



## 12805 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

Cycle: 19, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

### INVESTIGATORS

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### VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(3) AV75	COS/FUV COS/NUV	4	31-Jul-2012 21:28:46.0	yes
51	(3) AV75	COS/FUV COS/NUV	3	31-Jul-2012 21:29:22.0	yes

7 Total Orbits Used

### ABSTRACT

## Proposal 12805 (STScI Edit Number: 5, Created: Tuesday, July 31, 2012 8:29:38 PM EST) - Overview

Following its change of lifetime position, the core of the LSFs of the COS FUV detector are expected to change by up to 10% once combined with the LSFs of the OTA+MFWE combination. The knowledge of the COS LSFs is critical for users to evaluate the feasibility and S/N requirements of their observations. In addition, accurate COS LSFs are necessary to perform line profile fitting. Thus, it appears necessary to constrain the shape of the COS LSFs at the new lifetime position. To do so, we will acquire COS FUV G130M and G160M spectra of the SMC star AzV 75, at the two extreme CENWAVES of each grating, and using all FPPOS to optimize the S/N. Once all FPPOS settings combined, our observations will reach a S/N of 60/resel. We will test whether previous STIS E140M spectra of AzV 75 convolved with model COS LSFs at the new position can reproduce observed COS FUV spectra of the numerous ISM lines toward AzV 75 at the new lifetime position. While we will not be able to detect a 10% change in the core of the COS LSFs, we will rather be able to test the validity of the model LSFs at the new position. In addition, we will be able to detect a 15% uniform change across the LSFs, and unexpected larger variations in the COS LSFs larger than 15%.

### **OBSERVING DESCRIPTION**

We will acquire COS G130M and G160M spectra of SMC star AzV 75 at the extreme CENWAVES of each grating (C1291, C1327, C1577 and C1623) and using all FPPOS positions. The exposure times are calculated such that the combined FPPOS exposures give  $S/N = 60/\text{resel}$ . We will perform a NUV imaging target acquisition with the BOA.

Proposal 12805 - Visit 01 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

Wed Aug 01 01:29:38 GMT 2012

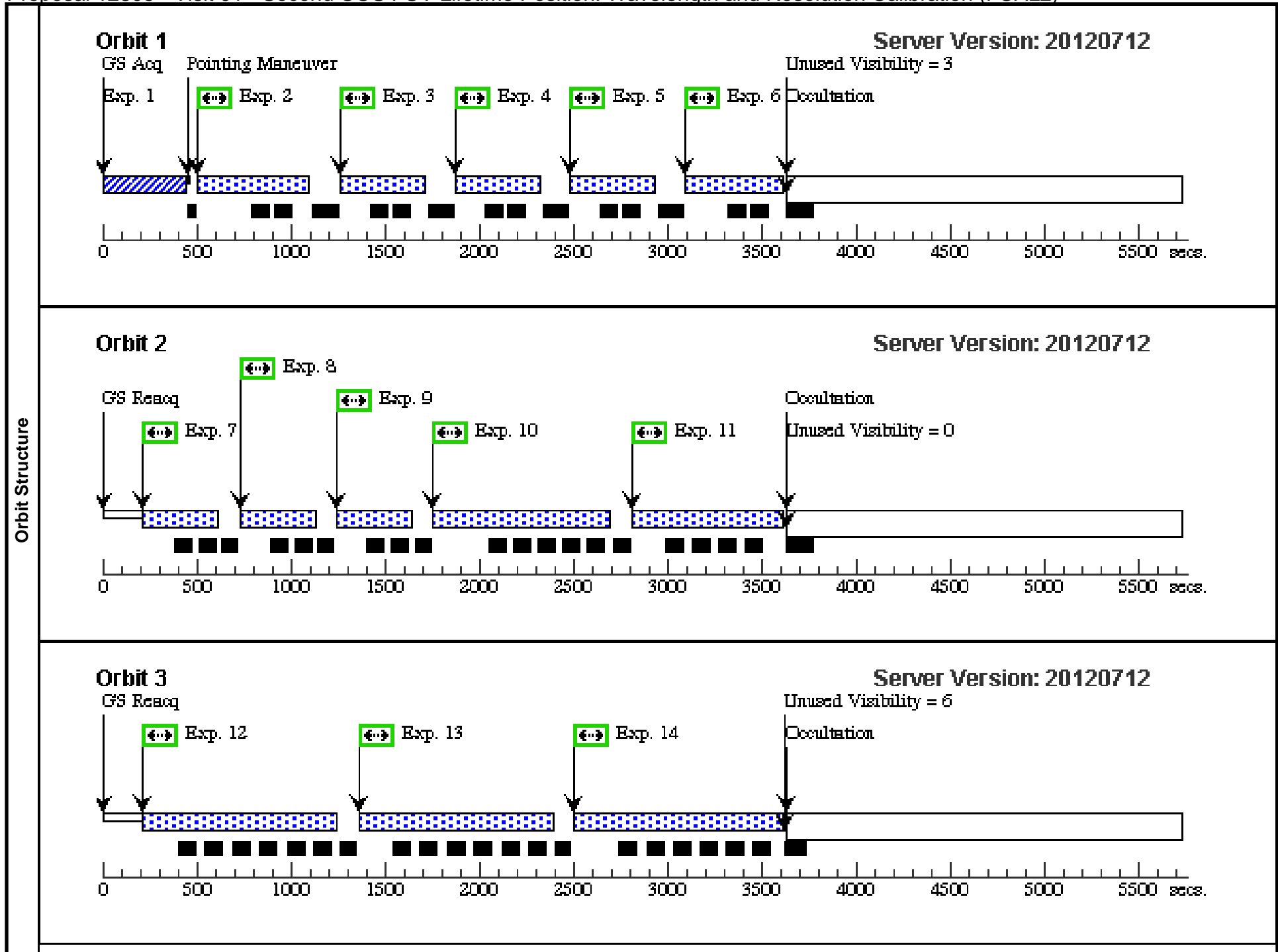
<b>Visit</b>	<p><b>Proposal 12805, Visit 01, failed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/NUV, COS/FUV</p> <p>Special Requirements: ORIENT 280D TO 60 D; BETWEEN 16-JUL-2012:00:00:00 AND 01-OCT-2012:00:00:00</p>						
	<b>Diagnostics</b>	<p>(Visit 01) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.</p> <p>(1291_2 (01.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1291_3 (01.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1291_4 (01.005)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_1 (01.006)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_2 (01.007)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_3 (01.008)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_4 (01.009)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_2 (01.011)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_3 (01.012)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_4 (01.013)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_1 (01.014)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_2 (01.015)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_3 (01.016)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_4 (01.017)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p>					
<b>Fixed Targets</b>		<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
		(3)	AV75	RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000		V=12.79	Reference Frame: ICRS
<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p>							

