

17321 - Cycle 31 COS NUV Target Acquisition Monitor

Cycle: 31, 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?
PB	(1) 206W3	COS/NUV	2	14-Jun-2024 08:00:26.0	yes
01	(1) 206W3	COS/NUV	2	14-Jun-2024 08:00:33.0	yes
02	(1) 206W3	COS/NUV	2	14-Jun-2024 08:00:39.0	yes
13	(1) 206W3	COS/NUV	2	14-Jun-2024 08:00:45.0	yes
BA	(2) WD-1657+343 WAVE	COS/NUV	2	14-Jun-2024 08:00:51.0	yes
ВВ	(3) HIP66578 WAVE	COS/NUV	2	14-Jun-2024 08:00:57.0	yes
PN	WAVE	COS/NUV	1	14-Jun-2024 08:00:59.0	yes

13 Total Orbits Used

Proposal 17321 (STScI Edit Number: 1, Created: Friday, June 14, 2024 at 7:01:00 AM Eastern Standard Time) - Overview

ABSTRACT

This program is changed from cycle 30 program 16939.

The allocation has been increased from 3 external orbits to 6 external orbits and 1 internal orbit. The 3 external visits have been increased from 1 orbit to 2 orbits each. The first orbit now consists of a flux sweep in the XD and AD directions to confirm target centering. The second orbit contains the imaging of 'adjacent' NUV TA modes and target acquisitions.

Visit PB obtains the PSA/MIRRORA to PSA/MIRRORB ACQ/IMAGE alignment.

Visit BA takes back-to-back PSA/MIRRORB & BOA/MIRRORA ACQ/IMAGEs and images (with flashes) and also takes G230L spectra to test the WCA-to-PSA offsets.

Visit BB takes back-to-back BOA/MIRRORA & BOA/MIRRORB ACQ/IMAGEs and images (with flashes) and also takes G225M and G185M spectra to test the WCA-to-PSA offsets.

Visit PN takes the Pt-Ne lamp "family portrait": P1 MirrorA, P2 MirrorA, P1 MirrorB, P2 MirrorB, and is purely internal

In all visits, lamp+target images are taken before and after the TA imaging mode that is being co-aligned (the second ACQ/IMAGE of the program.)

OBSERVING DESCRIPTION

This program has been chaged from the cycle 30 program 16939.

Each external visit consists of 2 orbits. The first orbit performs a flux sweep of the target across the aperture (i.e., step the target across the aperture in the XD and AD directions and take an image at each step). This is done using the more sensitive of the two modes being tested so as to produce the highest count rate possible. After the flux sweep, the testing of TA mode pairs progresses in the same manner as for previous cycles.

The second orbit in each visit in this program begins with a comparison of the ACQ/IMAGE centering of two ACQ/IMAGE modes out of the possible four (PSA or BOA) x (MIRRORA or MIRRORRB). This will involve not only the ACQ/IMAGEs, but NUV detector images of the WCA

Proposal 17321 (STScI Edit Number: 1, Created: Friday, June 14, 2024 at 7:01:00 AM Eastern Standard Time) - Overview lamp image and, if possible, coeval target images. These direct comparisons are only available for the PSA modes. For the BOA modes, the WCA lamp images and target images are taken consecutively. The assumption is that the PSA/MIRRORA ACQ/IMAGE centering has not changed since SMOV. The flux sweeps during the first orbit of each visit will test this assumption. Each of the other science aperture (SA) and MIRRORA/B ACQ/IMAGE combinations were co-aligned during SMOV and rely upon the flight software (FSW) WCA-to-SA along-dispersion (AD) and cross-dispersion (XD) offsets.

This back-to-back ACQ/IMAGE process allows us to test that TA modes are centering the target to the same point in the aperture. The Lamp+target exposures are interleaved throughout the visit to measure and verify the imaging WCA-to-SA offsets are still accurate for the remainder of the current HST Cycle. Images will usually use the PtNe#2 (P2) lamp, as it is the primary TA lamp, but some images will use PtNe#1 (P1) to monitor the lamps in imaging mode.

Visit PB (PSA/MIRRORB) of this program takes back-to-back PSA/MIRRORA & PSA/MIRRORB ACQ/IMAGEs and images (with flashes)

Visit BA (Boa/mirrorA) of this program takes back-to-back PSA/MIRRORB & BOA/MIRRORA ACQ/IMAGEs and images (with flashes) and takes G230L spectra to test the WCA-to-PSA offsets. (The G285M observations from cycle 30 and before have been removed due to low sensitivity of that observing mode).

Visit BB (Boa/mirrorB) of this program takes back-to-back BOA/MIRRORA & BOA/MIRRORB ACQ/IMAGEs and images (with flashes) and takes G225M & G185M spectra to test the WCA-to-PSA offsets.

Visit PN is a purely internal orbit that used to be part of visit BB. It takes a "family portrait" of all the P1/P2 MIRRORA/B WCA lamp images to track any drifting of the centroids, or changes in the lamps.

All lamp+target images use the QESIPARMS USELAMP and CURRENT to specifically set the lamp and current values.

See the comment of the first exposure of Visit PB for a description of the expected count rates, exposure times, & buffer times (for the lamps).



Proposal 17321 (STScI Edit Number: 1, Created: Friday, June 14, 2024 at 7:01:00 AM Eastern Standard Time) - Overview

Must be performed on 2 Guidestar fine-lock and must not use FGS2. Guidestar pair must be reviewed by the PC.

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor Proposal 17321, PSA/A & PSA/B (PB), failed Fri Jun 14 12:01:00 GMT 2024 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 31-JAN-2024:00:00:00; GROUP PB,BA,BB WITHIN 30D Comments: This visit (PB, for PSA/MIRRORBA) performs the PSA/A vs PSA/B comparison. The target is 206W3, a target that was used last cycle and in the previous FGS-to-SI programs, 100% Schedulability. (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostic (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/A & PSA/B (PB)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	206W3	RA: 06 08 55.4600 (92.2310833d)	Proper Motion RA: 0.5 mas/yr	V=14.53+/-0.1	Reference Frame: ICRS
		Alt Name1: MCNAM209	Dec: +24 15 39.59 (24.26100d)	Proper Motion Dec: -2.2 mas/yr	J=13.441,	
		Alt Name2: J060855.46+241539.7	Equinox: J2000	Epoch of Position: 2012.7	B=14.930	
Fixed Targets	According to The PSA/M, The PSA/M, The PSA/M, The PSA/M, This target to From SIMB. Basic data: Cl* NGC 2. Other object ICRS coord. FK4 coord. FK4 coord. Fluxes (6): B 14.930 [~ V 14.481 [~ R 14.600 [~ R 14.3354 [6] H 13.354 [6]	IRRORA had 2Ĭ,063 counts IRRORB had 12,570 counts rrorA/MirrorB = 351.0/41.5 is N8CV022007 in GSC2.3. AD: 168 M 178 Star in Cluster it types: *iC (Cl*), IR (2MA. (ep=J2000): 06 08 55.46 (ep=J2000): 06 08 55.46 (ep=J2000): 186.6569 +02 (ep=Bl950 eq=1950): 06 (ep=Bl950): 06 00 (ep=Bl950): 07 00 (e	tes given here have been adjusted to ~2012.7. I in in 60s (351 ct/s). Max pixel = 1965/60 = 32.75 ct in 300s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 300s	t/s t/s	igain at a later date.	

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor

	# Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1 PSA/MIRR ORA ACQ/I MAGE (P2/ LOW) (COS.ta.189 2807)		COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-32 Non- nt in PSA/A & PSA B (PB)	$ \frac{-1}{I} = 22 \operatorname{Secs} (22 \operatorname{Secs}) $ $ I = -3I $	[1]
	PSA/MIRRORA =	245 count/s (S/ 15.6 count/s (S/	ount rates for this target in Program 13171 N = 40 in 7s, 60 in 15s) /N = 40 in 102s, 50 in 160, 60 in 230s)	are (S/N are just p	hoton statistics of the	lamp or target)			
	WCA/P2/MIRROF WCA/P2/MIRROF	RB@LOW = 308 RB@MED = 108 RB@LOW = 82 LOW) = 25-30	produced 2900 counts(S/N = 54) s produced 420 counts (S/N = 21) s is estimated to produce ~4000 counts (S/N hz, so S/N =50 in 30s ted to be 15-20	T=52 in the primar	y spot)				
	PSA(target)/A = 1 PSA(target)/B = 1 WCA/P2/LOW/A : WCA/P2/LOW/B : WCA/P1/LOW/B i	0s 60s = 6s = 180s (low cur is 5x brighter th	need at least the following exposure times rent), S/N = 47 in 160s an lamp#2, so at least 36s we estimate it to be 15-20x the 2/LOW rate,	, so at least 12s					
S	For each target im this for the PSA.	age, we will use	e the 9x9 checkbox method, so the backgrou	nd for PSA exposur	res is 9x9*(500/(50*30	00)/30s) based upon 500	counts in 30s in the WC	CA 50x300 box. This is 1 count in 10s, so	o we ignore
Exposures			vorking a 50x300 box, so the rate here is 18 np counts are sufficient for our needs for W						
Ш	For the Buffer Tim	e, we are shooti	ing for $S/N = 50$. in both the target and the	lamp. Lets overshoo	ot to S/N of 60, that's 7	$7200 \ counts \rightarrow BT = 2/3$	3 * 326= 217. We'll be e.	xtra conservative and stay short of this.	
			846) We Simulated in ETC as G5, V=13.5 (1 49) We Simulated in ETC as G5, V=13.5 (li						
	This target was als	o previously ob	served in Visit A2 of 12781, with the follow	ing REAL count rat	es (imaging mode)				
			ts in 60s (Target = 206W3), after backgroun otal counts in 300s, after background subtro				.8 counts/s		
	PSA A/B = 14x (lb)	x1a2ffq/lbx1a2f	Shq) & PSA A/B (BP) = 41x						
	Remember that the	SED of the targ	get is important in this ratio as the two mod	es have different re.	sponses.				
	For PSA/A We get For PSA/B, We get	S/N = 60 in 360 t S/N = 60 in 36	00/335 = 11s 00/23.8 = 151s						
	In Oct 2016, this to	arget was obser	ved as part of 14452 Visit A2, with the follo	wing count rates:					
	The PSA/A had 21	,063 total coun	ts in 60s (Target = 206W3), after backgroui	nd subtraction = 20),229 = 337 cts/s, Brig	htest Pixel = 23.1 coun	ts/s		

The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,229 = 337 cts/s, Brightest Pixel = 23.1 counts/s
The PSA/B had 14,627 total counts in 300s, after background subtraction=7655 = 25.5 cts/s. PSA/B Brightest Pixel = 1.3 counts/s

2	Centered PS (1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 1-32 Non-I	22 Secs (22 Secs)	
	A/MIRROR			0;	MP LINE2;	nt in PSA/A & PSA/	I==>1	
	A IMAGE (P2/LOW) (COS.im.18 92804)			FLASH=S0060D02 0; CURRENT=LOW	QESIPARM CURR ENT LOW	B (PB)	[/]	[1]

Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORA/P2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We take 20s of each. Note that CURRENT= LOW and LAMP=LINE2 are set as QESIPARMs

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null..5 Sequence 1-32 Non-I 11 Secs (11 Secs) XD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 75 Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.0 PS (1) 206W3 BUFFER-TIME=15 POS TARG null, 1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 1.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null, 1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+1.50 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-32 Non-I 21 Secs (21 Secs) XD+1.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 10 XD+2.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG null, 2.5 Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (PB) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,-.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD-0.50 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. 13 XD-0.75 PS (1) 206W3 BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-1.0 PSA (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-32 Non-I 11 Secs (11 Secs) XD-1.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR 5 nt in PSA/A & PSA/ I==>1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 16 XD-1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-32 Non-I 21 Secs (21 Secs) XD-1.75 PS (1) 206W3 MIRRORA A/MIRROR 0 5 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG .25, null Sequence 1-32 Non-I 11 Secs (11 Secs) AD+0.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 19 AD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG .5.null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (PB) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+0.75 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG .75,null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD+1.0 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 22 AD+1.25 PS (1) 206W3 BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG 1.5, null Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 24 AD+1.75 PS (1) 206W3 BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-32 Non-I 21 Secs (21 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 25 AD+2.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG 2.5, null Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -.25, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD-0.25 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. Sequence 1-32 Non-I 11 Secs (11 Secs) AD-0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.5,null A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 28 AD-0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.75, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (PB) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -1.0,null Sequence 1-32 Non-I 11 Secs (11 Secs) AD-1.0 PSA (1) 206W3 MIRRORA /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE B (PB) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

30	AD-1.25 PS	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE				0	11	nt in PSA/A & PSA/ B (PB)	[==>]	
	(COS.im.18						2 (12)		[1]
Com	92804) nents: Part of	flux sween to test	target centering. 11 s exposure provide:	s S/N~50 when targe	et is near center of anertu	ro			
	AD-1.50 PS		COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR	(1) 200 113	000,1,00,,11112,1110,11511	materia i	0	100 11110 110,11111	nt in PSA/A & PSA/	[==>]	
	A IMAGE (COS.im.18 92804)						B (PB)		[1]
			target centering. 11 s exposure provide:					Г	ı
	AD-1.75 PS A/MIRROR	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=30 0	POS TARG -1.75,nu	Sequence 1-32 Non-I nt in PSA/A & PSA/	·	
	A IMAGE (COS.im.18 92804)				Ü	П	B (PB)	[==>]	[1]
		flux sweep to test	target centering. 11 s exposure provide.	s S/N~50 when targe	et is near center of apertu	re.			
	PSA/MIRR	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA		QESIPARM USELA	Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA IMAG E (P2/LOW)				0;	MP LINE2;	-Int in PSA/A & PS A/B (PB)	[==>]	
	(COS.im.18 92804)				FLASH=S0060D02 0; CURRENT=LOW	QESIPARM CURR ENT LOW	122 (12)		[2]
_			o measure the WCA-to-PSA offset for PS						
OW	and LAMP=L	INE2 are set as (QESIPARMs provides an idea of how well-centered we	e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	re.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	re.
ЭW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
)W	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
)W	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
OW	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	·e.
)W	and LAMP=L	INE2 are set as (e are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	re.

