to LP2	NONE	COS, ALIGN/APER		XAPER=-114			0.0 Secs (0 Secs) *[==>]*	*[1]*

Comments: UPDATE THIS TEXT, and the XAPER Optional Parameter, when the aperture block position is chosen

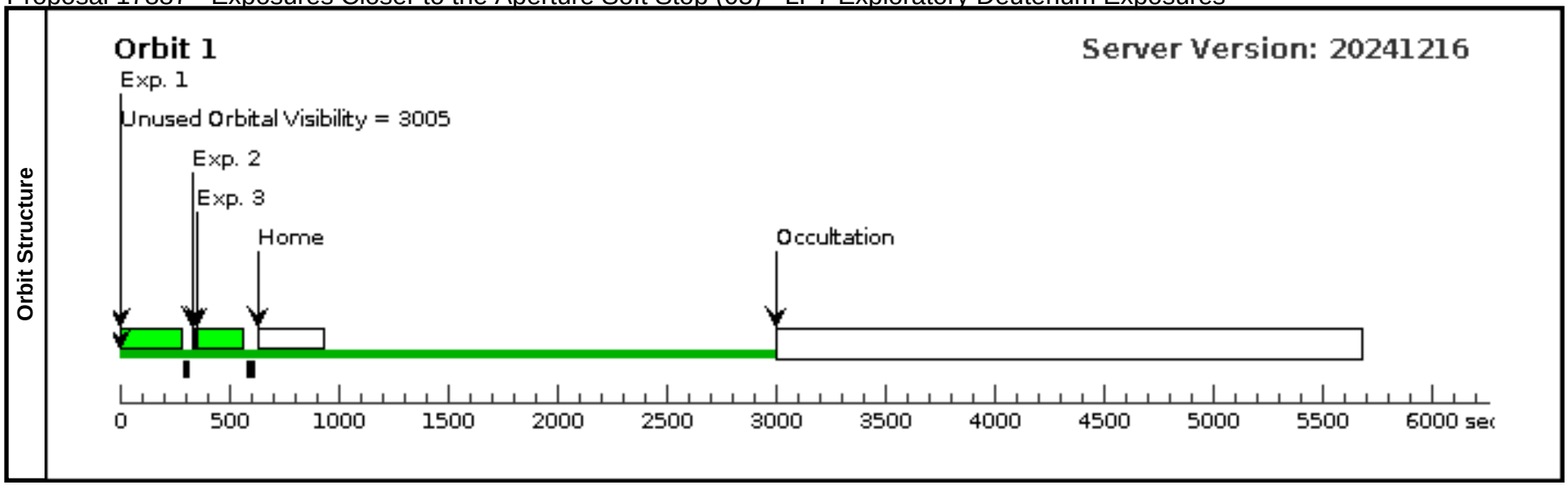
Put the aperture in the appropriate position to illuminate a portion of the LP2 region of the detector.

FCA LAPXSTP value at LP1 is -153
Desired LAPXSTP value for FCA to illuminate Segment A with G130M/1309 is -267

Therefore, XAPER is set to -267 - -153 = -114

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	First of several Exposures	DEUTERIUM	COS/FUV, TIME-TAG, FCA	G130M 1309 A	CURRENT=MEDIUM; BUFFER-TIME=100; FP-POS=1; SEGMENT=BOTH; LIFETIME-POS=LP1			20 Secs (20 Secs) *[==>]*	*[1]*

Comments: ADD Exposures as appropriate


Orbit Structure
Orbit 1
Server Version: 20241216
Exp. 1
Unused Orbital Visibility = 3005
Exp. 2
Exp. 3
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec