

# 13192 - COS Side 2 Initial NUV Channel Checkout

Cycle: 31, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

# **INVESTIGATORS**

Name	Institution
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## **VISITS**

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
01	NONE WAVE	COS COS/NUV	1	29-Sep-2023 10:00:41.0	yes
02	(1) NGC188-41 NONE	COS COS/NUV	1	29-Sep-2023 10:00:44.0	yes
03	(2) IDK-M002 NONE	COS COS/NUV	3	29-Sep-2023 10:00:49.0	yes

<sup>5</sup> Total Orbits Used

## **ABSTRACT**

This program will perform an initial checkout of the NUV channel after switching the instrument to use the Side 2 electronics. The location of the aperture will be checked using the internal wavecal lamp, and an NUV focus run will be made to verify that the focus has not changed.

Proposal 13192 (STScI Edit Number: 10, Created: Friday, September 29, 2023 at 9:00:50 AM Eastern Standard Time) - Overview

#### **OBSERVING DESCRIPTION**

This program consists of two visits.

Visit 01 (Internal):

Images of the wavecal lamp will be taken at the nominal Side 2 aperture position, plus at offset positions in both dispersion and cross-dispersion direction in order to verify that the images and spectra will fall within the same subarrays used on Side 1.

Visit 02 (External): An NUV focus sweep will be done to verify that the focus is at the expected location. This is based on the one done in Program 11469. See ISR 2010-04

----- Additional Comments -----

## Scheduling constraints:

- \*This program should execute after program 13189 (COS Side 2 NUV Detector Recovery After MEB Side Switch) completes.
- \*\* following a success oriented approach this version of the program removes constraints between visits in this program and changes the ID of the program used in the only remaining constraint C. Oliveira \*\*

## Brief Summary of Analysis Plan:

Visit 01: The location of the reference spot at (0",0") will be measured and compared to the nominal location from side 1. The side 1 data used for the comparison should be from a target acquisition image using MIRRORA/PSA obtained as closely as possible in time to the side 2 data. This is because there is a secular motion of the lamp spot along both the dispersion and cross-dispersion directions. The analysis will take into account that there is a scatter in the position of the image of the wavecal from exposure to exposure. At the time of writing this scatter is approximately +/-30 pix in the dispersion direction, and +/-3 pix in the cross-dispersion direction.

Visit 02: To verify that the focus remains unchanged the FWHM of the spots on the detector as a function of focus offset will be measured and compared to data obtained in program 11469 in SMOV. Note that an NUV focus sweep will be executed in the Cycle 21 calibration program to verify that the NUV focus has not changed since SMOV. The analysis of side 2 data should take the results of the Cycle 21 program into account.

Proposal 13192 (STScI Edit Number: 10, Created: Friday, September 29, 2023 at 9:00:50 AM Eastern Standard Time) - Overview

\*\*\*May 2019: One Gyro Contingency Visits Added\*\*\*:

One additional contingency visit was added to this program, which contains a target that can be used if HST is operating in one-gyro mode and NGC188-41 is not visible. Under one-gyro mode, NGC188-41 is not continuously visible. The target added (IDK-M002) was chosen to have visibility windows that complement NGC188-41 under one-gyro operations, such that this program can be be executed at any time. The comparison data for the focus sweep using the new target was obtained in Program 15681 (PI Sahnow).

## PLEASE NOTE:

- If HST is operating under three-gyro mode, do NOT execute contingency visit 03.
- If HST is operating under one-gyro mode at the time of Side-1 electronics failure, AND NGC188-41 is not visible, execute contingency Visit 03, along with Visit 01.

