



# 11686 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Luminosities

Cycle: 17, Proposal Category: GO

(Availability Mode: SUPPORTED)

## 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	(1) IRAS-F22456-5125	COS/FUV	5	14-Sep-2010 21:02:01.0	yes
02	(1) IRAS-F22456-5125	COS/FUV	4	14-Sep-2010 21:02:13.0	yes
03	(2) IRAS-F04250-5718	COS/FUV	3	14-Sep-2010 21:02:21.0	yes
33	(2) IRAS-F04250-5718	COS/FUV	3	14-Sep-2010 21:02:27.0	yes
04	(2) IRAS-F04250-5718	COS/FUV	4	14-Sep-2010 21:02:35.0	yes
05	(3) MRK876	COS/FUV	4	14-Sep-2010 21:02:44.0	yes
06	(4) QSO0045+3926	COS/FUV	4	14-Sep-2010 21:02:51.0	yes
07	(4) QSO0045+3926	COS/FUV	5	14-Sep-2010 21:02:59.0	yes
08	(5) PG0804+761	COS/FUV	4	14-Sep-2010 21:03:13.0	yes
09	(6) RXJ1230.8+0115	COS/FUV	4	14-Sep-2010 21:03:26.0	yes
10	(6) RXJ1230.8+0115	COS/FUV	4	14-Sep-2010 21:03:34.0	yes
56	(4) QSO0045+3926	COS/FUV	4	14-Sep-2010 21:03:42.0	yes

48 Total Orbits Used

**ABSTRACT**

AGN outflows are increasingly invoked as a major contributor to the formation and evolution of supermassive black holes, their host galaxies, the surrounding IGM, and cluster cooling flows. Our HST/COS proposal will determine reliable absolute chemical abundances in six AGN outflows, which influences several of the processes mentioned above. To date there is only one such determination, done by our team on Mrk 279 using 16 HST/STIS orbits and 100 ksec of FUSE time. The advent of COS and its high sensitivity allows us to choose among fainter objects at redshifts high enough to preclude the need for FUSE. This will allow us to determine the absolute abundances for six AGN (all fainter than Mrk 279) using only 40 HST COS orbits. This will put abundances studies in AGN on a firm footing, an elusive goal for the past four decades. In addition, prior FUSE observations of four of these targets indicate that it is probable that the COS observations will detect troughs from excited levels of C III. These will allow us to measure the distances of the outflows and thereby determine their kinetic luminosity, a major goal in AGN feedback research. We will use our state of the art column density extraction methods and velocity-dependent photoionization models to determine the abundances and kinetic luminosity. Previous AGN outflow projects suffered from the constraints of deciding what science we could do using ONE of the handful of bright

targets that were observable. With COS we can choose the best sample for our experiment. As an added bonus, most of the spectral range of our targets has not been observed previously, greatly increasing the discovery phase space.

### **OBSERVING DESCRIPTION**

G130M and G160M observations of AGN. Primary science goals are maximum S/N at intrinsic Ly-a, Ly-b, and CIV.