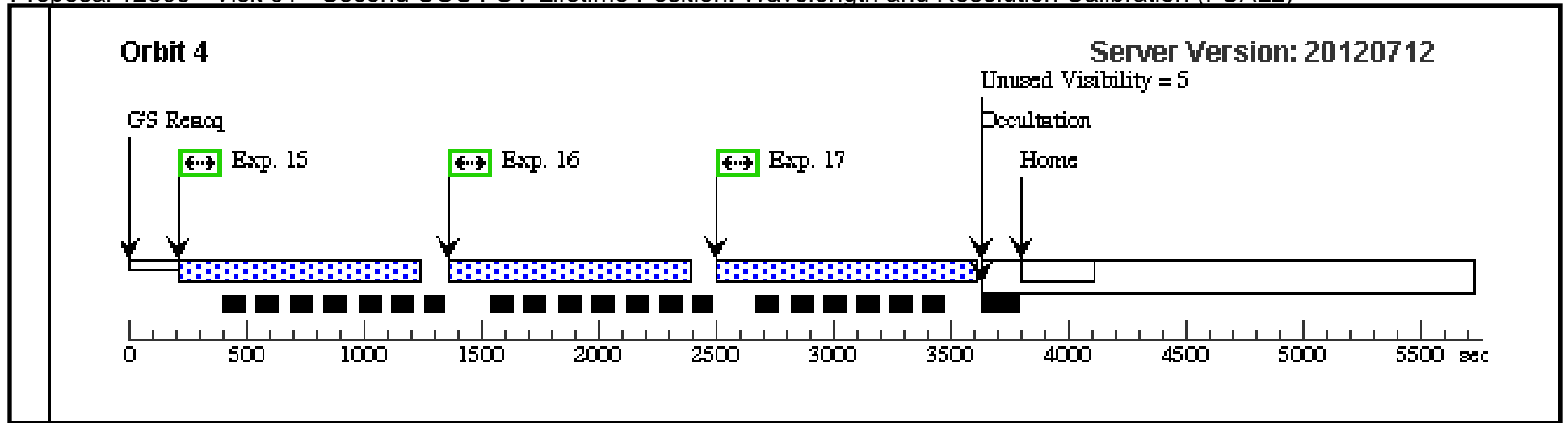
Proposal 12805 - Visit 01 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	image_acq_ boa (COS.ta.393 627)	(3) AV75	COS/NUV, ACQ/IMAGE, BOA	MIRRORA					15 Secs [==>]	[1]
	2	1291_1 (COS.sp.402 409)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=1			410 Secs [==>]	[1]	
	3	1291_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=2			400 Secs [==>]	[1]	
	4	1291_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=3; FLASH=S0100D03 0			400 Secs [==>]	[1]	
	5	1291_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=4			400 Secs [==>]	[1]	
	6	1327_1	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=11 7; FP-POS=1			397 Secs [==>]	[1]	
	7	1327_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=2			350 Secs [==>]	[2]	
	8	1327_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=3; FLASH=S0100D03 0			350 Secs [==>]	[2]	
	9	1327_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=4			350 Secs [==>]	[2]	
	10	1577_1 (COS.sp.402 411)	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 0; FP-POS=1			760 Secs [==>]	[2]	
	11	1577_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=14 0; FP-POS=2			750 Secs [==>]	[2]	
	12	1577_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=14 5; FP-POS=3; FLASH=S0200D02 4			980 Secs [==>]	[3]	
	13	1577_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=14 5; FP-POS=4			980 Secs [==>]	[3]	
14	1623_1	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=1			990 Secs [==>]	[3]		