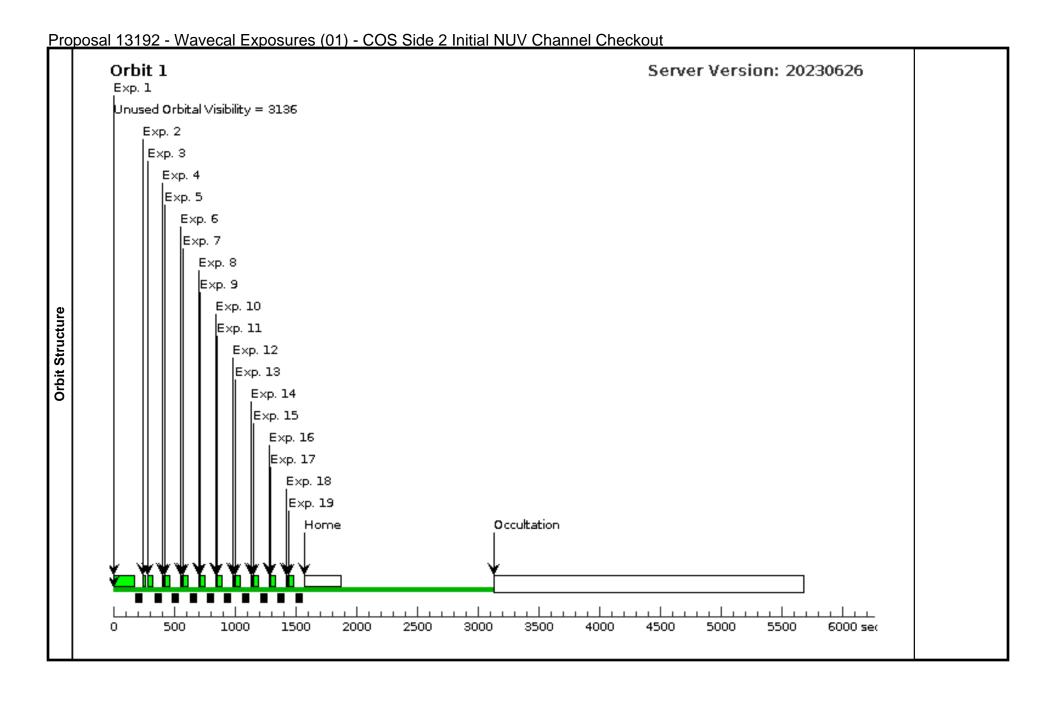
<u>Pro</u>	pposal 13192 - Wavecal Exposures (01) - COS Side 2 Initial NUV Channel Checkout	
	Proposal 13192, Wavecal Exposures (01), implementation	Fri Sep 29 14:00:50 GMT 2023
.±	Diagnostic Status: Warning	
s	Scientific Instruments: COS, COS/NUV	
1	Special Requirements: (none)	
	Comments: This visit will verify that the aperture is in the right location, and will collect exposures at several offset positions to allow it to be adjusted if it isn't.	
S	(Wavecal Exposures (01)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
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Proposal 13192 - Wavecal Exposures (01) - COS Side 2 Initial NUV Channel Checkout

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA				30 Secs (30 Secs)	
								[==>]	[1]
Co	omments: NUV	Exposure at non	ninal position.						
Sa	ıma avnosura tir	me as Program I	12424						
2	Aperture at		COS, ALIGN/APER		YAPER=-10;			0 Secs (0 Secs)	
_	-0.5,-0.5)	( NONE	COS, TEIGIVIII EK		XAPER=10.			I==>1	[1]
C	omments: Anert	ture moved to an	proximately (-0.5,-0.5) arcseconds in (dispe	preion cross-dispers		arcsec/VAPFR sten (	dispersion) and -0.04	. ,	L <sup>1</sup> J
3	Wavecal	WAVE	COS/NUV. TIME-TAG. WCA	MIRRORA	ion). Searc is 10.077	aresec, IIII ER step (	iispersion), and o.o.	30 Secs (30 Secs)	
	,,,,,,	,,,,,	205/1(2 ), 11/12 1116, (1011					[==>1	[1]
Co	omments: NI/V	Exposure at offs	et position					[	1 1-1
4	Aperture at	1 00	COS, ALIGN/APER		YAPER=-10;			0 Secs (0 Secs)	
'	-0.5,+0.0)	(110112			XAPER=0.				[1]
Co	omments: Apert	ture moved to (-0	0.5,+0.0) arcseconds in (dispersion, cross-di	ispersion). Scale is -		R step (dispersion), an	d -0.0476 arcsec/XA	1	1 1-1
5	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA				30 Secs (30 Secs)	
								[==>1	[1]
Co	omments: NUV	Exposure at offs	et position.					L · J	1 1-1
6	Aperture at	1 00	COS. ALIGN/APER		YAPER=-10;			0 Secs (0 Secs)	
	-0.5, +0.5)				XAPER=-10.			<i>I==&gt;1</i>	[1]
Co	omments: Apert	ture moved to (-0	0.5,+0.5) arcseconds in (dispersion, cross-di	ispersion). Scale is -		R step (dispersion), an	d -0.0476 arcsec/XA	1	1 2-3
7	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA		,		30 Secs (30 Secs)	
								<i>I==&gt;1</i>	[1]
Co	omments: NUV	Exposure at offs	et position.					L 7	1 1-1
8	Aperture at	1 55	COS, ALIGN/APER		YAPER=0;			0 Secs (0 Secs)	
_	+0.0,+0.5)	(			XAPER=-10.			[==>1	[1]
Co	omments: Apert	ure moved to (+	0.0, +0.5) arcseconds in (dispersion, cross-a	dispersion). Scale is		ER step (dispersion). a	nd -0.0476 arcsec/XA	1	1 1-1
9	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA				30 Secs (30 Secs)	
								<i>I==&gt;1</i>	[1]
Co	omments: NUV	Exposure at offs	et position.						
	) Aperture at	1 00	COS, ALIGN/APER		YAPER=10;			0 Secs (0 Secs)	
	+0.5,+0.5)				XAPER=-10.			f==>1	[1]
Co	omments: Apert	ture moved to (+	0.5,+0.5) arcseconds in (dispersion, cross-c	dispersion). Scale is	+0.0476 arcsec/YAPA	ER step (dispersion), a	nd -0.0476 arcsec/XA	PER step (cross-dispersion).	
11	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA				30 Secs (30 Secs)	
								[==>]	[1]
Co	omments: NUV	Exposure at offs	et position.						•
12	2 Aperture at	( NONE	COS, ALIGN/APER		YAPER=10;			0 Secs (0 Secs)	
	+0.5,+0.0)				XAPER=0			[==>]	[1]
Co	omments: Apert	ture moved to (+	0.5,+0.0) arcseconds in (dispersion, cross-c	dispersion). Scale is	+0.0476 arcsec/YAP	ER step (dispersion), a	nd -0.0476 arcsec/XA		•
13	3 Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA				30 Secs (30 Secs)	
								[==>]	[1]
Co	omments: NUV	Exposure at offs	et position.						
14		-	COS, ALIGN/APER		YAPER=10;			0 Secs (0 Secs)	
1	+0.5,-0.5)		•		XAPER=10.			[==>1	[1]
		ure moved to (+							