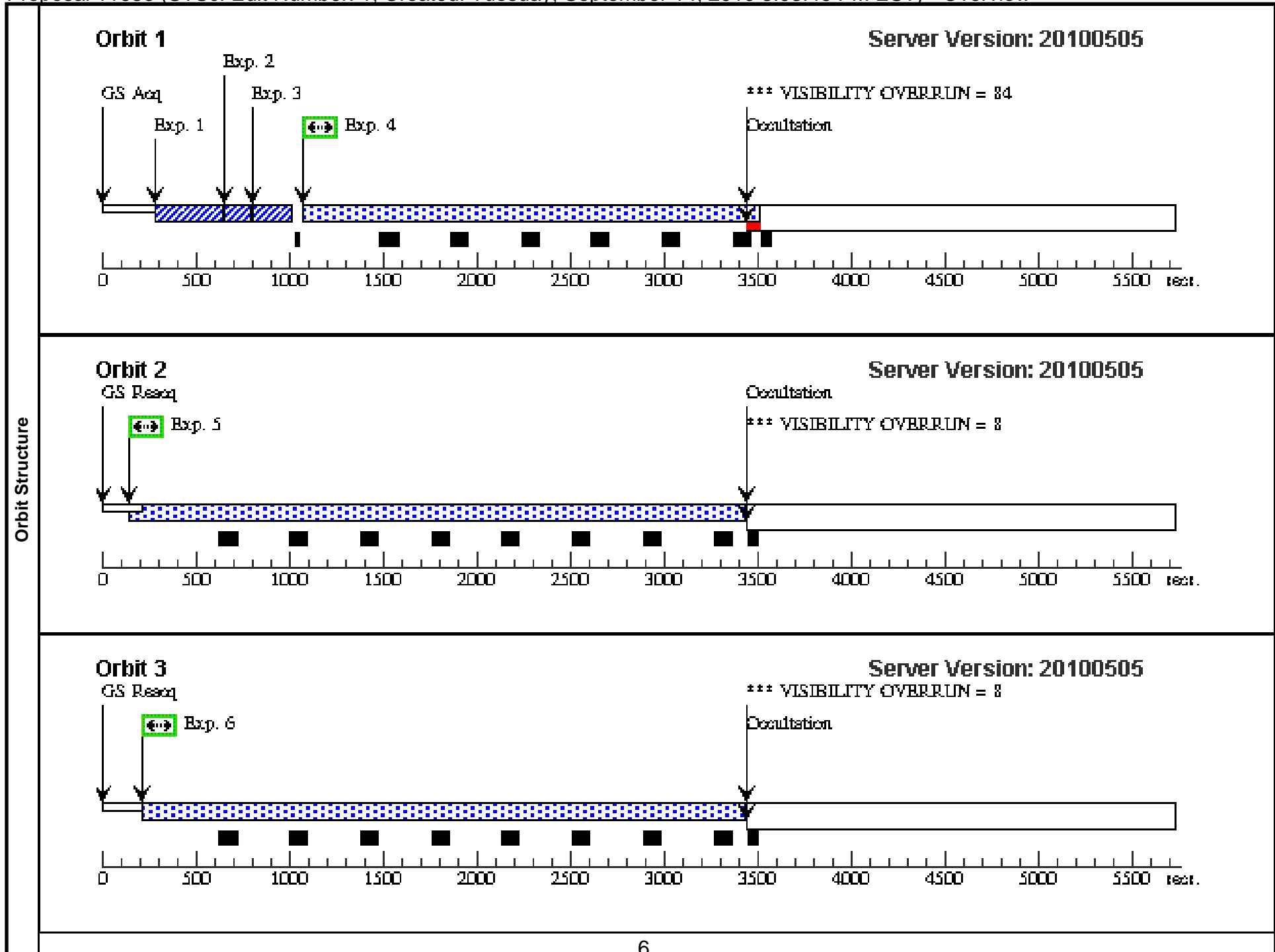
### **ADDITIONAL COMMENTS**

MRK876 is a GTO target. Our science goals do not overlap (we are looking at intrinsic absorption, GTO is intervening systems). We do not overlap in grating/setting with the GTO observations, and we have arranged to share our data with the GTO team. At the request of the PC, Visit 3 (CVZ, F04250-5718) was split into two visits to enhance scheduling opportunities (now Visit 3 and Visit 33),

<b>Visit</b>	<p><b>Proposal 11686, Visit 01, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: IRAS-F22456-5125 G130M Four orbits, shortest possible 1291 wavelength settings</i></p> <p><i>Goals were; G130M: 9445s G160M: 8875s</i></p> <p><i>In eight orbits we get:</i>  <i>G130M: 2393+3*3192=11969</i>  <i>G160M: 2238+3*3912=11814</i></p> <p><i>We deviate from our normal strategy to get maximum flux at the lowest wavelengths</i></p>																																																					
<b>Diagnostics</b>	<p>(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN</p>																																																					
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Proposal 11686 (STScI Edit Number: 1, Created: Tuesday, September 14, 2010 8:03:46 PM EST) - Overview