34 PSA/MIRR (1) 206W3 COS/NUV, ACQ/IMAGE, PSA MIRRORA	Sequence 33-40 Non	22 Secs (22 Secs)	
ORA ACQ/I MAGE (P2/	-Int in PSA/A & PS A/B (PB)	[==>]	
LOW) (COS.ta.189 2807)			[2]
Comments: The measured direct count rates for this target in Program 13171 are (S/N are just photon statistics of th PSA/MIRRORA = 245 count/s (S/N = 40 in 7s, 60 in 15s) PSA/MIRRORB = 15.6 count/s (S/N = 40 in 102s, 50 in 160, 60 in 230s) A/B = 15.7 for this target	e lamp or target)		'
$WCA/P2/MIRRORA@LOW = 7s \ produced \ 2900 \ counts(S/N = 54) \\ WCA/P2/MIRRORB@LOW = 30s \ produced \ 420 \ counts \ (S/N = 21) \\ WCA/P2/MIRRORB@MED = 10s \ is \ estimated \ to \ produce \ \sim 4000 \ counts \ (S/N = 52 \ in \ the \ primary \ spot) \\ WCA/P1/MIRRORB@LOW = 82 \ hz, \ so \ S/N = 50 \ in \ 30s \\ WCA/A(LOW)/B(LOW) = 25-30 \\ WCA/B(MED)/B(LOW) \ is \ estimated \ to \ be \ 15-20$			
To get everything at S/N = 50 we need at least the following exposure times PSA(target)/A = 10s PSA(target)/B = 160s WCA/P2/LOW/A = 6s WCA/P2/LOW/B = 180s (low current), S/N = 47 in 160s WCA/P1/LOW/B is 5x brighter than lamp#2, so at least 36s WCA/P2/MED/B is unknown, but we estimate it to be 15-20x the 2/LOW rate, so at least 12s			
For each target image, we will use the $9x9$ checkbox method, so the background for PSA exposures is $9x9*(500/(50*$ this for the PSA.	300)/30s) based upon 500 counts in 30s in the WCA	50x300 box. This is 1 count in	10s, so we ignore
For the WCA images, we will be working a 50x300 box, so the rate here is 18 hz, but we are using a median to find th presence of the noise and 2500 lamp counts are sufficient for our needs for WCA/P2/LOW/B. Since, we are defining t ts.	he center, so it is not a straightforward S/N situatio the WCA-to-PSA offset for WCA/P1/LOW/B and W	n. We are interested in measurin CA/P2/MED/B, we will shoot for	ng the centroid in r 3000 lamp coun
For the Buffer Time, we are shooting for $S/N = 50$. in both the target and the lamp. Lets overshoot to S/N of 60, that's	s 7200 counts -> BT = 2/3 * 326 = 217. We'll be ext	ra conservative and stay short o	of this.
For PSA/MIRRORA: (COS.ta.634846) We Simulated in ETC as G5, V=13.5 (lit says 14.5), S/N = 60 gives: Time = 1 PSA/MIRRORB: (COS.ta.634849) We Simulated in ETC as G5, V=13.5 (lit says 14.5), S/N = 50 gives: Time = 21	3 seconds.Target count rate = 275 cts/s Brightest I 7 seconds. Target count rate = 11.6 cts/s Brightest	Pixel 38 cps Pixel 1.6 cps	
This target was also previously observed in Visit A2 of 12781, with the following REAL count rates (imaging mode)			
The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,100 = 335 cts/s. PSA/B PSA/MIRRORB had 12,570 total counts in 300s, after background subtraction=7150 = 23.8 cts/s. PSA/B Bright	SA/A Brightest Pixel = 32.8 counts/s test Pixel = 0.8 counts/s		
$PSA\ A/B = 14x\ (lbx1a2ffq/lbx1a2fhq)\ \&\ PSA\ A/B\ (BP) = 41x$			
Remember that the SED of the target is important in this ratio as the two modes have different responses.			
For PSA/A We get $S/N = 60$ in $3600/335 = 11s$ For PSA/B, We get $S/N = 60$ in $3600/23.8 = 151s$			
In Oct 2016, this target was observed as part of 14452 Visit A2, with the following count rates:			
The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,229 = 337 cts/s, Br The PSA/B had 14,627 total counts in 300s, after background subtraction=7655 = 25.5 cts/s. PSA/B Brightest Pixe	ightest Pixel = 23.1 counts/s l = 1.3 counts/s		
35 PSA/MIRR (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA BUFFER-TIME	E=15 QESIPARM USELA Sequence 33-40 Non	22 Secs (22 Secs)	
ORA IMAG 0;	MP LINE2; -Int in PSA/A & PS DD02 QESIPARM CURR A/B (PB)	[==>]	
E (P2/LOW) (COS.im.18 FLASH=S0060	ENT LOW		[2]

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor **QESIPARM USELA Sequence 33-40 Non** PSA/MIRR (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=20 222 Secs (222 Secs) ORB IMAG 0: MP LINE2: -Int in PSA/A & PS I = = > 1E (P2/MED) A/B (PB) FLASH=S0120D02 OESIPARM CURR (COS.im.18 ENT MEDIUM [2] 92810) CURRENT=MEDI UM Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect ~400 counts/s from the lamp. We need >k160s of target time, and at least 12s of lamp time. We'll get 200s of target and 2x20 to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV, ACQ/IMAGE, PSA Sequence 33-40 Non 222 Secs (222 Secs) MIRRORB ORB ACQ/I -Int in PSA/A & PS I==>1MAGE (P2/ A/B (PB) MED) [2] (COS.ta.189 2809) Comments: PSA/MIRRORB ACO/Image using P2/MED current. COS/NUV, TIME-TAG, PSA 222 Secs (222 Secs) PSA/MIRR (1) 206W3 MIRRORB BUFFER-TIME=20 **OESIPARM USELA Sequence 33-40 Non** ORB IMAG -Int in PSA/A & PS MP LINE2; I==>1E2 (P2/ME A/B (PB) FLASH=S0120D02 OESIPARM CURR D) **ENT MEDIUM** 0; [2] (ĆOS.im.18 92810) CURRENT=MEDI UM Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect 225-400 counts/s from the lamp. We need > 160s of target time, and at least 12s of lamp time. We 'll get 200s of target and 2x20 of lamp to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 QESIPARM USELA Sequence 33-40 Non 22 Secs (22 Secs) ORA IMAG MP LINE2; -Int in PSA/A & PS I = = > 1E2 (P2/LO A/B (PB) FLASH=S0060D02 QESIPARM CURR W) [2] **ENT LOW** 0; (COS.im.18 92804) CURRENT=LOW Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORA/Lamp2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We need at least >12s of each, we ge t 20s for a good measurement. Note that CURRENT=LOW and LAMP=LINE2 are set as OESIPARMs Sequence 33-40 Non 22 Secs (22 Secs) PSA/MIRR (1) 206W3 COS/NUV. ACO/IMAGE. PSA MIRRORA

-Int in PSA/A & PS

A/B (PB)

[==>]

[2]

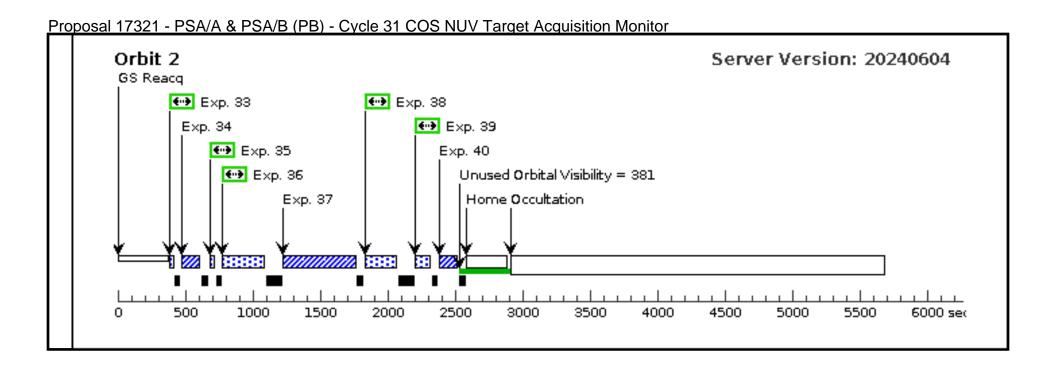
ORA ACQ/I

(COS.ta.189 2807)

Comments: Confirmation PSA/A ACO/image, see first exposure of this visit for complete comment.

MAGE2

Proposal 17321 - PSA/A & PSA/B (PB) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 **ۥ** Exp. 9 Pointing Maneuver €→ Exp. 10 Pointing Maneuver € Exp. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver ۥ Exp. 13 Pointing Maneuver €→ Exp. 14 Pointing Maneuver **€** Exp. 15 Pointing Maneuver Exp. 16
Pointing Man Pointing Maneuver ۥ Exp. 17 Pointing Maneuver **ۥ** E×p. 18 Pointing Maneuver ۥ Exp. 19 Pointing Maneuver ۥ• Exp. 20 Pointing Maneuver ۥ• Exp. 21 Pointing Maneuver € Exp. 22 Pointing Maneuver **Orbit Structure** ۥ Exp. 23 Pointing Maneuver € Exp. 24 Pointing Maneuver € Exp. 25 Pointing Maneuver ۥ Exp. 26 Pointing Maneuver ۥ•) Exp. 27 Pointing Maneuver € Exp. 28 Pointing Maneuver ۥ•) Exp. 29 Pointing Maneuver ۥ Exp. 30 Pointing Maneuver ۥ•) Exp. 31 Pointing Maneuver ۥ• Exp. 32 Pointing Maneuver GS Acq Unused Orbital Visibility = 58 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec



Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor Proposal 17321, PSA/A & PSA/B (01), failed Fri Jun 14 12:01:00 GMT 2024 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 15-MAR-2024:00:00:00; GROUP 01,BA,BB WITHIN 75D Comments: This visit (PB, for PSA/MIRRORBA) performs the PSA/A vs PSA/B comparison. The target is 206W3, a target that was used last cycle and in the previous FGS-to-SI programs, 100% Schedulability. (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostic (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/A & PSA/B (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	206W3	RA: 06 08 55.4600 (92.2310833d)	Proper Motion RA: 0.5 mas/yr	V=14.53+/-0.1	Reference Frame: ICRS
	Alt Name1: MCNAM209	Dec: +24 15 39.59 (24.26100d)	Proper Motion Dec: -2.2 mas/yr	J=13.441,	
	Alt Name2: J060855.46+241539.7	Equinox: J2000	Epoch of Position: 2012.7	B=14.930	
According The PSA So, PSA This target From SL Basic da Cl* NGC Other ob ICRS con FK4 coo Gal coon Fluxes (C B 14.930 V 14.481 R 14.600 J 13.441 H 13.322 Category	MIRRORA had 21,063 counts /MIRRORB had 12,570 counts Mirrora/MirrorB = 351.0/41. get is N8CV022007 in GSC2.3. MBAD: ta: C 2168 M 178 Star in Cluste viject types: *iC (Cl*), IR (2MA ord. (ep=J2000) : 06 08 55.46 ord. (ep=J2000) : 06 08 55.46 ord. (ep=J2000) : 186.6569 +02 6): D [= D = D = D = D = D = D = D = D = D	ates given here have been adjusted to ~201. s in 60s (351 ct/s). Max pixel = 1965/60 = 3 s in 300s (41.9 cts/s). Max pixel = 238/300 9 = 8.4 (for this target) 2 r uSS) +24 15 39.8 (Infrared) [70 60 0] B 2003 08 55.46 +24 15 39.8 [70 60 0] 05 51.62 +24 16 12.1 [70 60 0] 2.1612 [70 60 0]	= 0.8 ct/s	used again at a later date.	

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSA/MIRR ORA ACQ/I MAGE (P2/ LOW) (COS.ta.189 2807)	(1) 206W3	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-32 Non-I nt in PSA/A & PSA/ B (01)	22 Secs (22 Secs) [==>]	[1]
PSA PSA	/MIRRORA =	245 count/s (S/N 15.6 count/s (S/N	nt rates for this target in Program 13171 = 40 in 7s, 60 in 15s) T = 40 in 102s, 50 in 160, 60 in 230s)	are (S/N are just pl	noton statistics of the	lamp or target)			
WCA WCA WCA	A/P2/MIRROR A/P2/MIRROR A/P1/MIRROR A/A(LOW)/B(L	B@LOW = 30s p B@MED = 10s i. B@LOW = 82 hz	oduced 2900 counts(S/N = 54) produced 420 counts (S/N = 21) s estimated to produce ~4000 counts (S/N s, so S/N =50 in 30s to be 15-20	= 52 in the primar	y spot)				
PSA PSA WCA WCA	(target)/A = 10 (target)/B = 10 A/P2/LOW/A = A/P2/LOW/B = A/P1/LOW/B is	Os 50s : 6s : 180s (low curre s 5x brighter than	ed at least the following exposure times nt , $S/N = 47$ in $160s$ lamp#2, so at least $36s$ e estimate it to be $15-20x$ the $2/LOW$ rate,	so at least 12s					
	each target ime for the PSA.	age, we will use th	he 9x9 checkbox method, so the backgroun	nd for PSA exposur	es is 9x9*(500/(50*30	00)/30s) based upon 50	0 counts in 30s in the WC	A 50x300 box. This is 1 count in 10s, so	o we ignoi
For a presents.	he WCA image ence of the nois	es, we will be wor se and 2500 lamp	cking a 50x300 box, so the rate here is 18 counts are sufficient for our needs for W	hz, but we are using CA/P2/LOW/B. Sind	g a median to find the ce, we are defining the	center, so it is not a sta wCA-to-PSA offset fo	raightforward S/N situatio r WCA/P1/LOW/B and W	n. We are interested in measuring the CA/P2/MED/B, we will shoot for 3000	centroid ii lamp cou
For	he Buffer Time	e, we are shooting	g for $S/N = 50$. in both the target and the l	amp. Lets overshoo	et to S/N of 60, that's 7	$7200 \ counts \rightarrow BT = 2/$	3 * 326= 217. We'll be ext	tra conservative and stay short of this.	
For	PSA/MIRRORA	A: (COS.ta.63484	(6) We Simulated in ETC as G5, V=13.5 (l) We Simulated in ETC as G5, V=13.5 (lin	$\frac{1}{1}$ it says 14.5), $\frac{S}{N} = \frac{14.5}{14.5}$	60 gives: Time = 13	seconds.Target count r	rate = 275 cts/s Brightest I	Pixel 38 cps	

This target was also previously observed in Visit A2 of 12781, with the following REAL count rates (imaging mode)

The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,100 = 335 cts/s. PSA/A Brightest Pixel = 32.8 counts/s The PSA/MIRRORB had 12,570 total counts in 300s, after background subtraction=7150 = 23.8 cts/s. PSA/B Brightest Pixel = 0.8 counts/s

PSA A/B = 14x (lbx1a2ffq/lbx1a2fhq) & PSA A/B (BP) = 41x

Remember that the SED of the target is important in this ratio as the two modes have different responses.