Proposal 13192 - Wavecal Exposures (01) - COS Side 2 Initial NUV Channel Checkout

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15	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA			30 Secs (30 Secs)	
							I = = > J	[1]
Co.	mments: NUV	Exposure at	t offset position.					
16	Aperture at	( NONE	COS, ALIGN/APER		YAPER=0;		0 Secs (0 Secs)	
	+0.0, -0.5)				XAPER=10.		[==>]	[1]
Co.	mments: Apert	ture moved t	o (+0.0,-0.5) arcseconds in (dispersion, cross-di	spersion). Scale is +0.	0476 arcsec/YAPER step (dispersion), an	d -0.0476 arcsec/XAPER	step (cross-dispersion).	
17	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA			30 Secs (30 Secs)	
							[==>]	[1]
Co	mments: NUV	Exposure at	t offset position.					
18	Aperture ba		COS, ALIGN/APER		YAPER=0;		0 Secs (0 Secs)	
	k to (0.0,0.0	))			XAPER=0		[==>]	[1]
Co	mments: Move	aperture bo	ack to nominal position					
19	Wavecal	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA			30 Secs (30 Secs)	
							[==>]	[1]
Co.	mments: NUV	Exposure at	nominal position.					



## Proposal 13192 - NUV Focus Sweep: NGC188-41 (02) - COS Side 2 Initial NUV Channel Checkout

Proposal 13192, NUV Focus Sweep: NGC188-41 (02), implementation

**Diagnostic Status: Warning** 

Scientific Instruments: COS, COS/NUV Special Requirements: SCHED 100%

Comments: This visit will test the NUV ACO/IMAGE to verify that it works. It will also do a fine focus sweep modeled on Program 11469 Visit 94. From ISR 2010-04, the PSF FWHM should change by a factor of two

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or so over a +/-200 step range.

The target, NGC188-41, was used in 11469 NUV Focus sweep. A Visit Planner run in March 2013 shows that it is visible all year. Target visibility will have to be rechecked if operating conditions change, e.g. if there are gyro failures which change the observatory pointing capabilities.

Note that APT has a spurious warning for focus sweeps: "This visit contains an ALIGN/OSM exposure which should be preceded by an FUV science exposure to define the starting position for the scan."

(NUV Focus Sweep: NGC188-41 (02)) Warning (Form): This visit contains an ALIGN/OSM exposure which should be preceded by an FUV science exposure to define the starting position for the scan.