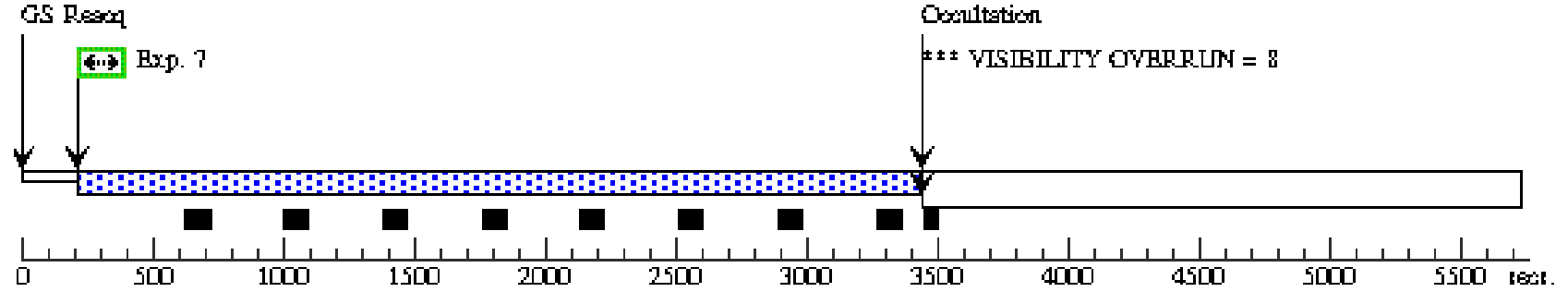
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	IRAS-F2245 (1) 6: ACQ/SE 25 ARCH	IRAS-F22456-51 COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	SCAN-SIZE=3			3 Secs [==>]	[1]	
	<p><i>Comments: F(1180) = 1.8E-14 (FUSE, Z9073902)</i>  <i>F(1600) = 1.9E-14 (IUE, SWP46321), F(2000)=1.4E-14, F(3000)=0.7E-14</i>  <i>z=0.1</i></p> <p><i>Simulating 2.5x the flux F(1600)=2.5x1.9E-14=4.75E-14 -&gt;</i>  <i>COS71204 -&gt; too bright for PSA+MIRRORA</i>  <i>COS71205 -&gt; too bright for PSA+MIRRORB</i>  <i>COS71211 -&gt; Good to go for G130M/1318 Spectroscopic TA, BT=566*2/3=377s</i>  <i>COS71212 -&gt; Simulating 0.5x the flux (F1600)=0.95E-14 @1600 gives the TA time of 2.2s</i></p>									
	2	IRAS-F2245 (1) 6: ACQ/XD 25	IRAS-F22456-51 COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A					3 Secs [==>]	[1]
	<i>Comments: see previous TA comments</i>									
	3	IRAS-F2245 (1) 6: ACQ/DD 25	IRAS-F22456-51 COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A		NUM-POS=5; STEP-SIZE=1.2			3 Secs [==>]	[1]
	<i>Comments: see previous TA comments</i>									
	4	F22456-G13 (1) 0M-1309 25	IRAS-F22456-51 COS/FUV, TIME-TAG, PSA	G130M 1309 A		BUFFER-TIME=37 7			2388 Secs [==>]	[1]
	<i>Comments: COS71211 -&gt; BT=566*2/3=377s</i>									
5	F22456-G13 (1) 0M-1291-2 25	IRAS-F22456-51 COS/FUV, TIME-TAG, PSA	G130M 1291 A		BUFFER-TIME=37 7; FP-POS=2			3167 Secs [==>]	[2]	
<i>Comments: see previous G130M comment</i>										
6	F22456-G13 (1) 0M-1291-3 25	IRAS-F22456-51 COS/FUV, TIME-TAG, PSA	G130M 1291 A		BUFFER-TIME=37 7; FP-POS=3			3167 Secs [==>]	[3]	
<i>Comments: see previous G130M comment</i>										
7	F22456-G13 (1) 0M-1291-4 25	IRAS-F22456-51 COS/FUV, TIME-TAG, PSA	G130M 1291 A		BUFFER-TIME=37 7; FP-POS=4			3167 Secs [==>]	[4]	
<i>Comments: see previous G130M comment</i>										
8	F22456-G13 (1) 0M-1318 25	IRAS-F22456-51 COS/FUV, TIME-TAG, PSA	G130M 1318 A		BUFFER-TIME=37 7			3167 Secs [==>]	[5]	
<i>Comments: see previous G130M comment</i>										