Proposal 12805 - Visit 01 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

15	1623_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 5; FP-POS=2	980 Secs	
						[==>]	[4]
16	1623_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 5; FP-POS=3; FLASH=S0200D02 4	980 Secs	
						[==>]	[4]
17	1623_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=4	1060 Secs	
						[==>]	[4]





Proposal 12805 - Visit 51 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

Wed Aug 01 01:29:46 GMT 2012

<b>Visit</b>	<p><b>Proposal 12805, Visit 51</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/NUV, COS/FUV</p> <p>Special Requirements: ORIENT 280D TO 60 D; BETWEEN 16-JUL-2012:00:00:00 AND 01-OCT-2012:00:00:00</p>										
	<p>(Visit 51) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.</p> <p>(1327_2 (51.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_3 (51.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1327_4 (51.005)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_2 (51.007)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_3 (51.008)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1577_4 (51.009)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_1 (51.010)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_2 (51.011)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_3 (51.012)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p> <p>(1623_4 (51.013)) Warning (Form): Sensitive exposures should have an ETC run number provided.</p>										
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th data-bbox="136 576 241 609">#</th> <th data-bbox="241 576 472 609">Name</th> <th data-bbox="472 576 871 609">Target Coordinates</th> <th data-bbox="871 576 1312 609">Targ. Coord. Corrections</th> <th data-bbox="1312 576 1606 609">Fluxes</th> <th data-bbox="1606 576 2005 609">Miscellaneous</th> </tr> </thead> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
<table border="1"> <tbody> <tr> <td data-bbox="136 609 241 760">(3)</td> <td data-bbox="241 609 472 760">AV75</td> <td data-bbox="472 609 871 760">                     RA: 00 50 32.3900 (12.6349583d)                      Dec: -72 52 36.48 (-72.87680d)                      Equinox: J2000                 </td> <td data-bbox="871 609 1312 760"></td> <td data-bbox="1312 609 1606 760">V=12.79</td> <td data-bbox="1606 609 2005 760">Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p>					(3)	AV75	RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000		V=12.79	Reference Frame: ICRS	
(3)	AV75	RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000		V=12.79	Reference Frame: ICRS						



Proposal 12805 - Visit 51 - Second COS FUV Lifetime Position: Wavelength and Resolution Calibration (FCAL2)

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	image_acq_ boa (COS.ta.393 627)	(3) AV75	COS/NUV, ACQ/IMAGE, BOA	MIRRORA					15 Secs [==>]	[1]
	2	1327_1 (COS.sp.402 409)	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=11 7; FP-POS=1				350 Secs [==>]	[1]
	3	1327_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=2				350 Secs [==>]	[1]
	4	1327_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=3; FLASH=S0100D03 0				350 Secs [==>]	[1]
	5	1327_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 8; FP-POS=4				350 Secs [==>]	[1]
	6	1577_1 (COS.sp.402 411)	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 0; FP-POS=1				720 Secs [==>]	[1]
	7	1577_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 0; FP-POS=2				750 Secs [==>]	[2]
	8	1577_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 0; FP-POS=3; FLASH=S0200D02 4				750 Secs [==>]	[2]
	9	1577_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=13 0; FP-POS=4				750 Secs [==>]	[2]
	10	1623_1	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=1				540 Secs [==>]	[2]
	11	1623_2	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=2				950 Secs [==>]	[3]
	12	1623_3	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=3; FLASH=S0200D02 4				950 Secs [==>]	[3]
13	1623_4	(3) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=14 0; FP-POS=4				1100 Secs [==>]	[3]	