For PSA/A We get S/N = 60 in 3600/335 = 11sFor PSA/B, We get S/N = 60 in 3600/23.8 = 151s

In Oct 2016, this target was observed as part of 14452 Visit A2, with the following count rates:

The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,229 = 337 cts/s, Brightest Pixel = 23.1 counts/s The PSA/B had 14,627 total counts in 300s, after background subtraction=7655 = 25.5 cts/s. PSA/B Brightest Pixel = 1.3 counts/s

2	Centered PS (1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 1-32 Non-I	22 Secs (22 Secs)	
	A/MIRROR			0;	MP LINE2;	nt in PSA/A & PSA/	f==>1	
	A IMAGE (P2/LOW) (COS.im.18			FLASH=S0060D02 0;	QESIPARM CURR ENT LOW	B (01)	[/]	[1]
	92804)			CURRENT=LOW				

Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORA/P2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We take 20s of each. Note that CURRENT= LOW and LAMP=LINE2 are set as QESIPARMs

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null..5 Sequence 1-32 Non-I 11 Secs (11 Secs) XD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 75 Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.0 PS (1) 206W3 BUFFER-TIME=15 POS TARG null, 1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 1.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null, 1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+1.50 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-32 Non-I 21 Secs (21 Secs) XD+1.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 10 XD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG null, 2.25 Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,-.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD-0.50 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. 13 XD-0.75 PS (1) 206W3 BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-1.0 PSA (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-32 Non-I 11 Secs (11 Secs) XD-1.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR 5 nt in PSA/A & PSA/ I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 16 XD-1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-32 Non-I 21 Secs (21 Secs) XD-1.75 PS (1) 206W3 MIRRORA A/MIRROR 0 5 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG .25, null Sequence 1-32 Non-I 11 Secs (11 Secs) AD+0.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 19 AD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG .5.null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (01) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+0.75 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG .75,null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD+1.0 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 22 AD+1.25 PS (1) 206W3 BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG 1.5, null Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I==>1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 24 AD+1.75 PS (1) 206W3 BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-32 Non-I 21 Secs (21 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 25 AD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG 2.25, null Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -.25, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD-0.25 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. Sequence 1-32 Non-I 11 Secs (11 Secs) AD-0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.5,null A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 28 AD-0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.75, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (01) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -1.0,null Sequence 1-32 Non-I 11 Secs (11 Secs) AD-1.0 PSA (1) 206W3 MIRRORA /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE B (01) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

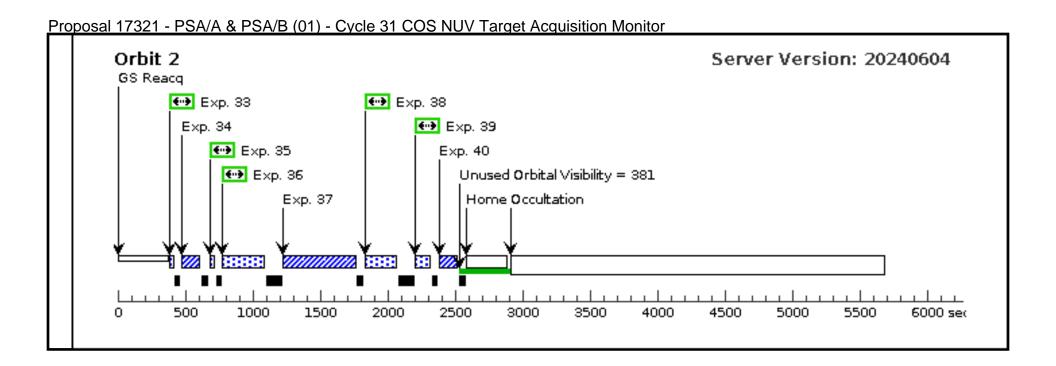
80	AD-1.25 PS	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE				0	11	nt în PSA/A & PSA/ B (01)	[==>]	
	(COS.im.18						B (01)		[1]
~	92804)	Class and a second	tono et contonio o 11 a com como monido	S/N 50 when tone	ot :				
	AD-1.50 PS		target centering. 11 s exposure provides COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Sags (11 Sags)	
	A/MIRROR	(1) 200 W 3	COS/NOV, TIME-TAG, FSA	MIKKOKA	0	FOS TAKO -1.5,liuli	nt in PSA/A & PSA/	[==>]	
	A IMAGE (COS.im.18 92804)						B (01)	[>]	[1]
Com	ments: Part of	flux sweep to test	target centering. 11 s exposure provides	s S/N~50 when targe	et is near center of apertu	re.			
32	AD-1.75 PS	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=30		Sequence 1-32 Non-I		
	A/MIRROR A IMAGE (COS.im.18 92804)				O	11	nt in PSA/A & PSA/ B (01)	[==>]	[1]
Сот	ments: Part of	flux sweep to test	target centering. 11 s exposure provides	s S/N~50 when targe	et is near center of apertu	re.			•
3	PSA/MIRR	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA IMAG E (P2/LOW)				0;	MP LINE2;	-Int in PSA/A & PS A/B (01)	[==>]	
	(COS.im.18 92804)				FLASH=S0060D02 0; CURRENT=LOW	QESIPARM CURR ENT LOW	110 (01)		[2]
			o measure the WCA-to-PSA offset for PS						
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	e.
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	<i>2</i> .
nis	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
nis	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
is	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
nis	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
his	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.
nis	exposure is ne	w in cycle 31. It p	rovides an idea of how well-centered we	are when we come	back to the target for the	second orbit. After thi.	s exposure, the visit exec	cutes as in cycle 30 and befor	2.

ropo	sal 17321 - F	<u>SA/A & F'</u>	<u> PSA/B (01) - Cycle 31</u>	1 COS NUV TE	<u>arget Acquisitio</u>	<u>n Monitor</u>			
34	PSA/MIRR (1) 20		COS/NUV, ACQ/IMAGE, PSA				Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA ACQ/I MAGE (P2/						-Int in PSA/A & PS A/B (01)	[==>]	
	LOW)						1111 (01)	'	[2]
	(COS.ta.189 2807)							'	'
			rates for this target in Program 131	171 are (S/N are just ph	ioton statistics of the lam	ıp or target)			•
	'A/MIRRORA = 245 ce 'A/MIRRORB = 15.6 c		40 in 7s, 60 in 15s) 40 in 102s, 50 in 160, 60 in 230s)						
	B = 15.7 for this targe		10 III 1025, 50 III 105, 00 III 2011,						I
			uced 2900 counts(S/N = 54)						l
			duced 420 counts (S/N = 21) stimated to produce ~4000 counts (A	(S/N = 52) in the primary	v snat)				ŀ
WC	CA/P1/MIRRORB@L0	OW = 82 hz, so		3/1V = 32 in the primary	spoi)				l
	CA/A(LOW)/B(LOW) = CA/B(MED)/B(LOW) =		be 15-20						
			at least the following exposure time	a c					
PSA	A(target)/A = 10s	- JO we need a	t teast the jouowing exposure time	S					ŀ
	A(target)/B = 160s CA/P2/LOW/A = 6s								,
WC	CA/P2/LOW/B = 180s								ŀ
	CA/P1/LOW/B is 5x bi CA/P2/MED/B is unkn		mp#2, so at least 36s stimate it to be 15-20x the 2/LOW r	rate, so at least 12s					I
					as is 0x0*(500/(50*300))	/30c) based upon 500 c.	ounts in 30s in the WC	A 50x300 box. This is 1 count in 10s, so	o we ignore
	for the PSA.	e wiii use inc >.	AT CHECKOON MEMOU, SO ME OUCH,	Ouna joi 1 511 exposure	3 13 222 (300)(30 300).	Jos) buseu upon 500 co	nutts in 503 in inc 1, 61	1 JUAJUU UUA. 1 IIIS IS 1 COUIU III 105, 50	we ignore
For	· the WCA images, we	will be workin	ag a 50x300 box, so the rate here is	s 18 hz, but we are using	z a median to find the cer	nter, so it is not a strais	zhtforward S/N situatic	on. We are interested in measuring the c	centroid in
pres								CA/P2/MED/B, we will shoot for 3000	
ts.									
For	the Buffer Time, we c	are shooting for	r S/N = 50. in both the target and t	he lamp. Lets overshoot	t to S/N of 60, that's 7200) counts -> $BT = 2/3 *$	326= 217. We'll be ext	tra conservative and stay short of this.	
For	PSA/MIRRORA: (CC	<i>OS.ta.634846</i>) V	We Simulated in ETC as $G5$, $V=13$.	.5 (lit says 14.5), $S/N =$	60 gives: Time = 13 sec	onds.Target count rate	= 275 cts/s Brightest I	Pixel 38 cps	
<i>I</i>	'SA/MIRKUKB: (CU:	S.ta.034849) W	Ve Simulated in ETC as G5, $V=13.5$	(lit says 14.5), S/N = 5	0 gives: Time = 21/ sec	onds. Target count rate	? = 11.0 cts/s Brightest	Pixel 1.0 cps	
This	s target was also prev	iously observed	d in Visit A2 of 12781, with the foll	owing REAL count rate	s (imaging mode)				
The	e PSA/A had 21,063 to	otal counts in 6	60s (Target = 206W3), after backgr	round subtraction = 20 ,	100 = 335 cts/s. PSA/A I	Brightest Pixel = 32.8 c	counts/s		
			ounts in 300s, after background sui	btraction=7150=23.8	cts/s. PSA/B Brightest Pr	ixel = 0.8 counts/s			
PSA	A/B = 14x (lbx1a2ffa)	q/lbx1a2fhq) &	a PSA A/B (BP) = 41x						
Ren	nember that the SED	of the target is	important in this ratio as the two m	nodes have different res	ponses.				
For	r PSA/A We get S/N =	60 in 3600/33:	5 = 11s						
	PSA/B, We get $S/N =$								
In C	Oct 2016, this target v	vas observed as	s part of 14452 Visit A2, with the fo	ollowing count rates:					
The	e PSA/A had 21,063 t	otal counts in 6	60s (Target = 206W3), after backgr	$round\ subtraction = 20,$.229 = 337 cts/s, Brighte	est Pixel = 23.1 counts/	s		
The	e PSA/B had 14,627 to	total counts in 3	300s, after background subtraction	=7655 = 25.5 cts/s. PS	SA/B Brightest $Pixel = 1$.	.3 counts/s			Т
35	PSA/MIRR (1) 20 ORA IMAG)6W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15 0:	QESIPARM USELA MP LINE2:	Sequence 33-40 Non -Int in PSA/A & PS	` '	-
	E (P2/LOW)				- ,		A/B (01)	[==>]	
	(COS.im.18 92804)				0;	ENT LOW		'	[2]
	,200.,				CURRENT=LOW				
	mments: Lamp and tar W and LAMP=LINE2			PSA/MIRRORA/P2/LO	W current. Expect 416 c	ounts/s from lamp, abo	ut the same from the ta	arget. We take 20s of each. Note that CU	URRENT=
LO	v una LAMIT –LINE2	are set as QES	TAKWIS						

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor PSA/MIRR (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=20 **OESIPARM USELA Sequence 33-40 Non** 222 Secs (222 Secs) ORB IMAG 0: MP LINE2: -Int in PSA/A & PS I = = > 1E (P2/MED) A/B (01) FLASH=S0120D02 OESIPARM CURR (COS.im.18 ENT MEDIUM [2] 92810) CURRENT=MEDI UM Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect ~400 counts/s from the lamp. We need >k160s of target time, and at least 12s of lamp time. We'll get 200s of target and 2x20 to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV, ACQ/IMAGE, PSA Sequence 33-40 Non 222 Secs (222 Secs) MIRRORB ORB ACQ/I -Int in PSA/A & PS I==>1MAGE (P2/ A/B (01)MED) [2] (COS.ta.189 2809) Comments: PSA/MIRRORB ACO/Image using P2/MED current. COS/NUV, TIME-TAG, PSA 222 Secs (222 Secs) PSA/MIRR (1) 206W3 MIRRORB BUFFER-TIME=20 **OESIPARM USELA Sequence 33-40 Non** ORB IMAG MP LINE2; -Int in PSA/A & PS I==>1E2 (P2/ME A/B (01)FLASH=S0120D02 OESIPARM CURR D) **ENT MEDIUM** 0; [2] (ĆOS.im.18 92810) CURRENT=MEDI UM Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect 225-400 counts/s from the lamp. We need > 160s of target time, and at least 12s of lamp time. We 'll get 200s of target and 2x20 of lamp to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 QESIPARM USELA Sequence 33-40 Non 22 Secs (22 Secs) ORA IMAG MP LINE2; -Int in PSA/A & PS I = = > 1E2 (P2/LO A/B (01)FLASH=S0060D02 QESIPARM CURR W) [2] **ENT LOW** 0; (COS.im.18 92804) CURRENT=LOW Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORA/Lamp2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We need at least >12s of each, we ge t 20s for a good measurement. Note that CURRENT=LOW and LAMP=LINE2 are set as OESIPARMs Sequence 33-40 Non 22 Secs (22 Secs) PSA/MIRR (1) 206W3 COS/NUV. ACO/IMAGE. PSA MIRRORA ORA ACQ/I -Int in PSA/A & PS [==>] MAGE2 A/B (01) [2] (COS.ta.189 2807)

Comments: Confirmation PSA/A ACO/image, see first exposure of this visit for complete comment.

Proposal 17321 - PSA/A & PSA/B (01) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 **ۥ** Exp. 9 Pointing Maneuver €→ Exp. 10 Pointing Maneuver € Exp. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver ۥ Exp. 13 Pointing Maneuver €→ Exp. 14 Pointing Maneuver **€** Exp. 15 Pointing Maneuver Exp. 16
Pointing Man Pointing Maneuver ۥ Exp. 17 Pointing Maneuver **ۥ** E×p. 18 Pointing Maneuver ۥ•) Exp. 19 Pointing Maneuver ۥ• Exp. 20 Pointing Maneuver ۥ• Exp. 21 Pointing Maneuver € Exp. 22 Pointing Maneuver **Orbit Structure** ۥ Exp. 23 Pointing Maneuver € Exp. 24 Pointing Maneuver € Exp. 25 Pointing Maneuver ۥ Exp. 26 Pointing Maneuver ۥ•) Exp. 27 Pointing Maneuver € Exp. 28 Pointing Maneuver ۥ•) Exp. 29 Pointing Maneuver ۥ Exp. 30 Pointing Maneuver ۥ•) Exp. 31 Pointing Maneuver ۥ• Exp. 32 Pointing Maneuver GS Acq Unused Orbital Visibility = 58 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec



Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor Proposal 17321, PSA/A & PSA/B (02), failed Fri Jun 14 12:01:00 GMT 2024 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 15-APR-2024:00:00:00; GROUP 02,BA,BB WITHIN 105D Comments: This visit (PB, for PSA/MIRRORBA) performs the PSA/A vs PSA/B comparison. The target is 206W3, a target that was used last cycle and in the previous FGS-to-SI programs, 100% Schedulability. (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostic (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/A & PSA/B (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	206W3	RA: 06 08 55.4600 (92.2310833d)	Proper Motion RA: 0.5 mas/yr	V=14.53+/-0.1 Reference Frame: ICR	Reference Frame: ICRS
		Alt Name1: MCNAM209	Dec: +24 15 39.59 (24.26100d)	Proper Motion Dec: -2.2 mas/yr	J=13.441,	
		Alt Name2: J060855.46+241539.7	Equinox: J2000	Epoch of Position: 2012.7	B=14.930	
Fixed Targets	According to The PSA/M, The PSA/M, The PSA/M, The PSA/M, This target to From SIMB. Basic data: Cl* NGC 2. Other object ICRS coord. FK4 coord. FK4 coord. Fluxes (6): B 14.930 [~ V 14.481 [~ R 14.600 [~ R 14.3354 [6] H 13.354 [6]	IRRORA had 2Ĭ,063 counts IRRORB had 12,570 counts IRRORB had 12,570 counts rrorA/MirrorB = 351.0/41.5 is N8CV022007 in GSC2.3 AD: 168 M 178 Star in Cluster t types: *iC (Cl*), IR (2MA. (ep=J2000): 06 08 55.46 (ep=J2000) eq=2000): 06 (ep=B1950) eq=1950): 06 (ep=B1950) eq=1950): 06 (ep=B1950): 186.6569 +02 [] E ~ [] E ~ [] E ~ [] E 2003yCat.22460C 023] C 2003yCat.22460C 022] C 2003yCat.22460C 022] C 2003yCat.22460C 022] C 2003yCat.22460C 027AR = [G V-IV]	tes given here have been adjusted to ~2012.7. I in in 60s (351 ct/s). Max pixel = 1965/60 = 32.75 ct in 300s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 300s	t/s t/s	igain at a later date.	