Orbit Structure

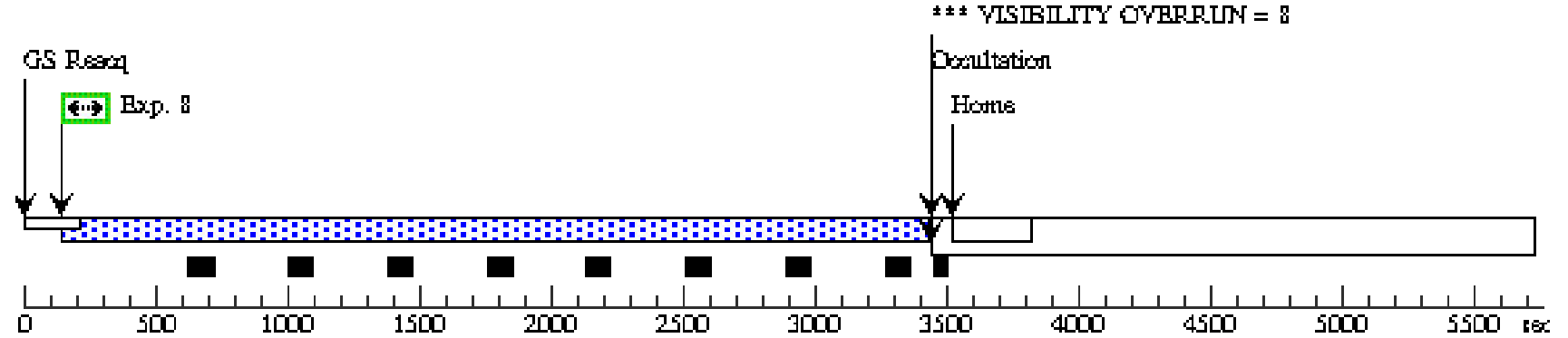
### Orbit 4

Server Version: 20100505



### Orbit 5

Server Version: 20100505



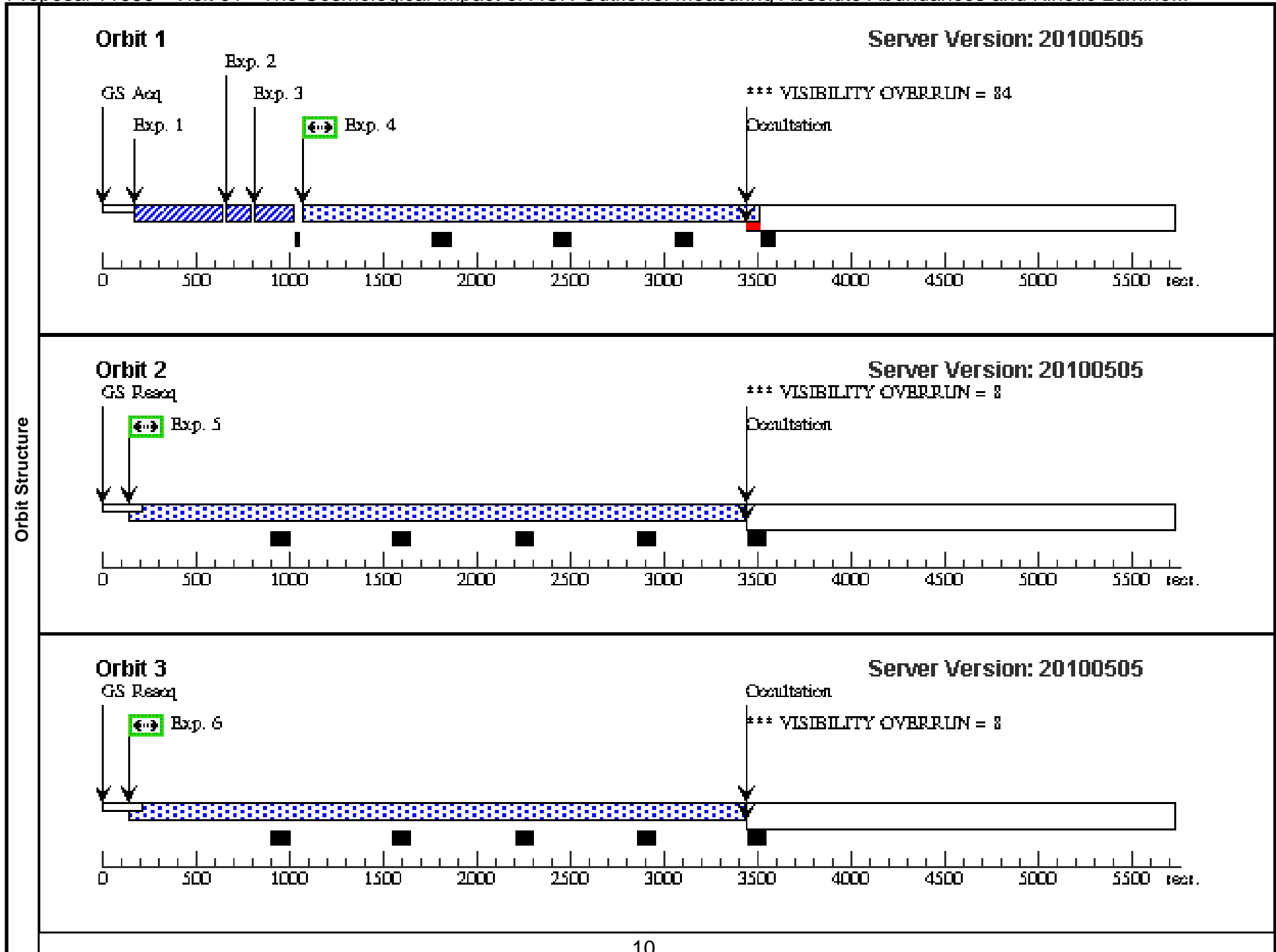
Proposal 11686 - Visit 01 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