(NUV Focus Sweep: NGC188-41 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC188-41	RA: 00 45 56.6230 (11.4859292d)	Proper Motion RA: -0.003 sec of time/yr	V=14.21+/-0.2	Reference Frame: ICRS
	Alt Name1: VID-1316-	Dec: +85 17 28.85 (85.29135d)	Proper Motion Dec: -0.013 arcsec/yr	B-V=0.46 Galex NUV Flux=149	
	ZZZZ-PLATE	Equinox: J2000	Epoch of Position: 2000	; Galex NUV mag=18.47 E(B-V)=0.089; (B-V)intrinsic = 0.37	

Comments: This target was used in Program 11469. The following information is from the Phase II of that program:

GALEX J004557.4+851728 obj id 2710790968 559273041

E(B-V)=0.0888

GALEX NUV flux = 149.11 + /-8.6975

GALEX NUV mag 18.4662 +/- 0.0633

actual coordinates used from GSC1 plate ZZZZ courtesy Matt Lallo

proper motion from plate ZZZZ (and Matt Lallo) assumption is values in supporting table are sec time per year and sec arc per year

This target is on NGC-188 GSC1 special astrometric plate ZZZZ and has astrometric coordinates. This star is star 41 on special plate ZZZZ. See above comment about proper motion. Keyes and Lallo have inspected plate ZZZZ and Lallo determined (25 June 2008) that there are numerous available potential guide stars for this target.

*Using the above information, the ETC has been run with the following parameters:* 

Spectrum: Castelli-Kurucz Models F2V 7000 4.0

Extinction E(B-V): Milky Way Diffuse (Rv=3.1) = 0.09 applied before normalization Normalization: Renormalized to Johnson V = 14.21 in magnitudes relative to Vega

The result was COS.im.467283. This gave a count rate of 353 c/s, background rate = 1 c/s, brightest pixel = 49 c/s, count rate over the entire detector = 1394, SNR = 145 in 60 seconds, BUFFER-TIME = 1691. If I use the GALEX NUV Magnitude instead of the V magnitude (COS.im. 467312), it gives rate = 220 c/s, brightest pixel = 31, count rate over entire detector = 1262, SNR = 115 in 60 seconds, BUFFER-TIME = 1869. For completeness, I used the same parameters for an ACQ/IMAGE ETC run (COS.ta.467306) using the V magnitude and got essentially the same results.

Category=STAR Description=[F3-F9]

Extended=NO

Proposal 13192 - NUV Focus Sweep: NGC188-41 (02) - COS Side 2 Initial NUV Channel Checkout