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor

	# Label (ETC Run)	Targ	get	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
	1 PSA/MIRR (1) 20		1) 206W3	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-32 Non-I	22 Secs (22 Secs)			
	ORA ACQ/I MAGE (P2/							nt in PSA/A & PSA/ B (02)	[==>]			
	LOW) (COS.ta.189									[1]		
	2807)											
	Comments: The measured direct count rates for this target in Program 13171 are (S/N are just photon statistics of the lamp or target) $PSA/MIRRORA = 245 count/s (S/N = 40 in 7s, 60 in 15s)$											
	PSA/MIRRORB = 15.6 count/s (S/N = 40 in 102s, 50 in 160, 60 in 230s) A/B = 15.7 for this target											
	$A/B = 15$./ for this target $WCA/P2/MIRRORA@LOW = 7s \ produced \ 2900 \ counts(S/N = 54)$											
	WCA/P2/MIRROF	RB@L	OW = 30s pr	oduced 420 counts $(S/N = 21)$								
	WCA/P1/MIRROF	RB@L	$OW = 82 \ hz$,	estimated to produce ~4000 counts (S/I so S/N =50 in 30s	N = 52 in the primary	spot)						
	WCA/A(LOW)/B(LOW) = 25-30 WCA/B(MED)/B(LOW) is estimated to be 15-20											
	To get everything	at S/N	= 50 we need	l at least the following exposure times								
	PSA(target)/A = 1	10s	55 116 11666	an reast the join of this exposure times								
	PSA(target)/B = 160s WCA/P2/LOW/A = 6s											
	WCA/P2/LOW/B = 180s (low current), S/N = 47 in 160s WCA/P1/LOW/B is 5x brighter than lamp#2, so at least 36s											
	WCA/P2/MED/B is unknown, but we estimate it to be 15-20x the 2/LOW rate, so at least 12s											
es	For each target image, we will use the 9x9 checkbox method, so the background for PSA exposures is 9x9*(500/(50*300)/30s) based upon 500 counts in 30s in the WCA 50x300 box. This is 1 count in 10s, so we ignore this for the PSA.											
Exposures	For the WCA images, we will be working a 50x300 box, so the rate here is 18 hz, but we are using a median to find the center, so it is not a straightforward S/N situation. We are interested in measuring the centroid in											
(bo	presence of the noise and 2500 lamp counts are sufficient for our needs for WCA/P2/LOW/B. Since, we are defining the WCA-to-PSA offset for WCA/P1/LOW/B and WCA/P2/MED/B, we will shoot for 3000 lamp counts.											
ш̂	For the Buffer Time, we are shooting for S/N = 50. in both the target and the lamp. Lets overshoot to S/N of 60, that's 7200 counts -> BT = 2/3 * 326= 217. We'll be extra conservative and stay short of this.											
		or PSA/MIRRORA: (COS.ta.634846) We Simulated in ETC as G5, V=13.5 (lit says 14.5), S/N = 60 gives: Time = 13 seconds. Target count rate = 275 cts/s Brightest Pixel 38 cps PSA/MIRRORB: (COS.ta.634849) We Simulated in ETC as G5, V=13.5 (lit says 14.5), S/N = 50 gives: Time = 217 seconds. Target count rate = 11.6 cts/s Brightest Pixel 1.6 cps										
	This target was also previously observed in Visit A2 of 12781, with the following REAL count rates (imaging mode)											
The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,100 = 335 cts/s. PST The PSA/MIRRORB had 12,570 total counts in 300s, after background subtraction=7150 = 23.8 cts/s. PSA/B Bright								counts/s				
	$PSA\ A/B = 14x\ (lbx1a2ffq/lbx1a2fhq)\ \&\ PSA\ A/B\ (BP) = 41x$											
	Remember that the SED of the target is important in this ratio as the two modes have different responses.											
	For PSA/A We get S/N = 60 in 3600/335 = 11s For PSA/B, We get S/N = 60 in 3600/23.8 = 151s											
	In Oct 2016, this target was observed as part of 14452 Visit A2, with the following count rates:											
	The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,229 = 337 cts/s, Brightest Pixel = 23.1 counts/s The PSA/B had 14,627 total counts in 300s, after background subtraction=7655 = 25.5 cts/s. PSA/B Brightest Pixel = 1.3 counts/s											
	2 Centered PS (1) 206W3				MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 1-32 Non-I	22 Secs (22 Secs)			
	A/MIRROR A IMAGE (0; FLASH=\$0060D0	MP LINE2; 2 OESIPARM CURR	nt in PSA/A & PSA/ B (02)	[==>]			
	P2/LOW) (COS.im.18					0;	ENT LOW			[1]		
	92804)					CURRENT=LOW						

Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORA/P2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We take 20s of each. Note that CURRENT=LOW and LAMP=LINE2 are set as QESIPARMs

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null..5 Sequence 1-32 Non-I 11 Secs (11 Secs) XD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 75 Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.0 PS (1) 206W3 BUFFER-TIME=15 POS TARG null, 1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,1.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null, 1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+1.50 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-32 Non-I 21 Secs (21 Secs) XD+1.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 10 XD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG null, 2.25 Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,-.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD-0.50 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. 13 XD-0.75 PS (1) 206W3 BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-1.0 PSA (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-32 Non-I 11 Secs (11 Secs) XD-1.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR 5 nt in PSA/A & PSA/ I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 16 XD-1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-32 Non-I 21 Secs (21 Secs) XD-1.75 PS (1) 206W3 MIRRORA A/MIRROR 0 5 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG .25, null Sequence 1-32 Non-I 11 Secs (11 Secs) AD+0.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 19 AD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG .5.null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (02) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+0.75 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG .75,null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD+1.0 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 22 AD+1.25 PS (1) 206W3 BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG 1.5, null Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I==>1A IMAGE [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 24 AD+1.75 PS (1) 206W3 BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-32 Non-I 21 Secs (21 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 25 AD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG 2.25, null Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -.25, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD-0.25 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. Sequence 1-32 Non-I 11 Secs (11 Secs) AD-0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.5,null A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 28 AD-0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.75, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (02) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -1.0,null Sequence 1-32 Non-I 11 Secs (11 Secs) AD-1.0 PSA (1) 206W3 MIRRORA /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE B (02) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

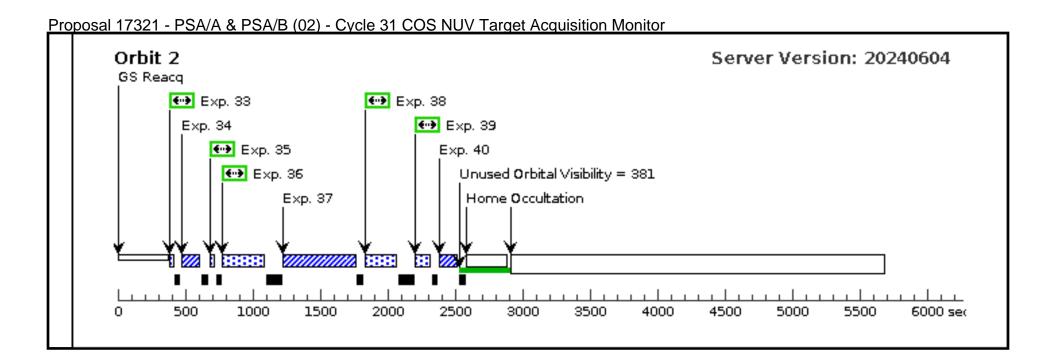
	A G CER D O D	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE				0	11	nt in PSA/A & PSA/ B (02)	[==>]	
	(COS.im.18						2 (02)		[1]
Com	92804) ments: Part of t	flur sween to test	target centering. 11 s exposure provides	s S/N~50 when targe	et is near center of anertu	ıro			
	AD-1.50 PS (COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE (COS.im.18 92804)	Commert, Time Into, Ish		0		nt in PSA/A & PSA/	[==>]		
							B (02)		[1]
			target centering. 11 s exposure provides					Г	
	AD-1.75 PS A/MIRROR	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=30	POS TARG -1.75,nu	Sequence 1-32 Non-I nt in PSA/A & PSA/	· ·	
	A IMAGE (COS.im.18 92804)				U	П	B (02)	[==>]	[1]
		flux sweep to test	target centering. 11 s exposure provides	s S/N~50 when targe	et is near center of apertu	re.			·
	PSA/MIRR ((1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA IMAG E (P2/LOW)				0;	MP LINE2;	-Int in PSA/A & PS A/B (02)	[==>]	
	(COS.im.18 92804)				FLASH=S0060D02 0; CURRENT=LOW	QESIPARM CURR ENT LOW	A/B (02)		[2]
~			o measure the WCA-to-PSA offset for PS	7. / / / TRR D O D . / D A / T .					

ropc	<u>)sal 17321 - P</u>	<u> SA/A &'</u>	<u>PSA/B (02) - C</u>	<u> Cycle 31 C</u>	<u> COS NUV Ta</u>	<u>rget Acquisitio</u>	<u>ın Monitor </u>			
34	PSA/MIRR (1) 20		COS/NUV, ACQ/IN		MIRRORA			Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA ACQ/I MAGE (P2/							-Int in PSA/A & PS A/B (02)	[==>]	
	LOW) (COS.ta.189									[2]
	2807)									
Co	mments: The measured SA/MIRRORA = 245 cd	d direct count	t rates for this target in F	Program 13171	are (S/N are just pho	ton statistics of the lam	p or target)			
PS	SA/MIRRORB = 15.6 c	count/s (S/N =	= 40 in 7s, 60 in 13s) = 40 in 102s, 50 in 160, 6	50 in 230s)						
A/.	B = 15.7 for this targe	et								
			duced 2900 counts(S/N = oduced 420 counts (S/N =							
W	CA/P2/MIRRORB@M	$IED = 10s$ is ϵ	estimated to produce ~40		= 52 in the primary	spot)				
W	CA/P1/MIRRORB@L0 CA/A(LOW)/B(LOW) =	= 25-30								
W	CA/B(MED)/B(LOW) is	is estimated to	o be 15-20							
	get everything at S/N = SA(target)/A = 10s	= 50 we need	l at least the following ex	xposure times						
PS	SA(target)/B = 160s									
	CA/P2/LOW/A = 6s CA/P2/LOW/B = 180s	(low current	t), $S/N = 47$ in $160s$							
W	CA/P1/LOW/B is 5x br	rìghter than là	amp#2, so at least 36s estimate it to be 15-20x t	the 2/LOW rate	so at least 12s					
						· 0.0*/500//50*200\/	/20 \ L === 1 .m on 500 o	to its 200 in the WC	4.50.200 to This is I sound in 10s as	
	r each target image, w s for the PSA.	e wiii use ine	9х9 спескоох тетоа, s	to the backgroun	id for PSA exposures	: 18 9x9*(300/(30*300)/:	30s) basea upon 500 cc	ounts in 30s in the wCA	A 50x300 box. This is 1 count in 10s, so) we ignore
For	r the WCA images, we	will be work	ing a 50x300 box, so the	rate here is 18	hz, but we are using	a median to find the cer	nter, so it is not a straig	htforward S/N situatio	n. We are interested in measuring the c	centroid in
pre ts.	sence of the noise and	! 2500 lamp c	ounts are sufficient for o	our needs for WC	CA/P2/LOW/B. Since	, we are defining the W	CA-to-PSA offset for W	CA/P1/LOW/B and W	CA/P2/MED/B, we will shoot for 3000	lamp coun
	A Duff or Time	-1	C CAL 50 : 1 - 4 4 -		Laterananta	. CAL-060 de-d-720	0 PT 2/2 *	226 217 W.III.L.	· · · · · · · · · · · · · · · · · · ·	
	33	0,7		O		,			tra conservative and stay short of this.	
) We Simulated in ETC a We Simulated in ETC as							
Thi	is target was also prev	iously observ	ved in Visit A2 of 12781,	with the following	ng REAL count rates	(imaging mode)				
			a 60s (Target = 206W3), counts in 300s, after bac					counts/s		
			& $PSA A/B (BP) = 41x$	Mground suct.	CHON-7133 25.2.2	13/3. 1 3/1/2 2. 10. 100	Met = 0.0 commus			
			is important in this ratio	as the two mode	es have different resp	onses.				
For	r PSA/A We get S/N =	60 in 3600/3	35 = 11s							
	r PSA/B, We get $S/N =$									
In (Oct 2016, this target w	as observed	as part of 14452 Visit A2	2, with the follow	ving count rates:					
			n 60s (Target = 206W3), n 300s, after background					i		
35	PSA/MIRR (1) 20 ORA IMAG)6W3	COS/NUV, TIME-T	ΓAG, PSA	MIRRORA		QESIPARM USELA MP LINE2:		22 Secs (22 Secs)	
	E (P2/LOW)					0; FLASH=\$0060D02	QESIPARM CURR	-Int in PSA/A & PS A/B (02)	[==>]	
	(COS.im.18 92804)					0;	ENT LOW			[2]
	,					CURRENT=LOW				
	mments: Lamp and tar OW and LAMP=LINE2			SA offset for PSA	\/MIRRORA/P2/LOW	V current. Expect 416 co	ounts/s from lamp, abou	ut the same from the ta	rget. We take 20s of each. Note that CU	URRENT=
		~								