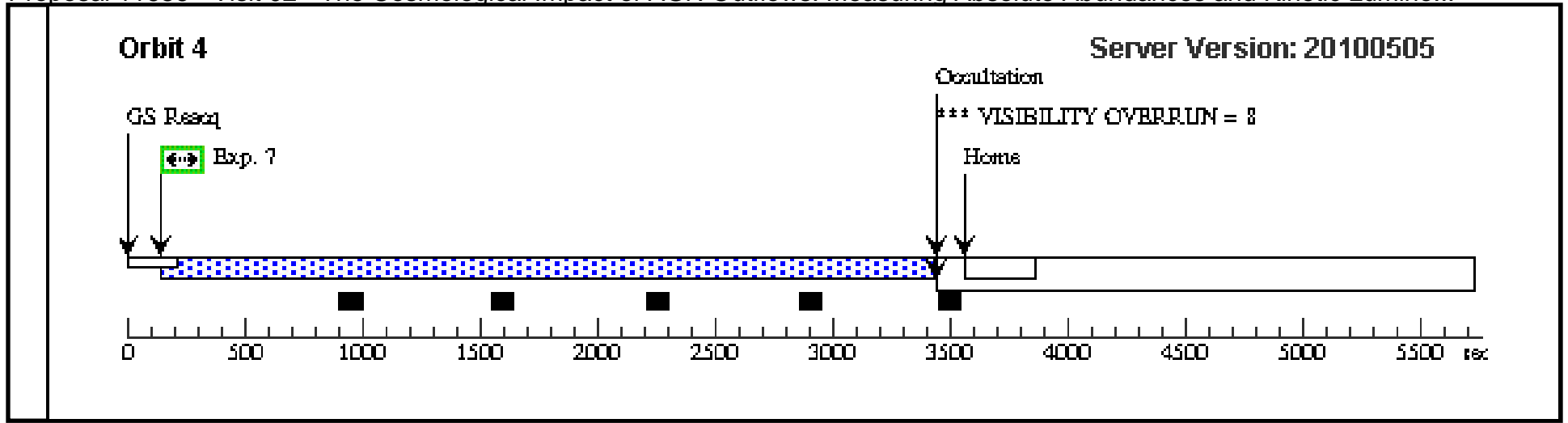
Wed Sep 15 01:03:48 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 02, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: IRAS-F22456-5125 G160M (Four Orbits). G160M Spectroscopic TA</i></p>					
	<p>(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN</p>					
<b>Diagnosics</b>						
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	IRAS-F22456-5125 Alt Name1: J224841.2-510954 Alt Name2: REJ2248-511	RA: 22 48 41.2044 (342.1716850d) Dec: -51 09 53.15 (-51.16476d) Equinox: J2000	Redshift: 0.1	V=15+/-0.2 3.0e-14 @ 1110 Angstroms	Reference Frame: ICRS
<p><i>Comments: F(1180) = 1.8E-14 (FUSE, Z9073902)</i>  <i>F(1600) = 1.9E-14 (IUE, SWP46321), F(2000)=1.4E-14, F(3000)=0.7E-14</i></p> <p><i>Goals were; G130M: 9445s G160M: 8875s</i></p> <p><i>In eight orbits we get:</i>  <i>G130M: 2393+3*3192=11969</i>  <i>G160M: 2238+3*3912=11814</i></p>						