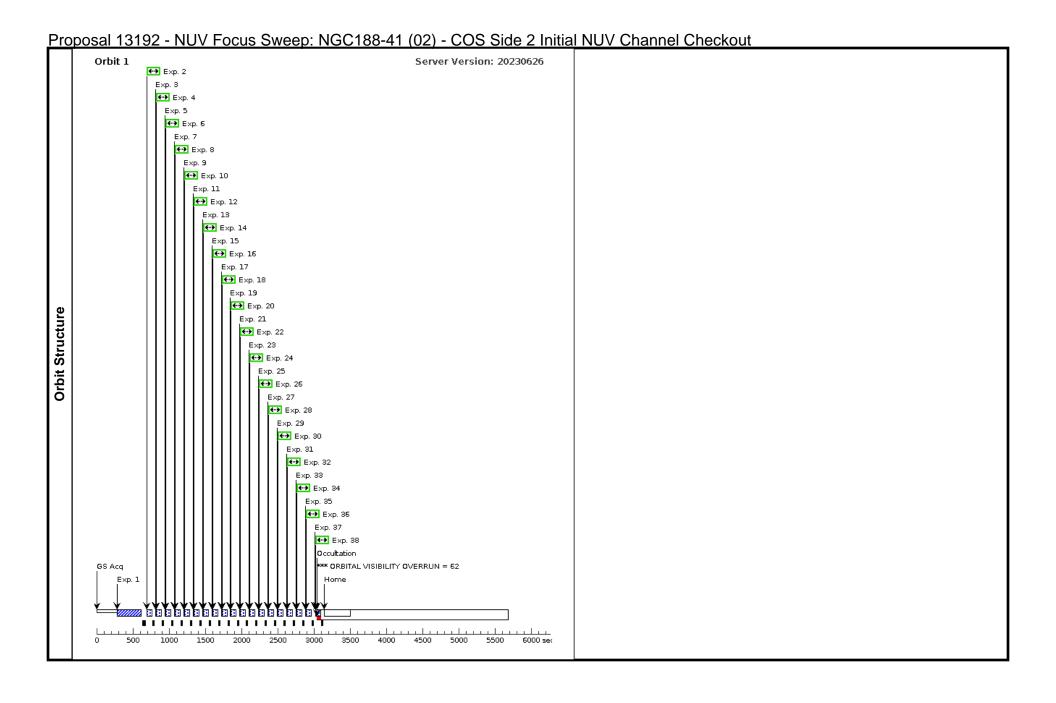
PSA ACQI (1) NGC188-41   COSNUV, ACQ4MAGE, PSA   MIRRORA   MIRRO	)/[Actual Dur.] Orbit	Exp. Time (Total)/[Actual ]	Groups	Special Reqs.	Opt. Params.	Spectral Els.	Config,Mode,Aperture	Target	Label (ETC Run)	#
Solution   Solution	[1]	60 Secs (60 Secs) [==>]				MIRRORA	COS/NUV, ACQ/IMAGE, PSA	(1) NGC188-41	PSA ACQ/I MAGE (COS.ta.467	1
Cus Exposur							V NUV Focus program.	1 used in 11469 SMO	mments: Target	C
FLASH=YES		53 Secs (53 Secs)				MIRRORA			Nominal Fo	2
3   Move Focus   NONE   COS, ALIGN/OSM   FOCUS=200     0   Sees (0   Sees   1   1   1   1   1   1   1   1   1	[1]	[==>]			FLASH=YES				e (COS.im.46	
To -200							osition	re at nominal focus po	mments: Exposu	C
Comments: Offset to focus position   Focus		0 Secs (0 Secs)			FOCUS=-200		COS, ALIGN/OSM	NONE		3
NUV Expos (1) NGC188-41   COS/NUV, TIME-TAG, PSA   MIRRORA   BUFFER-TIME=12   54 Secs (54 St   1==>	[1]	[==>]							(0)	
## So;   f==>										<u>C</u>
COS.im.46		` ′				MIRRORA	COS/NUV, TIME-TAG, PSA	(1) NGC188-41		4
See See 10 Sees   10 See	[1]	[==>]			*				(COS.im.46	
To -175							,	re during focus sweep	mments: Exposu	C
Comments: Offset to focus position   Comments: Offset to focus position		0 Secs (0 Secs)			FOCUS=-175		COS, ALIGN/OSM	NONE		5
See	[1]	[==>]							(0)	
Comments: Exposure during focus sweep										se C
Comments: Exposure during focus sweep		54 Secs (54 Secs)		,		MIRRORA	COS/NUV, TIME-TAG, PSA	(1) NGC188-41		<u>ار</u> و
Comments: Exposure during focus sweep	[1]	[==>]			<i>'</i>				(COS.im.46	xbox
To -150 (0)		<u> </u>					)	re during focus sweep	mments: Exposu	$\mathbf{\hat{u}}$
Comments: Offset to focus position		0 Secs (0 Secs)			FOCUS=-150		COS, ALIGN/OSM	NONE		7
8 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 50; $[l=>]$ Comments: Exposure during focus sweep  9 Move Focus NONE COS, ALIGN/OSM FOCUS=-125 $[l=>]$ Comments: Offset to focus position  10 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 0 Secs (54 Structure) [l=>]  UNUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 50; $[l=>]$ $[l=>]$ $[l=>]$ $[l=>]$ $[l=>]$ $[l=>]$	[1]	[==>]								
Ure (COS.im.46   7312)   FLASH=YES   [==>]										C
(COS.im.46 7312)    FLASH=YES		54 Secs (54 Secs)				MIRRORA	COS/NUV, TIME-TAG, PSA	(1) NGC188-41		8
9 Move Focus NONE COS, ALIGN/OSM FOCUS=-125    To -125	[1]	[==>]			<i>'</i>				(COS.im.46	
To -125 (0)  Comments: Offset to focus position  10 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 50;	·						)	re during focus sweep	mments: Exposu	C
(0)  Comments: Offset to focus position  10 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 50; [==>]		0 Secs (0 Secs)			FOCUS=-125		COS, ALIGN/OSM	NONE		9
10 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 50; [==>]	[1]	[==>]								
ure 50; [==>]										
(COS.im.46) FI ASH-VES		54 Secs (54 Secs)				MIRRORA	COS/NUV, TIME-TAG, PSA	(1) NGC188-41		10
(312)	[1]	[==>]								
Comments: Exposure during focus sweep							)	re during focus sweep	mments: Exposu	C
11 Move Focus NONE COS, ALIGN/OSM FOCUS=-100 0 Secs (0 Secs		0 Secs (0 Secs)			FOCUS=-100				Move Focus	1
I = > J (0)	[1]	[==>]							(0)	
Comments: Offset to focus position								o focus position	mments: Offset t	