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor PSA/MIRR (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=20 **OESIPARM USELA Sequence 33-40 Non** 222 Secs (222 Secs) ORB IMAG 0: MP LINE2: -Int in PSA/A & PS I = = > 1E (P2/MED) A/B (02) FLASH=S0120D02 OESIPARM CURR (COS.im.18 ENT MEDIUM [2] 92810) CURRENT=MEDI UM Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect ~400 counts/s from the lamp. We need >k160s of target time, and at least 12s of lamp time. We'll get 200s of target and 2x20 to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV, ACQ/IMAGE, PSA Sequence 33-40 Non 222 Secs (222 Secs) MIRRORB ORB ACQ/I -Int in PSA/A & PS I==>1MAGE (P2/ A/B (02) MED) [2] (COS.ta.189 2809) Comments: PSA/MIRRORB ACO/Image using P2/MED current. COS/NUV, TIME-TAG, PSA 222 Secs (222 Secs) PSA/MIRR (1) 206W3 MIRRORB BUFFER-TIME=20 **QESIPARM USELA Sequence 33-40 Non** ORB IMAG -Int in PSA/A & PS MP LINE2; I==>1E2 (P2/ME A/B (02)FLASH=S0120D02 OESIPARM CURR D) **ENT MEDIUM** 0; [2] (ĆOS.im.18 92810) CURRENT=MEDI UM Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect 225-400 counts/s from the lamp. We need > 160s of target time, and at least 12s of lamp time. We 'll get 200s of target and 2x20 of lamp to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 QESIPARM USELA Sequence 33-40 Non 22 Secs (22 Secs) ORA IMAG MP LINE2; -Int in PSA/A & PS I = = > 1E2 (P2/LO A/B (02)FLASH=S0060D02 QESIPARM CURR W) [2] **ENT LOW** 0; (COS.im.18 92804) CURRENT=LOW Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORA/Lamp2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We need at least >12s of each, we ge t 20s for a good measurement. Note that CURRENT=LOW and LAMP=LINE2 are set as OESIPARMs Sequence 33-40 Non 22 Secs (22 Secs) PSA/MIRR (1) 206W3 COS/NUV. ACO/IMAGE. PSA MIRRORA ORA ACQ/I -Int in PSA/A & PS [==>] MAGE2 A/B (02) [2] (COS.ta.189 2807)

Comments: Confirmation PSA/A ACO/image, see first exposure of this visit for complete comment.

Proposal 17321 - PSA/A & PSA/B (02) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 **ۥ** Exp. 9 Pointing Maneuver €→ Exp. 10 Pointing Maneuver € Exp. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver ۥ Exp. 13 Pointing Maneuver €→ Exp. 14 Pointing Maneuver **€** Exp. 15 Pointing Maneuver Exp. 16
Pointing Man Pointing Maneuver ۥ Exp. 17 Pointing Maneuver **ۥ** E×p. 18 Pointing Maneuver ۥ Exp. 19 Pointing Maneuver ۥ• Exp. 20 Pointing Maneuver ۥ• Exp. 21 Pointing Maneuver € Exp. 22 Pointing Maneuver **Orbit Structure** ۥ Exp. 23 Pointing Maneuver € Exp. 24 Pointing Maneuver ۥ Exp. 25 Pointing Maneuver ۥ Exp. 26 Pointing Maneuver ۥ•) Exp. 27 Pointing Maneuver € Exp. 28 Pointing Maneuver ۥ•) Exp. 29 Pointing Maneuver ۥ Exp. 30 Pointing Maneuver ۥ•) Exp. 31 Pointing Maneuver ۥ• Exp. 32 Pointing Maneuver GS Acq Unused Orbital Visibility = 58 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec



Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor Proposal 17321, PSA/A & PSA/B (13), implementation Fri Jun 14 12:01:01 GMT 2024 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 30-JUN-2024:00:00:00; GROUP 13,BA,BB WITHIN 180D Comments: This visit (PB, for PSA/MIRRORBA) performs the PSA/A vs PSA/B comparison. The target is 206W3, a target that was used last cycle and in the previous FGS-to-SI programs, 100% Schedulability. (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostic (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/A & PSA/B (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	206W3	RA: 06 08 55.4600 (92.2310833d)	Proper Motion RA: 0.5 mas/yr	V=14.53+/-0.1	Reference Frame: ICRS
		Alt Name1: MCNAM209	Dec: +24 15 39.59 (24.26100d)	Proper Motion Dec: -2.2 mas/yr	J=13.441,	
		Alt Name2: J060855.46+241539.7	Equinox: J2000	Epoch of Position: 2012.7	B=14.930	
Fixed Targets	According to The PSA/M The PSA/M The PSA/M The PSA/M This target From SIMB Basic data: Cl* NGC 2. Other object ICRS coord. FK4 coord. Fluxes (6): B 14.930 [-V 14.481 [-R 14.600 [-X 1].3.541 [0]. H 13.354 [0].	IRRORA had 21,063 counts IRRORB had 12,570 counts rrorA/MirrorB = 351.0/41.9 is N8CV022007 in GSC2.3. BAD: 168 M 178 Star in Cluster types: *iC (Cl*), IR (2MA. (ep=J2000) : 06 08 55.46 (ep=J2000) : 06 08 55.46 (ep=J2000) : 186.6569 +02 (ep=B1950 eq=1950) : 06 (ep=B1950 eq=1950) : 06 00 (ep=B1950) : 06 00 (ep=B1950) : 06 00 (ep=B1950) : 07 00 00 00 00 00 00 00 00 00 00 00 00	tes given here have been adjusted to ~2012.7. I in in 60s (351 ct/s). Max pixel = 1965/60 = 32.75 ct. in 300s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 300s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 ct in 30s (41.9 cts/s). Max pixel = 238/300 = 0.8 cts/s]. Max pixel =	/s /s	gain at a later date.	

<u>rop</u>		<u>1 - PSA/A</u>	& PSA/B (13) - Cycle 31 (JUS NUV I		tion Monitor						
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit			
1		(1) 206W3	COS/NUV, ACQ/IMAGE, PSA	MIRRORA		GS ACQ SCENARI	Sequence 1-32 Non-I	22 Secs (22 Secs)				
	ORA ACQ/I MAGE (P2/ LOW) (COS.ta.189 2807)					O BASE1O3	nt in PSA/A & PSA/ B (13)	[==>]	[1]			
F F	SA/MIRRORA =	= 245	ount rates for this target in Program 13171 N = 40 in 7s, 60 in 15s) N = 40 in 102s, 50 in 160, 60 in 230s)	are (S/N are just pi	hoton statistics of the	lamp or target)						
V V V	WCA/P2/MIRRORA@LOW = 7s produced 2900 counts($S/N = 54$) WCA/P2/MIRRORB@LOW = 30s produced 420 counts ($S/N = 21$) WCA/P2/MIRRORB@MED = 10s is estimated to produce ~4000 counts ($S/N = 52$ in the primary spot) WCA/P1/MIRRORB@LOW = 82 hz, so $S/N = 50$ in $30sWCA/A(LOW)/B(LOW) = 25-30WCA/B(MED)/B(LOW)$ is estimated to be 15-20											
F V V	SA(target)/A = SA(target)/B = SA(tar	10s 160s = 6s = 180s (low curr is 5x brighter tha	eed at least the following exposure times vent), S/N = 47 in 160s un lamp#2, so at least 36s we estimate it to be 15-20x the 2/LOW rate	e, so at least 12s								
	or each target in is for the PSA.	nage, we will use	the 9x9 checkbox method, so the backgrou	and for PSA exposur	res is 9x9*(500/(50*30	00)/30s) based upon 500 c	ounts in 30s in the WC	A 50x300 box. This is 1 count in 10s, so	o we igno			
	esence of the no		orking a 50x300 box, so the rate here is 18 up counts are sufficient for our needs for W									
ப் _F	or the Buffer Tin	ne, we are shootii	ng for S/N = 50. in both the target and the	lamp. Lets overshoo	ot to S/N of 60, that's	$7200 \ counts -> BT = 2/3 *$	326= 217. We'll be ex	tra conservative and stay short of this.				
F			346) We Simulated in ETC as G5, $V=13.5$ (19) We Simulated in ETC as G5, $V=13.5$ (18)									
T	nis target was al	so previously obs	served in Visit A2 of 12781, with the follow	ing REAL count rat	es (imaging mode)							
T T	he PSA/A had 2 he PSA/MIRRO	1,063 total count RB had 12,570 to	s in 60s (Target = 206W3), after backgrou otal counts in 300s, after background subtr	nd subtraction = 20 action=7150 = 23.8	,100 = 335 cts/s. PSA 8 cts/s. PSA/B Brighte.	/A Brightest Pixel = 32.8 of Pixel = 0.8 counts/s	counts/s					
P	SA A/B = 14x (ll)	bx1a2ffq/lbx1a2fl	(Aq) & PSA A/B (BP) = 41x									
R	emember that th	e SED of the targ	et is important in this ratio as the two mod	les have different re:	sponses.							
		t S/N = 60 in 360 et S/N = 60 in 360										

In Oct 2016, this target was observed as part of 14452 Visit A2, with the following count rates:

The PSA/A had 21,063 total counts in 60s (Target = 206W3), after background subtraction = 20,229 = 337 cts/s, Brightest Pixel = 23.1 counts/s The PSA/B had 14,627 total counts in 300s, after background subtraction=7655 = 25.5 cts/s. PSA/B Brightest Pixel = 1.3 counts/s

2	Centered PS (1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15	QESIPARM USELA	Sequence 1-32 Non-I	22 Secs (22 Secs)	
	A/MIRROR			0;	MP LINE2;	nt in PSA/A & PSA/	f==>1	
	A IMAGE (FLASH=S0060D02	OESIPARM CURR	B (13)	[>]	
	P2/LOW)			0;	ENT LOW			[1]
	(COS.im.18			CURRENT=LOW				
	92804)			CURRENT=LOW				

Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORA/P2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We take 20s of each. Note that CURRENT=LOW and LAMP=LINE2 are set as QESIPARMs

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null..5 Sequence 1-32 Non-I 11 Secs (11 Secs) XD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 75 Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.0 PS (1) 206W3 BUFFER-TIME=15 POS TARG null, 1.0 Sequence 1-32 Non-I | 11 Secs (11 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD+1.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null, 1.25 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null, 1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD+1.50 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-32 Non-I 21 Secs (21 Secs) XD+1.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 10 XD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG null, 2.25 Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-0.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG null,-.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) XD-0.50 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~50 when target is near center of aperture. 13 XD-0.75 PS (1) 206W3 BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. XD-1.0 PSA (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-32 Non-I 11 Secs (11 Secs) /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-32 Non-I 11 Secs (11 Secs) XD-1.25 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR 5 nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 16 XD-1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG null,-1.5 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-32 Non-I 21 Secs (21 Secs) XD-1.75 PS (1) 206W3 MIRRORA A/MIRROR 0 5 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. BUFFER-TIME=15 POS TARG .25, null Sequence 1-32 Non-I 11 Secs (11 Secs) AD+0.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 19 AD+0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG .5.null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (13) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+0.75 PS (1) 206W3 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG .75,null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORA A/MIRROR nt in PSA/A & PSA/ 0 I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD+1.0 PS (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 22 AD+1.25 PS (1) 206W3 BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. PSA MIRRORA A/MIRROR 0 nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. AD+1.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG 1.5, null Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/A & PSA/ I==>1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 24 AD+1.75 PS (1) 206W3 BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-32 Non-I 21 Secs (21 Secs) COS/NUV, TIME-TAG, PSA MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 25 AD+2.25 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=30 POS TARG 2.25, null Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/A & PSA/ A/MIRROR I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -.25, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD-0.25 PS (1) 206W3 MIRRORA A/MIRROR nt in PSA/A & PSA/ I = = > 1A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. Sequence 1-32 Non-I 11 Secs (11 Secs) AD-0.50 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.5,null A/MIRROR 0 nt in PSA/A & PSA/ *[==>]* A IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. 28 AD-0.75 PS (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 POS TARG -.75, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/A & PSA/ A/MIRROR 0 I = = > 1A IMAGE B (13) [1] (COS.im.18 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture. COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG -1.0,null Sequence 1-32 Non-I 11 Secs (11 Secs) AD-1.0 PSA (1) 206W3 MIRRORA /MIRRORA 0 nt in PSA/A & PSA/ I = = > 1IMAGE B (13) [1] (COS.im.18 92804) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~50 when target is near center of aperture.

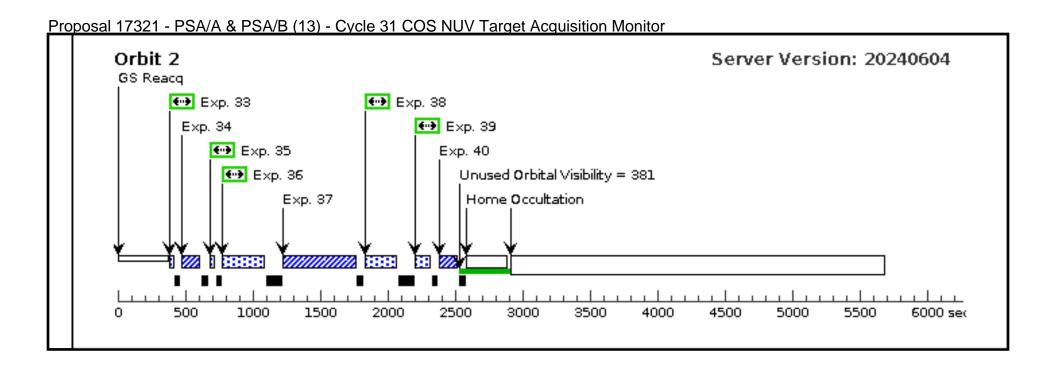
		(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA		POS TARG -1.25,nu	Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE				0	11	nt in PSA/A & PSA/ B (13)	[==>]	
	(COS.im.18 92804)						2 (10)		[1]
omi	nents: Part of	flux sweep to test	target centering. 11 s exposure provides	S/N~50 when targe	rt is near center of apertu	re.			
1	AD-1.50 PS	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA		POS TARG -1.5,null	Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE (COS.im.18 92804)				0		nt in PSA/A & PSA/B (13)	[==>]	[1]
omr	nents: Part of	flux sweep to test	target centering. 11 s exposure provides	S/N~50 when targe	rt is near center of apertu	re.			
	AD-1.75 PS	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA			Sequence 1-32 Non-I		
	A/MIRROR A IMAGE (COS.im.18 92804)				0	11	nt in PSA/A & PSA/B (13)	[==>]	[1]
omr	nents: Part of	flux sweep to test	target centering. 11 s exposure provides	S/N~50 when targe	et is near center of apertu	re.			
	PSA/MIRR	(1) 206W3	COS/NUV, TIME-TAG, PSA	MIRRORA	BUFFER-TIME=15		Sequence 33-40 Non		
	ORA IMAG E (P2/LOW)				0; FLASH=S0060D02	MP LINE2;	-Int in PSA/A & PS A/B (13)	[==>]	
	(COS.im.18 92804)				0; CURRENT=LOW	ENT LOW			[2]
omr	nents: Lamp a	nd target image to	measure the WCA-to-PSA offset for PS	A/MIRRORA/P2/LC	DW current Expect 416 co	ounts/s from lamp_abo	ut the same from the ta	get. We take 20s of each, Not	that CURREN