Proposal 11686 - Visit 01 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	IRAS-F2245 (1) IRAS-F22456-51 6: ACQ/SE 25 ARCH - G1 60M	COS/FUV, ACQ/SEARCH, PSA	G160M 1589 A	SCAN-SIZE=3			3.5 Secs [==>]	[1]	
	<i>Comments: F(1600)=1.9E-14 1/2 flux gives the ET, COS71215-&gt; G160M/1589 ET = 3.5s 2.5x flux gives safety and BT, COS71216 -&gt; G160M/1589 BT = 979 (2.5 x flux) *2/3 = 652s</i>									
	2	IRAS-F2245 (1) IRAS-F22456-51 6: G160M/1 25 589 + ACQ/ XD	COS/FUV, ACQ/PEAKXD, PSA	G160M 1589 A				3.5 Secs [==>]	[1]	
	<i>Comments: see previous TA comment</i>									
	3	IRAS-F2245 (1) IRAS-F22456-51 6: G160M/1 25 589 + ACQ/ DD	COS/FUV, ACQ/PEAKD, PSA	G160M 1589 A	NUM-POS=5; STEP-SIZE=1.2			3.5 Secs [==>]	[1]	
	<i>Comments: see previous TA comment</i>									
	4	F22456-G16 (1) IRAS-F22456-51 0M-1589 25	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=65 2			2387 Secs [==>]	[1]	
<i>Comments: F(1600)=1.9E-14 1/2 flux gives the ET, COS71215-&gt; G160M/1589 ET = 3.5s 2.5x flux gives safety and BT, COS71216 -&gt; G160M/1589 BT = 979 (2.5 x flux) *2/3 = 652s</i>										
5	F22456-G16 (1) IRAS-F22456-51 0M-1600 25	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=65 2			3167 Secs [==>]	[2]		
<i>Comments: see previous G160M comment</i>										
6	F22456-G16 (1) IRAS-F22456-51 0M-1611 25	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=65 2			3167 Secs [==>]	[3]		
<i>Comments: see previous G160M comment</i>										
7	F22456-G16 (1) IRAS-F22456-51 0M-1623 25	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=65 2			3167 Secs [==>]	[4]		
<i>Comments: see previous G160M comment</i>										