Proposal 13192 - NUV Focus Sweep: NGC188-41 (02) - COS Side 2 Initial NUV Channel Checkout 12 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) ure 50: f = = > 1(COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 13 Move Focus NONE COS, ALIGN/OSM FOCUS=-75 0 Secs (0 Secs) To -75 [==>] [1] (0)Comments: Offset to focus position 14 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) 50; I = = > 1(COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 15 Move Focus NONE COS, ALIGN/OSM FOCUS=-50 0 Secs (0 Secs) To -50 f = = > 1[1] (0)Comments: Offset to focus position 16 NUV Expos (1) NGC188-41 MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) COS/NUV, TIME-TAG, PSA *[==>1* (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 17 Move Focus NONE COS, ALIGN/OSM FOCUS=-25 0 Secs (0 Secs) To -25 I = = > 1[1] (0)Comments: Offset to focus position 18 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep Move to No NONE COS, ALIGN/OSM FOCUS=0 0 Secs (0 Secs) minal Focus I = = > 1[1] Comments: Nominal Focus Location 20 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 21 Move Focus NONE COS, ALIGN/OSM FOCUS=25 0 Secs (0 Secs) To +25 I = = > 1[1] (0)Comments: Offset to focus position 22 NUV Expos (1) NGC188-41 BUFFER-TIME=12 54 Secs (54 Secs) COS/NUV. TIME-TAG. PSA MIRRORA 50; [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 23 Move Focus NONE COS. ALIGN/OSM FOCUS=50 0 Secs (0 Secs) To +50 [==>] [1] (0)Comments: Offset to focus position

Proposal 13192 - NUV Focus Sweep: NGC188-41 (02) - COS Side 2 Initial NUV Channel Checkout 24 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) ure 50: f = = > 1(COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 25 Move Focus NONE COS, ALIGN/OSM FOCUS=75 0 Secs (0 Secs) To +75 [==>] [1] (0)Comments: Offset to focus position 26 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) 50; I = = > 1(COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=100 0 Secs (0 Secs) To +100 f = = > 1[1] (0)Comments: Offset to focus position 28 NUV Expos (1) NGC188-41 MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) COS/NUV, TIME-TAG, PSA *[==>1* (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=125 0 Secs (0 Secs) To +125 I = = > 1[1] (0)Comments: Offset to focus position 30 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=150 0 Secs (0 Secs) To +150 I = = > 1[1] Comments: Offset to focus position 32 NUV Expos (1) NGC188-41 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=12 54 Secs (54 Secs) [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 33 Move Focus NONE COS, ALIGN/OSM FOCUS=175 0 Secs (0 Secs) To +175 I = = > 1[1] (0)Comments: Offset to focus position 34 NUV Expos (1) NGC188-41 BUFFER-TIME=12 54 Secs (54 Secs) COS/NUV. TIME-TAG. PSA MIRRORA 50; [==>] (COS.im.46 [1] FLASH=YES 7312) Comments: Exposure during focus sweep 35 Move Focus NONE COS. ALIGN/OSM FOCUS=200 0 Secs (0 Secs) To +200 [==>] [1] (0)Comments: Offset to focus position

Proposal 13192 - NUV Focus Sweep: NGC188-41 (02) - COS Side 2 Initial NUV Channel Checkout

36	NUV Expos (1) NGC188-41 ure (COS.im.46 7312)	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=12 50; FLASH=YES	54 Secs (54 Secs) [==>]	[1]
Cor	nments: Exposure during focus swee	ер				
37	Move to No NONE minal Focus (0)	COS, ALIGN/OSM		FOCUS=0	0 Secs (0 Secs) [==>]	[1]
Cor	mments: Back to Nominal Focus Loc	cation				
38	Nominal Fo (1) NGC188-41	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=12	53 Secs (53 Secs)	
	cus Exposur e (COS.im.46 7312)			50; FLASH=YES	[==>]	[1]
Cor	nments: Exposure at nominal focus	position				



## Proposal 13192 - NUV Focus Sweep: IDK-M002 NUV Contingency (03) - COS Side 2 Initial NUV Channel Checkout

Proposal 13192, NUV Focus Sweep: IDK-M002 NUV Contingency (03), implementation

Fri Sep 29 14:00:51 GMT 2023

**Diagnostic Status: Warning** 

Scientific Instruments: COS, COS/NUV Special Requirements: SCHED 100%

Comments: This is a contingency visit which is to be used only if the primary target is unavailable. It is a copy of Visit 01 in Program 15681.