ropo	osal 1732′	I - PSA/A 8	<u> R PSA/B (13) - Cycle 3</u>	1 COS	<u> 3 NUV Tar</u>	get Acquisitio	n Monitor			
34	PSA/MIRR	(1) 206W3	COS/NUV, ACQ/IMAGE, PSA		IIRRORA			Sequence 33-40 Non	22 Secs (22 Secs)	
	ORA ACQ/I MAGE (P2/							-Int in PSA/A & PS A/B (13)	[==>]	
	LOW)							112 (10)	!	[2]
	(COS.ta.189 2807)								!	
			nt rates for this target in Program 13	171 are (£	S/N are just phot	on statistics of the lam	p or target)			•
			= 40 in 7s, 60 in 15s) = 40 in 102s, 50 in 160, 60 in 230s)							
	B = 15.7 for the		,							I
			oduced 2900 counts($S/N = 54$)							
W	CA/P2/MIRROR	RB@MED = 10s is	roduced 420 counts (S/N = 21) s estimated to produce ~4000 counts	S/N = 52	2 in the primary s	apot)				
W	/CA/P1/MIRROF /CA/A(LOW)/B(1	$RB@LOW = 82 \ hz,$	so $S/N = 50$ in $30s$,				
		LOW) = 23-30 LOW) is estimated	to be 15-20							
To	get everything (at $S/N = 50$ we nee	d at least the following exposure time	2S						
P_{s}^{s}	SA(target)/A = 1 SA(target)/B = 1	'Os								
W	/CA/PŽ/LOW/A =	=6s								I
W	/CA/P1/LOW/B i	is 5x brighter than	nt), S/N = 47 in 160s lamp#2, so at least 36s							
W	CA/P2/MED/B	s unknown, but we	e estimate it to be 15-20x the 2/LOW	ate, so at	t least 12s					
	or each target im is for the PSA.	age, we will use th	e 9x9 checkbox method, so the backs	round for	r PSA exposures i	is 9x9*(500/(50*300)/.	30s) based upon 500 cc	ounts in 30s in the WCA	A 50x300 box. This is 1 count in 10s, so) we ignore
Fc	or the WCA imag	es, we will be work	king a 50x300 box, so the rate here i	18 hz, bı	ut we are using a	median to find the cer	iter, so it is not a straig	ghtforward S/N situatio	n. We are interested in measuring the c	centroid in
pro		se and 2500 lamp	counts are sufficient for our needs fo	* WCA/P2	2/LOW/B. Since,	we are defining the W	CA-to-PSA offset for W	CA/P1/LOW/B and W	CA/P2/MED/B, we will shoot for 3000 i	lamp coun
		o we are shooting	for $S/N = 50$ in both the target and	the lamn	I ots overshoot t	a S/N of 60 that's 7200	0 counts $\Rightarrow RT = 2/3 *$	326- 217 We'll he exi	tra conservative and stay short of this.	
	00			•		•				
			6) We Simulated in ETC as G5, V=13.) We Simulated in ETC as G5, V=13.							
Th	is target was als	o previously obser	rved in Visit A2 of 12781, with the fol	owing RI	EAL count rates ((imaging mode)				
T/ T/	he PSA/A had 21 he PSA/MIRROF	,063 total counts ii &B had 12,570 tota	n 60s (Target = 206W3), after backg il counts in 300s, after background si	ound sub btraction	btraction = 20,10 i=7150 = 23.8 ct	0 = 335 cts/s. PSA/A E s/s. PSA/B Brightest P	3rightest Pixel = 32.8 c ixel = 0.8 counts/s	counts/s		
PS	SAA/B = 14x (lb.	x1a2ffq/lbx1a2fhq)) & $PSA \ A/B \ (BP) = 41x$							
Re	member that the	SED of the target	is important in this ratio as the two	10des hav	ve different respo	inses.				
		S/N = 60 in 3600/3 t $S/N = 60 \text{ in } 3600/3$								
In	Oct 2016, this to	ırget was observed	l as part of 14452 Visit A2, with the f	ollowing c	count rates:					
TI Ti	he PSA/A had 21 he PSA/B had 14	,063 total counts it 1,627 total counts it	n 60s (Target = 206W3), after backg n 300s, after background subtraction	ound sub =7655 =	btraction = 20,22 25.5 cts/s. PSA	9 = 337 cts/s, Brightes B Brightest Pixel = 1.	st Pixel = 23.1 counts/s 3 counts/s	<u> </u>		
35	PSA/MIRR ORA IMAG		COS/NUV, TIME-TAG, PSA	MI	IIRRORA	BUFFER-TIME=15 0;	QESIPARM USELA MP LINE2;	Sequence 33-40 Non -Int in PSA/A & PS		
	E (P2/LOW)					FLASH=S0060D02	*	A/B (13)	[==>]	
	(COS.im.18 92804)					0;	ENT LOW		!	[2]
	ŕ					CURRENT=LOW				
		and target image to LINE2 are set as Q		PSA/MIR	RRORA/P2/LOW	current. Expect 416 co	ounts/s from lamp, abou	ut the same from the ta	erget. We take 20s of each. Note that CU	JRRENT=

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor PSA/MIRR (1) 206W3 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=20 **OESIPARM USELA Sequence 33-40 Non** 222 Secs (222 Secs) ORB IMAG 0: MP LINE2: -Int in PSA/A & PS I = = > 1E (P2/MED) A/B (13) FLASH=S0120D02 OESIPARM CURR (COS.im.18 ENT MEDIUM [2] 92810) CURRENT=MEDI UM Comments: Lamp and target image to measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect ~400 counts/s from the lamp. We need >k160s of target time, and at least 12s of lamp time. We'll get 200s of target and 2x20 to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV, ACQ/IMAGE, PSA Sequence 33-40 Non 222 Secs (222 Secs) MIRRORB ORB ACQ/I -Int in PSA/A & PS I==>1MAGE (P2/ A/B (13) MED) [2] (COS.ta.189 2809) Comments: PSA/MIRRORB ACO/Image using P2/MED current. COS/NUV, TIME-TAG, PSA 222 Secs (222 Secs) PSA/MIRR (1) 206W3 MIRRORB BUFFER-TIME=20 **QESIPARM USELA Sequence 33-40 Non** ORB IMAG MP LINE2; -Int in PSA/A & PS I==>1E2 (P2/ME A/B (13) FLASH=S0120D02 OESIPARM CURR D) **ENT MEDIUM** 0; [2] (ĆOS.im.18 92810) CURRENT=MEDI UM Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORB/P2/MED current. Expect 225-400 counts/s from the lamp. We need > 160s of target time, and at least 12s of lamp time. We 'll get 200s of target and 2x20 of lamp to get a good measurement. Note that CURRENT=MED and LAMP=LINE2 are set as QESIPARMs PSA/MIRR (1) 206W3 COS/NUV. TIME-TAG. PSA MIRRORA BUFFER-TIME=15 OESIPARM USELA Sequence 33-40 Non 22 Secs (22 Secs) ORA IMAG MP LINE2; -Int in PSA/A & PS I = = > 1E2 (P2/LO A/B (13) FLASH=S0060D02 QESIPARM CURR W) [2] **ENT LOW** 0; (COS.im.18 92804) CURRENT=LOW Comments: Lamp and target image to re-measure the WCA-to-PSA offset for PSA/MIRRORA/Lamp2/LOW current. Expect 416 counts/s from lamp, about the same from the target. We need at least >12s of each, we ge t 20s for a good measurement. Note that CURRENT=LOW and LAMP=LINE2 are set as OESIPARMs Sequence 33-40 Non 22 Secs (22 Secs) PSA/MIRR (1) 206W3 COS/NUV. ACO/IMAGE. PSA MIRRORA ORA ACQ/I -Int in PSA/A & PS [==>] MAGE2 A/B (13) [2] (COS.ta.189 2807)

Comments: Confirmation PSA/A ACO/image, see first exposure of this visit for complete comment.

Proposal 17321 - PSA/A & PSA/B (13) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 **ۥ** Exp. 9 Pointing Maneuver €→ Exp. 10 Pointing Maneuver € Exp. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver ۥ Exp. 13 Pointing Maneuver €→ Exp. 14 Pointing Maneuver **€** Exp. 15 Pointing Maneuver Exp. 16
Pointing Man Pointing Maneuver ۥ Exp. 17 Pointing Maneuver **ۥ** E×p. 18 Pointing Maneuver ۥ Exp. 19 Pointing Maneuver ۥ• Exp. 20 Pointing Maneuver ۥ• Exp. 21 Pointing Maneuver ۥ Exp. 22 Pointing Maneuver **Orbit Structure** ۥ Exp. 23 Pointing Maneuver € Exp. 24 Pointing Maneuver € Exp. 25 Pointing Maneuver ۥ Exp. 26 Pointing Maneuver ۥ•) Exp. 27 Pointing Maneuver € Exp. 28 Pointing Maneuver ۥ•) Exp. 29 Pointing Maneuver ۥ Exp. 30 Pointing Maneuver ۥ•) Exp. 31 Pointing Maneuver ۥ Exp. 32 Pointing Maneuver GS Acq Unused Orbital Visibility = 58 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec



Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor Proposal 17321, PSA/B & BOA/A (BA), completed Fri Jun 14 12:01:01 GMT 2024 Diagnostic Status: Warning Visit Scientific Instruments: COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 31-JAN-2024:00:00:00; GROUP BA,BB,PB WITHIN 30D Comments: Visit BA compares the centering of PSA/MIRRORB to BOA/MIRRORA. The target will be the standard star WD1657+343. 100% Schedubility. This Visit (BA) should be executed within 30 days of the other visits inthis program, but in no particular order. The closer in time that they can all be executed, the better. We also take a G230L spectrum to test the WCA-to-PSA offsets. (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostics (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

	(PSA/I	B & BOA/A (BA)) Warnin	g (Orbit Planner): POS TARG OUTSIDE OF AP	PERTURE NO ORIENT			
S	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	
	(2)	WD-1657+343	RA: 16 58 51.1200 (254.7130000d)		V=16.1	Reference Frame: ICRS	
_			Dec: +34 18 53.30 (34.31481d)				
<u>a</u>			Equinox: J2000				

Comments: COS.ta.432603 indicates this is a good PSA/MIRB to BOA/MIRA target PSA/MIRB counts = S/N=60 in 11.6s (S/N = 40 in 5.2s); COS.ta.432604 gives S/N=60 in 150.7s for BOA/MIRA Category=STAR

(PSA/B & BOA/A (BA)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Description=[DA] Extended=NO

Fixed

Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor

10	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
-	1		(2) WD-1657+343	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	15 Secs (15 Secs) [==>]	[1]
	Com N)	ments: COS.ta	.433946 gives S/N=60	O in $11.65s$. $BP = 43$ cps. We observed	l this target in Pro	gram 13124 and the targ	et count rate was 400 c	ts/s, total $cts = 4800 to$	otal, $BP=24$ cts/s That's $sqrt(2/3 * 486)$	00) = 56 (S
	2	Centered PS A/MIRROR B IMAGE (P2/MED) (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	0;	QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)		[1]
	Com	ments: COS.ta	.433946 gives S/N=60	O in 11.65s. BP = 42 cps.						
	So bi	uffer time shou	$ld\ be < 0.67\ *(2.35E)$	1q7q) yielded a total (lamp+target+ba 5/1538.) = 1024. Just be safe, we go w we get enough counts in the lamp imag	ith 500s.	ate of 24617 counts in 16	бs (1538 cps).			
S	3	XD+0.25 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG null,.25	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
nre	Com		•	get centering. 11 s exposure provides S		· ·			T	
Exposures	4	XD+0.50 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG null,.5	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
	Com	ments: Part of	flux sweep to test tar	get centering. 11 s exposure provides S	S/N~60 when targe	t is near center of apertu	re.			
	5	XD+0.75 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG null,.75	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
	Com	/	flux sweep to test tar;	get centering. 11 s exposure provides S	S/N~60 when targe	t is near center of apertu	re.			1
	6	XD+1.0 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG null,1.0	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
	Com	ments: Part of	flux sweep to test tar	get centering. 11 s exposure provides S	S/N~60 when targe	t is near center of apertu	re.			
	7	XD+1.25 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG null,1.25	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
	Com	ments: Part of	flux sweep to test tar	get centering. 11 s exposure provides S	S/N~60 when targe	t is near center of apertu	re.			
	8	XD+1.50 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=30 0	POS TARG null,1.5	T DOLAD O DOLA	16 Secs (16 Secs) [==>]	[1]
	Com	,	flux sweep to test tar;	get centering. 11 s exposure provides S	S/N~60 when targe	t is near center of apertu	re.			•

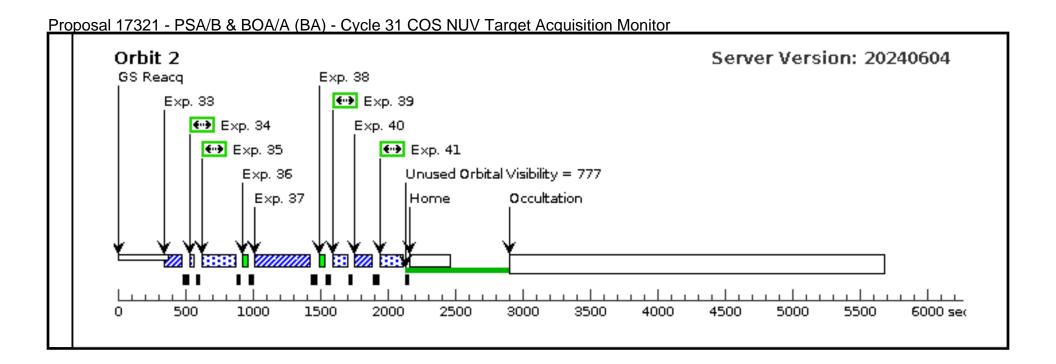
Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-32 Non-I 21 Secs (21 Secs) XD+1.75 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB A/MIRROR nt in PSA/B & BOA/ I==>1B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~60 when target is near center of aperture. XD+2.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG null, 2.5 Sequence 1-32 Non-I 31 Secs (31 Secs) MIRRORB A/MIRROR 0 nt in PSA/B & BOA/ I==>1B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-0.25 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-32 Non-I 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/B & BOA/ I==>1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-0.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORB BUFFER-TIME=15 POS TARG null,-.5 A/MIRROR nt in PSA/B & BOA/ I==>1B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 13 XD-0.75 PS (2) WD-1657+343 COS/NUV. TIME-TAG. PSA MIRRORB BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-32 Non-I | 11 Secs (11 Secs) nt in PSA/B & BOA/ A/MIRROR I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-1.0 PSA (2) WD-1657+343 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-32 Non-I | 11 Secs (11 Secs) MIRRORB nt in PSA/B & BOA/I = > 1/MIRRORB IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-32 Non-I 11 Secs (11 Secs) XD-1.25 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB A/MIRROR 0 nt in PSA/B & BOA/ I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 16 XD-1.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=30 POS TARG null,-1.5 Sequence 1-32 Non-I 16 Secs (16 Secs) A/MIRROR 0 nt in PSA/B & BOA/ I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-1.75 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-32 Non-I 21 Secs (21 Secs) nt in PSA/B & BOA/I = > 1A/MIRROR 0 5 **B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture.

Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=15 POS TARG .25, null Sequence 1-32 Non-I | 11 Secs (11 Secs) AD+0.25 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB A/MIRROR nt in PSA/B & BOA/ I==>1B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~60 when target is near center of aperture. AD+0.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG .5.null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORB nt in PSA/B & BOA/I = > 1A/MIRROR 0 B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD+0.75 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=15 POS TARG .75, null Sequence 1-32 Non-I | 11 Secs (11 Secs) A/MIRROR 0 nt in PSA/B & BOA/ I==>1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 21 AD+1.0 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-32 Non-I 11 Secs (11 Secs) MIRRORB A/MIRROR nt in PSA/B & BOA/ I==>1B IMAGE A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 22 AD+1.25 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/B & BOA/ A/MIRROR I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD+1.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA BUFFER-TIME=30 POS TARG 1.5, null Sequence 1-32 Non-I 16 Secs (16 Secs) MIRRORB nt in PSA/B & BOA/I==>1A/MIRROR **B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-32 Non-I 21 Secs (21 Secs) AD+1.75 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB A/MIRROR 0 nt in PSA/B & BOA/ I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD+2.50 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=30 POS TARG 2.5, null Sequence 1-32 Non-I 31 Secs (31 Secs) A/MIRROR 0 nt in PSA/B & BOA/ I = = > 1**B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD-0.25 PS (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB BUFFER-TIME=15 POS TARG -.25, null Sequence 1-32 Non-I 11 Secs (11 Secs) nt in PSA/B & BOA/I = > 1A/MIRROR 0 **B IMAGE** A (BA) [1] (COS.ta.152 1654) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture.

po:	<u>sal 17321</u>	<u>- PSA/B & E</u>	<u> 30A/A (BA) - Cycle 31</u>	COS NUV	<u> Larget Acquisition</u>	on Monitor			
27	AD-0.50 PS A/MIRROR B IMAGE (COS.ta.152 1654)	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0	POS TARG5,null	Sequence 1-32 Non-I nt in PSA/B & BOA/ A (BA)	11 Secs (11 Secs) [==>]	[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ	et is near center of apertu	re.			·
28		(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15	POS TARG75,null		11 Secs (11 Secs)	
	A/MIRROR B IMAGE (COS.ta.152 1654)				0		nt in PSA/B & BOA/ A (BA)	[==>]	[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ	et is near center of apertu	re.			
29		(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15	POS TARG -1.0,null		11 Secs (11 Secs)	
	/MIRRORB IMAGE (COS.ta.152 1654)				0		nt in PSA/B & BOA/ A (BA)	[==>]	[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ	et is near center of apertu	re.			
30		(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB		POS TARG -1.25,nu	Sequence 1-32 Non-I	11 Secs (11 Secs)	
	A/MIRROR B IMAGE				0	11	nt in PSA/B & BOA/ A (BA)	[==>]	
	(COS.ta.152 1654)						A (DA)		[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ					
31	AD-1.50 PS A/MIRROR	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=30	POS TARG -1.5,null		16 Secs (16 Secs)	
	B IMAGE (COS.ta.152 1654)				U		nt in PSA/B & BOA/ A (BA)	[==>]	[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ	et is near center of apertu	re.			
32	AD-1.75 PS	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=30	POS TARG -1.75,nu	Sequence 1-32 Non-I	21 Secs (21 Secs)	
	A/MIRROR B IMAGE (COS.ta.152 1654)				0	11	nt in PSA/B & BOA/ A (BA)	[==>]	[1]
Con	nments: Part of	flux sweep to test tar	get centering. 11 s exposure provides	s S/N~60 when targ	et is near center of apertu	re.			
33	ACQ/IMAG	(2) WD-1657+343	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 33-41 Non	15 Secs (15 Secs)	
	E (PŠA/MIR RORB/P2/ MED) (COS.ta.152 1654)						-Inf in PSA/B & BO A/A (BA)	[==>]	[2]
Con /N)	nments: COS.ta	.433946 gives S/N=6	60 in 11.65s. $BP = 43 \text{ cps.}$ We observe	ved this target in Pr	ogram 13124 and the targ	et count rate was 400 c	ets/s, total $ets = 4800$ to	otal , BP=24 cts/s That's sqrt(2/3	(3*4800) = 56 (S)
34	PSA/MIRR	(2) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	FLASH=S0040D016	QESIPARM USELA		18 Secs (18 Secs)	
	ORB/P2/ME D + Target				;	MP LINE2;	-Int in PSA/B & BO A/A (BA)	[==>]	
	(COS.ta.152 1654)				BUFFER-TIME=50 0	QESIPARM CURR ENT MEDIUM	A/A (BA)		[2]
Con	nments: COS.ta	.433946 gives S/N=6	60 in 11.65 s. BP = 42 cps.						
So b	ouffer timê shou	ld be < 0.67 *(2.35E	01q7q) yielded a total (lamp+target+6/1538.) = 1024. Just be safe, we go we get enough counts in the lamp im	with 500s.	rate of 24617 counts in 10	os (1538 cps).			

Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor BOA/MIRR (2) WD-1657+343 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=20 Sequence 33-41 Non 150 Secs (150 Secs) ORA/Target 00 -Int in PSA/B & BO I==>1(no lamp) A/A (BA) [2] (COS.ta.433 949) Comments: COS.ta.433949 gives S/N=60 in 150s, followed by a wavecal. The exposure time is driven by the target. We observed this target in 13124, the target count rate was 18.2 cps (2736 counts in 150s: ~312 bac kground in 150s over a 50x50 box). This is a BOA image, so we need to add a WAVE image after this exposure. The WAVECAL=YES parameter does not trigger a separate lamp image. Buffer should be < 0.67 * (2.35E6/20.) or < 7800. We use 2000 just to be safe. WCA/MIRR WAVE COS/NUV, TIME-TAG, WCA MIRRORA OESIPARM USELA Sequence 33-41 Non | 12 Secs (12 Secs) MP LINE2: -Int in PSA/B & BO ORA/P2/LO I = = > 1W (no target A/A (BA) OESIPARM CURR [2] **ENT LOW** Comments: For P2/LOW/MIRRORA we get 2900 counts in 7s. Buffer Time is calculated automatically. ACO/IMAG (2) WD-1657+343 COS/NUV, ACO/IMAGE, BOA MIRRORA Sequence 33-41 Non 150 Secs (150 Secs) E (BOA/MI -Int in PSA/B & BO I = = > 1RRORA/P2/ A/A (BA) LOW) [2] (COS.ta.433 949) Comments: COS.ta.433949 gives S/N=60 in 150s WCA/MIRR WAVE COS/NUV. TIME-TAG. WCA MIRRORA QESIPARM USELA Sequence 33-41 Non 12 Secs (12 Secs) ORA/P2/LO MP LINE2; -Int in PSA/B & BO *[==>]* W (no target A/A (BA) **OESIPARM CURR** [2] **ENT LOW** Comments: For P2/LOW/MIRRORA we get 2900 counts in 7s PSA/MIRR (2) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB FLASH=S0040D016 QESIPARM USELA Sequence 33-41 Non 18 Secs (18 Secs) ORB/P2/ME MP LINE2; -Int in PSA/B & BO I = = > 1D + Target A/A (BA) BUFFER-TIME=50 QESIPARM CURR [2] (COS.ta.152 0 **ENT MEDIUM** 1654) Comments: COS.ta.433946 gives S/N=60 in 11.65s. BP=42 cps. A previous exposure of this target (lcgq01q7q) yielded a total (lamp+target+background) count rate of 24617 counts in 16s (1538 cps). So buffer time should be < 0.67 * (2.35E6/1538) = 1024. Just be safe, we go with 500s. We insert a 16s lamp flash to make sure we get enough counts in the lamp image ACO/IMAG (2) WD-1657+343 COS/NUV, ACO/IMAGE, PSA MIRRORB Sequence 33-41 Non 15 Secs (15 Secs) E (PSA/MIR -Int in PSA/B & BO I = = > 1RORB/P2/ A/A (BA) MED) [2] (COS.ta.152 1654) Comments: COS.ta.433946 gives S/N=60 in 11.65s. BP = 43 cps. We observed this target in 13124 and the target count rate was 400 cts/s, total cts = 4800, BP=24 cts/s That's sqrt(2/3 * 4800) = 56 (S/N) PSA/G230L (2) WD-1657+343 COS/NUV, TIME-TAG, PSA G230L BUFFER-TIME=70 **OESIPARM USELA Sequence 33-41 Non** 60 Secs (60 Secs) /3000 MP LINE2; -Int in PSA/B & BO 0; 3000 A I = = > 1(COS.sp.152 A/A (BA) FP-POS=3; OESIPARM CURR 1659) [2] ENT MEDIUM FLASH=S0100D03 Comments: COS.sp.1030028 gives S/N=10/RE in 40s, we go for 60s. BT=2/3*1300 < 800 (we use 700 just to be safe) Based upon the data from 13124, we expect 3800 counts in 30s in the B-stripe. We set the lamp to t he exposure time to get more counts. Note that previous version of this program had a typo in the label (it said 2950 not 3000), G230L/3000 is one of the 'approved' NUV cenwayes for TA.

Proposal 17321 - PSA/B & BOA/A (BA) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 ۥ• Exp. 9 Pointing Maneuver € Exp. 10 Pointing Maneuver ۥ Exp. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver ۥ• Exp. 13 Pointing Maneuver ۥ• Exp. 14 Pointing Maneuver ۥ Exp. 15 Pointing Maneuver ۥ• Exp. 16 Pointing Maneuver ۥ•) Exp. 17 Pointing Maneuver **€** E×p. 18 Pointing Maneuver ۥ• Exp. 19 Pointing Maneuver **€**→ Exp. 20 Pointing Maneuver € Exp. 21 Pointing Maneuver € Exp. 22 Pointing Maneuver **Orbit Structure** € Exp. 23 Pointing Maneuver ۥ Exp. 24 Pointing Maneuver ۥ Exp. 25 Pointing Maneuver ۥ• Exp. 26 Pointing Maneuver **€** Exp. 27 Pointing Maneuver € Exp. 28 Pointing Maneuver ۥ•) Exp. 29 Pointing Maneuver ۥ• Exp. 30 Pointing Maneuver €→ Exp. 31 Pointing Maneuver ۥ• Exp. 32 Pointing Maneuver GS Acq Unused Orbital Visibility = 41 Exp. 1 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec



	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
^	(3)	HIP66578	RA: 13 38 50.4757 (204.7103154d)	Proper Motion RA: -403.65 mas/yr	V=12.773+/-0.024	Reference Frame: ICRS
er		Alt Name1: PG1337+705	Dec: +70 17 7.66 (70.28546d)	Proper Motion Dec: -22.0 mas/yr	F(1300)=1.3E-12,	
<u> </u>		Alt Name2:	Equinox: J2000	Parallax: 0.03829"	F(1800)=5.2E-13	
-		GRW+70.5824		Epoch of Position: 2000		
CC.				Radial Velocity: 26 km/sec		
ĭ	Comments:	COS.ta.432623 S/N=60 in	12s BOA/MIRRORA, BOA/MIRRROB (COS.ta.432	2624) in 175s. This is an HST Standard Star (DA	(3)	

Category=STAR
Description=[DA]
Extended=NO

Fixed Targets

Proposal 17321 - BOA/A & BOA/B (BB) - Cycle 31 COS NUV Target Acquisition Monitor

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) HIP66578	COS/NUV, ACQ/IMAGE, BOA	MIRRORA			Sequence 1-33 Non-I		
	E (BOA/MI RRORA/P2/ LOW) (COS.ta.432 623)						nt in BOA/A & BOA /B (BB)	[==>]	[1]
	nments: Using		HP66578 to compare the centerings betweerved this target in 13124, with 2961 cou						this targe
2	WCA/MIRR		COS/NUV, TIME-TAG, WCA	MIRRORA			Sequence 1-33 Non-I	16 Secs (16 Secs)	
	ORA/P2/LO W (no target)				0	MP LINE2; QESIPARM CURR ENT LOW	nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: For P2	Z/LOW/MIRRORA 1	we get 2900 counts in 7s. The BT for this	must be $< 0.37*(2.00)$.35E6/4800) or < 270				
3		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA	BUFFER-TIME=15		Sequence 1-33 Non-I		
	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part of	f flux sweep to test t	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ıre.			•
4		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA	BUFFER-TIME=15	POS TARG null,.25	Sequence 1-33 Non-I		
	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt în BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part oj	f flux sweep to test t	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ıre.			
5		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA	BUFFER-TIME=15	POS TARG null,.5	Sequence 1-33 Non-I	11 Secs (11 Secs)	
5 5	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part oj	f flux sweep to test t	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ıre.			
6		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG null,.75	Sequence 1-33 Non-I		
	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part oj	f flux sweep to test i	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ıre.			
7		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG null,1.0	Sequence 1-33 Non-I		
	A/MIRROR A IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part oj	f flux sweep to test t	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ıre.			
8		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG null,1.25	Sequence 1-33 Non-I	11 Secs (11 Secs)	
	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part o	f flux sweep to test t	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	ire.			
9		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA	BUFFER-TIME=15	POS TARG null,1.5			
	OA/MIRRO RA IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Cor	nments: Part oj	f flux sweep to test i	target centering. 11 s exposure provides	S/N~60 when targe	t is near center of apertu	re.			
	,		- × ×	8	v 1				

Proposal 17321 - BOA/A & BOA/B (BB) - Cycle 31 COS NUV Target Acquisition Monitor BUFFER-TIME=30 POS TARG null,1.75 Sequence 1-33 Non-I 21 Secs (21 Secs) XD+1.75 B (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA OA/MIRRO nt in BOA/A & BOA I = = > 1RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. Exp time increased to 21 s since target falls outside of aperture. XD+2.50 B (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=30 POS TARG null, 2.5 Sequence 1-33 Non-I 21 Secs (21 Secs) nt in BOA/A & BOA $I_{f==>1}$ OA/MIRRO 0 RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. Exp time increased to 21 s since target falls outside of aperture. XD-0.25 BO (3) HIP66578 COS/NUV. TIME-TAG. BOA MIRRORA BUFFER-TIME=15 POS TARG null,-.25 Sequence 1-33 Non-I | 11 Secs (11 Secs) nt in BOA/A & BOA $I_{f==>1}$ A/MIRROR A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-0.50 BO (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=15 POS TARG null,-.5 Sequence 1-33 Non-I 11 Secs (11 Secs) nt in BOA/A & BOA f = > 1A/MIRROR A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-0.75 BO (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=15 POS TARG null,-.75 Sequence 1-33 Non-I 11 Secs (11 Secs) nt in BOA/A & BOA [==>]A/MIRROR 0 A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 15 XD-1.0 BO (3) HIP66578 BUFFER-TIME=15 POS TARG null,-1.0 Sequence 1-33 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. BOA MIRRORA nt in BOA/A & BOA I = > IA/MIRROR 0 A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-1.25 BO (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=15 POS TARG null,-1.2 Sequence 1-33 Non-I | 11 Secs (11 Secs) nt in BOA/A & BOA I = > IA/MIRROR 0 5 A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. XD-1.50 BO (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=15 POS TARG null,-1.5 Sequence 1-33 Non-I 11 Secs (11 Secs) nt in BOA/A & BOA [f==>]A/MIRROR 0 A IMAGE /B (BB) [1] (COS.ta.152 Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 18 XD-1.75 BO (3) HIP66578 BUFFER-TIME=30 POS TARG null,-1.7 Sequence 1-33 Non-I 21 Secs (21 Secs) COS/NUV, TIME-TAG, BOA MIRRORA nt in BOA/A & BOA I = > 1A/MIRROR 0 5 A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. Exp time increased to 21 s since target falls outside of aperture.

Proposal 17321 - BOA/A & BOA/B (BB) - Cycle 31 COS NUV Target Acquisition Monitor AD+0.25 B (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=15 POS TARG .25,null Sequence 1-33 Non-I 11 Secs (11 Secs) OA/MIRRO nt in BOA/A & BOA I = = > 1RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering, 11 s exposure provides S/N~60 when target is near center of aperture. BUFFER-TIME=15 POS TARG .5.null Sequence 1-33 Non-I 11 Secs (11 Secs) AD+0.50 B (3) HIP66578 COS/NUV. TIME-TAG. BOA MIRRORA nt in BOA/A & BOA I = > 1OA/MIRRO 0 RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD+0.75 B (3) HIP66578 COS/NUV. TIME-TAG. BOA MIRRORA BUFFER-TIME=15 POS TARG .75, null Sequence 1-33 Non-I | 11 Secs (11 Secs) nt in BOA/A & BOA I = > 1OA/MIRRO 0 RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 22 AD+1.0 BO (3) HIP66578 COS/NUV, TIME-TAG, BOA BUFFER-TIME=15 POS TARG 1.0, null Sequence 1-33 Non-I 11 Secs (11 Secs) MIRRORA nt in BOA/A & BOA I = > 1A/MIRROR A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 23 AD+1.25 B (3) HIP66578 COS/NUV. TIME-TAG. BOA MIRRORA BUFFER-TIME=15 POS TARG 1.25, null Sequence 1-33 Non-I 11 Secs (11 Secs) nt in BOA/A & BOA $I_{f==>1}$ OA/MIRRO RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. AD+1.50 B (3) HIP66578 COS/NUV, TIME-TAG, BOA BUFFER-TIME=15 POS TARG 1.5, null Sequence 1-33 Non-I | 11 Secs (11 Secs) MIRRORA nt in BOA/A & BOA f = > 1OA/MIRRO RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. 25 BUFFER-TIME=30 POS TARG 1.75, null Sequence 1-33 Non-I 21 Secs (21 Secs) AD+1.75 B (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA OA/MIRRO 0 nt in BOA/A & BOA I = = > 1RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. Exp time increased to 21 s since target falls outside of aperture. AD+2.50 B (3) HIP66578 COS/NUV, TIME-TAG, BOA MIRRORA BUFFER-TIME=30 POS TARG 2.5, null Sequence 1-33 Non-I 21 Secs (21 Secs) nt in BOA/A & BOA f = > 1OA/MIRRO 0 RA IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture. Exp time increased to 21 s since target falls outside of aperture. AD-0.25 BO (3) HIP66578 BUFFER-TIME=15 POS TARG -.25, null Sequence 1-33 Non-I 11 Secs (11 Secs) COS/NUV. TIME-TAG. BOA MIRRORA nt in BOA/A & BOA I = > 1A/MIRROR 0 A IMAGE /B (BB) [1] (COS.ta.152 1651) Comments: Part of flux sweep to test target centering. 11 s exposure provides S/N~60 when target is near center of aperture.

po:	sal 1732 ⁻	1 - BOA/A	<u>& BOA/B (BB) - Cycle 31</u>	COS NUV	Target Acquisiti	on Monitor			
28		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA	BUFFER-TIME=15	POS TARG5,null	Sequence 1-33 Non-I	11 Secs (11 Secs)	
	A/MIRROR A IMAGE (COS.ta.152 1651)				0		nt în BOA/A & BOA /B (BB)	[==>]	[1]
Con	ıments: Part o	f flux sweep to tes	t target centering. 11 s exposure provides	S/N~60 when targ	et is near center of apertu	re.			
29		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG75,null	Sequence 1-33 Non-I	` ′	
	A/MIRROR A IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Con	nments: Part o	f flux sweep to tes	t target centering. 11 s exposure provides	S/N~60 when targ	et is near center of apertu	re.			
30		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG -1.0,null	Sequence 1-33 Non-I	` '	
	A/MIRROR A IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Con	nments: Part o	f flux sweep to tes	t target centering. 11 s exposure provides	S/N~60 when targ	et is near center of apertu	re.			
31		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA			Sequence 1-33 Non-I		
	A/MIRROR A IMAGE (COS.ta.152 1651)				0	11	nt in BOA/A & BOA /B (BB)	[==>]	[1]
Con	ıments: Part oj	f flux sweep to tes	t target centering. 11 s exposure provides	S/N~60 when targ	et is near center of apertu	re.			
32		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA		POS TARG -1.5,null	Sequence 1-33 Non-I		
	A/MIRROR A IMAGE (COS.ta.152 1651)				0		nt in BOA/A & BOA /B (BB)	[==>]	[1]
Con	ments: Part o	f flux sweep to tes	t target centering. 11 s exposure provides	S/N~60 when targ	et is near center of apertu	re.			•
33		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORA			Sequence 1-33 Non-I	21 Secs (21 Secs)	
	A/MIRROR A IMAGE (COS.ta.152 1651)				0	11	nt in BOA/A & BOA /B (BB)	[==>]	[1]
Con	ments: Part o	f flux sweep to test	t target centering. 11 s exposure provides get falls outside of aperture.	S/N~60 when targ	et is near center of apertu	re.			
34		(3) HIP66578	COS/NUV, ACQ/IMAGE, BOA	MIRRORA			Sequence 34-43 Non	18 Secs (18 Secs)	
J +	E (BOA/MI	` /	COS/NOV, ACQ/IMAGE, BOA	MIKKOKA			-Int in BOA/A & BO	[==>]	
	RRORA/P2/ LOW) (COS.ta.432 623)						A/B (BB)	[/]	[2]
	ments: Using		HIP66578 to compare the centerings betw served this target in 13124, with 2961 cou						=60 with this targe
35	WCA/MIRR	WAVE	COS/NUV, TIME-TAG, WCA	MIRRORA	BUFFER-TIME=27	QESIPARM USELA	Sequence 34-43 Non	16 Secs (16 Secs)	
	ORA/P2/LO W (no target)				0	MP LINE2; QESIPARM CURR ENT LOW	-Int in BOA/A & BO A/B (BB)	[==>]	[2]
Con	ments: For Pa)/I OW/MIRRORA	A we get 2900 counts in 7s. The BT for this	must $h_{\theta} < 0.37*0$	2 35F6/4800) or < 270				
36		(3) HIP66578	COS/NUV, TIME-TAG, BOA	MIRRORB	BUFFER-TIME=10		Sequence 34-43 Non	183 Secs (183 Secs)	
30	ORB/Target (no lamp) (COS.ta.432	,	COS/NOV, TIVIE-TAO, BOA	MIRRORD	00		-Int in BOA/A & BO A/B (BB)	[==>]	[2]
*2.3	nments: Follow 35E6/(1000) <	vup BOA/MIRROI 1575. as we are o separate lamp imo	RB calibration IMAGE with a wavecal to volly getting about 20 cps from the source, age	erify proper inition most of the counts	al centering (The ETC give s are noise. This is a BOA	s 175 seconds to reach image, so we need to a	S/N=60 with this targe dd a WAVE image after	rt in the BOA/MIRRORA mode this exposure. The WAVECA	.) The BT is ~ 0.67 L=YES parameter

Proposal 17321 - BOA/A & BOA/B (BB) - Cycle 31 COS NUV Target Acquisition Monitor WCA/MIRR WAVE COS/NUV, TIME-TAG, WCA MIRRORB BUFFER-TIME=20 OESIPARM USELA Sequence 34-43 Non 24 Secs (24 Secs) ORB/P2/ME 00 MP LINE2: -Int in BOA/A & BO I = = > 1A/B (BB) D (no target) OESIPARM CURR [2] **ENT MEDIUM** Comments: For P2/MED, we expect 300-460 cps, with a Brightest Pixel = 9 cts/s. So BT < 0.67*(2.35E6/460) < 3400. COS/NUV, ACQ/IMAGE, BOA Sequence 34-43 Non 183 Secs (183 Secs) ACO/IMAG (3) HIP66578 MIRRORB E (BOA/MI -Int in BOA/A & BO I = = > 1RRORB/P2/ A/B (BB) MED) [2] (COS.ta.432 624) Comments: Compare the centerings between the BOA/MIRRORA and BOA/MIRRORB ACQ/IMAGE centering options. The ETC gives 175 seconds to reach S/N=60 with this target in the BOA/MIRRORB mode. WCA/MIRR WAVE COS/NUV. TIME-TAG. WCA MIRRORB BUFFER-TIME=20 OESIPARM USELA Sequence 34-43 Non 24 Secs (24 Secs) ORB/P2/ME 00 MP LINE2; -Int in BOA/A & BO I = = > 1D (no target) A/B (BB) **OESIPARM CURR** [2] ENT MEDIUM Comments: For P2/MED, we expect 300-460 cps, with a Brightest Pixel = 9 cts/s. So BT < 0.67*(2.35E6/460) < 3400. 40 WCA/MIRR WAVE COS/NUV, TIME-TAG, WCA OESIPARM USELA Sequence 34-43 Non 16 Secs (16 Secs) MIRRORA BUFFER-TIME=27 ORA/P2/LO 0 MP LINE2; -Int in BOA/A & BO I==>1W (no target A/B (BB) QESIPARM CURR [2] **ENT LOW** Comments: For P2/LOW/MIRRORA we get 2900 counts in 7s. The BT for this must be < 0.37*(2.35E6/4800) or < 270 ACO/IMAG (3) HIP66578 COS/NUV, ACO/IMAGE, BOA MIRRORA Sequence 34-43 Non 18 Secs (18 Secs) -Int in BOA/A & BO E (BOA/MI I = = > 1RRORA/P2/ A/B (BB) LOW) [2] (COS.ta.432 623) Comments: Using the standard star HIP66578 to compare the centerings between the BOA/MIRRORA and BOA/MIRRORB ACO/IMAGE centering options. The ETC gives 12 seconds to reach S/N=60 with this target in the BOA/MIRRORA mode. We observed this target in 13124, with 2961 counts in 12s (target +background in 50x50 box). We will need to follow this with a P2/LOW/WCA/A image. BUFFER-TIME=54 QESIPARM USELA Sequence 34-43 Non | 90 Secs (90 Secs) PSA/G225 (3) HIP66578 COS/NUV, TIME-TAG, PSA G225M M/2306 -Int in BOA/A & BO 0; MP LINE2; I==>12306 A (COS.sp.103 A/B (BB) FLASH=S0200D03 **OESIPARM CURR** 0027) [2] 5: ENT MEDIUM FP-POS=3 Comments: COS.sp, 1030027 gives s/n/re =10 in 70 seconds. BT=2/3 *1000 < 666. We want to get a good lamp flash, so 35s should be ok, FPPOS=3, G225M/2306 is one of the 'approved' NUV cenwayes for TA. We request 90s to account for further TDS 43 PSA/G185 (3) HIP66578 COS/NUV, TIME-TAG, PSA G185M BUFFER-TIME=30 QESIPARM USELA Sequence 34-43 Non | 120 Secs (120 Secs) -Int in BOA/A & BO M/1913 MP LINE2; 1913 A *I*==>1 (COS.sp.152 A/B (BB) FLASH=S0070D03 **OESIPARM CURR** 1661) [2] **ENT MEDIUM** 5;

FP-POS=3

Comments: COS.sp.1030026 gives s/n/re =10.7 in ~40 seconds. BT=2/3 * 638 < 400. We want to get a good lamp flash, so 35s should be ok. FPPOS=3. G185M/1913 is one of the 'approved' NUV cenwayes for TA. D

ue to concerns over grating TDS. I have trippled the exposure time to 120 seconds

Proposal 17321 - BOA/A & BOA/B (BB) - Cycle 31 COS NUV Target Acquisition Monitor Orbit 1 Server Version: 20240604 **ۥ** Exp. 10 Pointing Maneuver ۥ• E×p. 11 Pointing Maneuver ۥ• Exp. 12 Pointing Maneuver €→ Exp. 13 Pointing Maneuver ۥ• Exp. 14 Pointing Maneuver ۥ• Exp. 15 Pointing Maneuver ۥ• Exp. 16 Pointing Maneuver ۥ• Exp. 17 Pointing Maneuver ۥ Exp. 18 Pointing Maneuver ۥ• Exp. 19 Pointing Maneuver ۥ Exp. 20 Pointing Maneuver € Exp. 21 Pointing Maneuver **€** Exp. 22 Pointing Maneuver € Exp. 23 Pointing Maneuver **Orbit Structure** ۥ Exp. 24 Pointing Maneuver ۥ Exp. 25 Pointing Maneuver € Exp. 26 Pointing Maneuver ۥ Exp. 27 Pointing Maneuver ۥ•) Exp. 28 Pointing Maneuver ۥ• Exp. 29 Pointing Maneuver ۥ• Exp. 30 Pointing Maneuver ۥ• Exp. 31 Pointing Maneuver **ۥ** Exp. 32 Pointing Maneuver ۥ• Exp. 33 Pointing Maneuver GS Acq Exp. 2 Unused Orbital Visibility = 42 Exp. 1 Occultation 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