Note that APT has a spurious warning for focus sweeps: "This visit contains an ALIGN/OSM exposure which should be preceded by an FUV science exposure to define the starting position

Diagnostics	scan.	2 NUV Contingency (03)) Warning (Form): This v 2 NUV Contingency (03)) Warning (Orbit Planner)	•	ould be preceded by an FUV	science exposure to define the starting position for the
S	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
e	(2) IDK-M002	RA: 02 28 49.2574 (37.2052392d)	Proper Motion RA: 11.450 mas/yr	V=15.78	Reference Frame: ICRS
arg		Dec: -73 43 58.50 (-73.73292d)	Proper Motion Dec: -3.476 mas/yr		
-		Equinox: J2000	Epoch of Position: 2000		
eq	Comments:				
lĕ	Category=STAR Description=[G V-IV]				
1"	Extended=NO				

Proposal 13192 - NUV Focus Sweep: IDK-M002 NUV Contingency (03) - COS Side 2 Initial NUV Channel Checkout

	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	PSA ACQ/I	(2) IDK-M002	COS/NUV, ACQ/IMAGE, PSA	MIRRORA		GS ACQ SCENARI		60 Secs (60 Secs)	
		MAGE (COS.ta.131 8710)					O BASE1BE		[==>]	[1]
	2	Nominal Fo	(2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17			255 Secs (255 Secs)	
		e (COS.im.13 18716)				FLASH=YES			[==>]	[1]
	Con	nments: Expos	ure at nominal focus p							
	3	Move Focus To -200	NONE	COS, ALIGN/OSM		FOCUS=-200			0 Secs (0 Secs)	
		(0)							[==>J	[1]
	Con	nments: Offset	to focus position						1	
	4	NUV Expos ure	(2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17 00;			255 Secs (255 Secs)	
		(COS.im.13 18716)				FLASH=YES			[==>]	[1]
	Con	nments: Expos	ure during focus swee	Pp .						
	5	Move Focus	NONE	COS, ALIGN/OSM		FOCUS=-150			0 Secs (0 Secs)	
		To -150 (0)							[==>J	[1]
	Con	nments: Offset	to focus position							
Se	6		(2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17			255 Secs (255 Secs)	
Exposures		ure (COS.im.13 18716)				00; FLASH=YES			[==>]	[1]
χĎ	Con	nments: Expos	ure during focus swee	гр						
ш	7	Move Focus	NONE	COS, ALIGN/OSM		FOCUS=-100			0 Secs (0 Secs)	
		To -100 (0)							[==>]	[1]
	Con	nments: Offset	to focus position							•
	8	NUV Expos	(2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17			255 Secs (255 Secs)	
		ure (COS.im.13 18716)				00; FLASH=YES			[==>]	[1]
	Con	nments: Expos	ure during focus swee	p.						•
	9	Move Focus	NONE	COS, ALIGN/OSM		FOCUS=-75			0 Secs (0 Secs)	
		To -75 (0)							[==>J	[1]
	Con	* *	to focus position							
		***	(2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17			255 Secs (255 Secs)	
		ure (COS.im.13				00;			[==>]	(11
		18716)				FLASH=YES				[1]
	Con	nments: Expos	ure during focus swee	Pp .						
	11	Move Focus	NONE	COS, ALIGN/OSM		FOCUS=-50			0 Secs (0 Secs)	
		To -50 (0)							[==>]	[1]
	Con	nments: Offset	to focus position							
			•							

12 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	255 Secs (255 Secs)	
ure (COS.im.13 18716)			00; FLASH=YES	[==>]	[1]
Comments: Exposure during focus s	weep				
13 Move Focus NONE	COS, ALIGN/OSM		FOCUS=-25	0 Secs (0 Secs)	
To -25 (0)				[==>]	[1]
Comments: Offset to focus position					
14 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	255 Secs (255 Secs)	
ure (COS.im.13	., .,		00;	[==>1	
18716)			FLASH=YES		[1]
Comments: Exposure during focus s	weep				
15 Move to No NONE	COS, ALIGN/OSM		FOCUS=0	0 Secs (0 Secs)	
minal Focus (0)				[==>]	[1]
Comments: Nominal Focus Location	i				ı.
16 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	265 Secs (265 Secs)	
ure (COS.im.13			00;	[==>]	527
18716)			FLASH=YES		[2]
Comments: Exposure during focus s	weep				
17 Move Focus NONE	COS, ALIGN/OSM		FOCUS=25	0 Secs (0 Secs)	
To +25 (0)				[==>]	[2]
Comments: Offset to focus position					•
18 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	265 Secs (265 Secs)	
ure (COS.im.13 18716)			00; FLASH=YES	[==>]	[2]
Comments: Exposure during focus s	weep				
19 Move Focus NONE	COS, ALIGN/OSM		FOCUS=50	0 Secs (0 Secs)	
To +50 (0)				[==>]	[2]
Comments: Offset to focus position					1-1
20 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	265 Secs (265 Secs)	
ure	000,710 1,71112 1770,7577		00;	[==>1	
(COS.im.13 18716)			FLASH=YES	,	[2]
Comments: Exposure during focus s	weep				•
21 Move Focus NONE	COS, ALIGN/OSM		FOCUS=75	0 Secs (0 Secs)	
To +75 (0)				[==>]	[2]
Comments: Offset to focus position				<u> </u>	
22 NUV Expos (2) IDK-M002	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=17	265 Secs (265 Secs)	
ure (COS.im.13			00;	[==>]	
18716)			FLASH=YES		[2]
Comments: Exposure during focus s	weep				
23 Move Focus NONE	COS, ALIGN/OSM		FOCUS=100	0 Secs (0 Secs)	
To +100 (0)				[==>]	[2]
Comments: Offset to focus position				<u> </u>	

Proposal 13192 - NUV Focus Sweep: IDK-M002 NUV Contingency (03) - COS Side 2 Initial NUV Channel Checkout 24 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) ure f = = > 1(COS.im.13 [2] FLASH=YES 18716) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=125 0 Secs (0 Secs) To +125 *[==>1* [2] (0)Comments: Offset to focus position 26 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) 00; I = = > 1(COS.im.13 [2] FLASH=YES 18716) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=150 0 Secs (0 Secs) To +150 f = = > 1[2] Comments: Offset to focus position 28 NUV Expos (2) IDK-M002 MIRRORA BUFFER-TIME=17 COS/NUV, TIME-TAG, PSA 265 Secs (265 Secs) *[==>]* (COS.im.13 [2] FLASH=YES 18716) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=175 0 Secs (0 Secs) To +175 I = = > 1[2] (0)Comments: Offset to focus position 30 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) [==>] (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=200 0 Secs (0 Secs) To +200I = = > 1[3] Comments: Offset to focus position 32 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) [==>] (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep 33 Move Focus NONE COS, ALIGN/OSM FOCUS=250 0 Secs (0 Secs) To +250 I = = > 1[3] (0)Comments: Offset to focus position 34 NUV Expos (2) IDK-M002 BUFFER-TIME=17 COS/NUV. TIME-TAG. PSA MIRRORA 265 Secs (265 Secs) [==>] (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep 35 Move Focus NONE COS. ALIGN/OSM FOCUS=300 0 Secs (0 Secs) To +300 [==>] [3] (0)Comments: Offset to focus position

Proposal 13192 - NUV Focus Sweep: IDK-M002 NUV Contingency (03) - COS Side 2 Initial NUV Channel Checkout 36 NUV Expos (2) IDK-M002 BUFFER-TIME=17 265 Secs (265 Secs) COS/NUV, TIME-TAG, PSA MIRRORA ure 00: [==>] (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep 37 Move Focus NONE COS, ALIGN/OSM FOCUS=350 0 Secs (0 Secs) To +350 f = = > 1[3] (0)Comments: Offset to focus position 38 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) 00; *[==>1* (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep Move Focus NONE COS, ALIGN/OSM FOCUS=400 0 Secs (0 Secs) To +400 f = = > 1[3] (0)Comments: Offset to focus position 40 NUV Expos (2) IDK-M002 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 265 Secs (265 Secs) *[==>1* (COS.im.13 [3] FLASH=YES 18716) Comments: Exposure during focus sweep Move to No NONE FOCUS=0 COS, ALIGN/OSM 0 Secs (0 Secs) minal Focus f = = > 1[3] (0)Comments: Back to Nominal Focus Location 42 Nominal Fo (2) IDK-M002 265 Secs (265 Secs) COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME=17 cus Exposur [==>] FLASH=YES [3] (COS.im.13

18716)

Comments: Exposure at nominal focus position