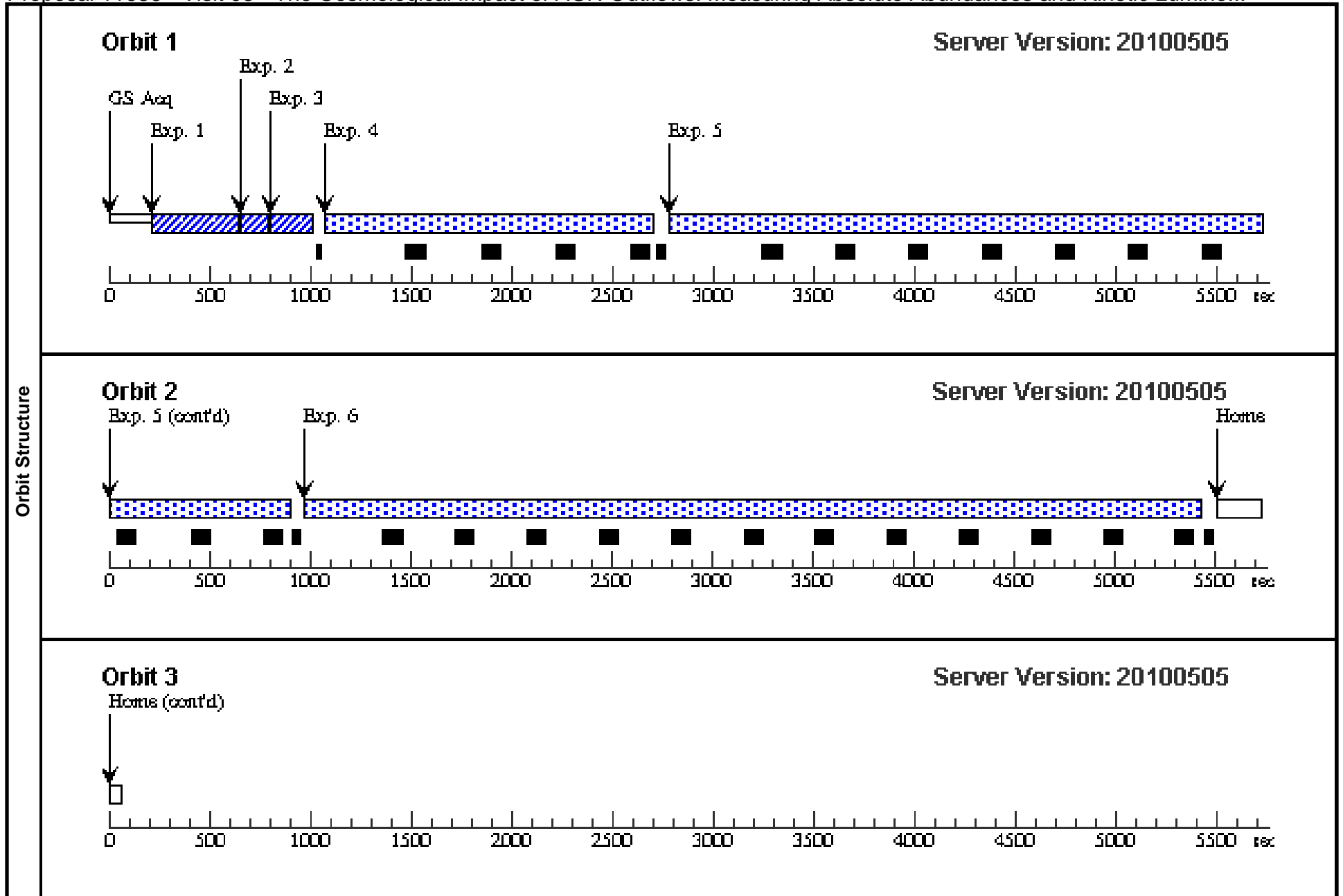
Proposal 11686 - Visit 02 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:49 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 03, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: CVZ</p> <p><i>Comments: IRAS-F04250 G130M (Two CVZ Orbits): First 1/2 of G130M observations</i></p> <p><i>Goals were: G130M: 9445s G160M: 8875</i></p> <p><i>Actual was : G130M: 4*3750+4410s=19410s, G160M: 3774*4=15096</i></p> <p><i>We deviate from our normal strategy to get maximum flux at the lowest wavelengths</i></p>																													
	<p><b>Diagnosics</b></p> <p>(Visit 03) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS</p>																													
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	Alt Name2: 1H0419-577	Equinox: J2000																												

Proposal 11686 - Visit 02 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

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Exposures	1	IRAS-F0425 (2) IRAS-F04250-57 0-ACQ/SEA 18 RCH-G130 M	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3			3 Secs [==>]	[1]	
	<p><i>Comments: F(1180)=5E-14 (FUSE, f0260101) F(1600)=2E-14 (IUE, swp52673), F(2000)=2E-14</i></p> <p><i>Target is too bright for PSA+MIRRORB, so going spectroscopic.</i></p> <p><i>We get safety and the BT from 2.5xflux, and the ET from 0.5xflux</i></p> <p><i>COS71222 -&gt; safe, BT = 546 *2/3 = 364</i> <i>COS71223 -&gt; ET=2.2 s</i></p>									
	2	IRAS-F0425 (2) IRAS-F04250-57 0-ACQ/XD- 18 G130M	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				3 Secs [==>]	[1]	
	<p><i>Comments: see previous TA comment</i></p>									
	3	IRAS-F0425 (2) IRAS-F04250-57 0-ACQ/DD- 18 G130M	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; STEP-SIZE=1.2			3 Secs [==>]	[1]	
	<p><i>Comments: see previous TA comment</i></p>									
4	F04250-G13 (2) IRAS-F04250-57 0M-1291-3 18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=37 2; FP-POS=3			1581 Secs [==>]	[1]		
<p><i>Comments: Bonus orbit at lowest wavelength setting, see previous G130M comments</i></p>										
5	F04250-G13 (2) IRAS-F04250-57 0M-1291-2 18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=36 4; FP-POS=2			3750 Secs [==>]	[1]		
<p><i>Comments: COS71222 -&gt; safe, BT = 546 *2/3 = 364s</i></p>										
6	F04250-G13 (2) IRAS-F04250-57 0M-1291-4 18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=35 8; FP-POS=4			4410 Secs [==>]	[2]		
<p><i>Comments: Short wavelength coverage for LyB</i></p>										



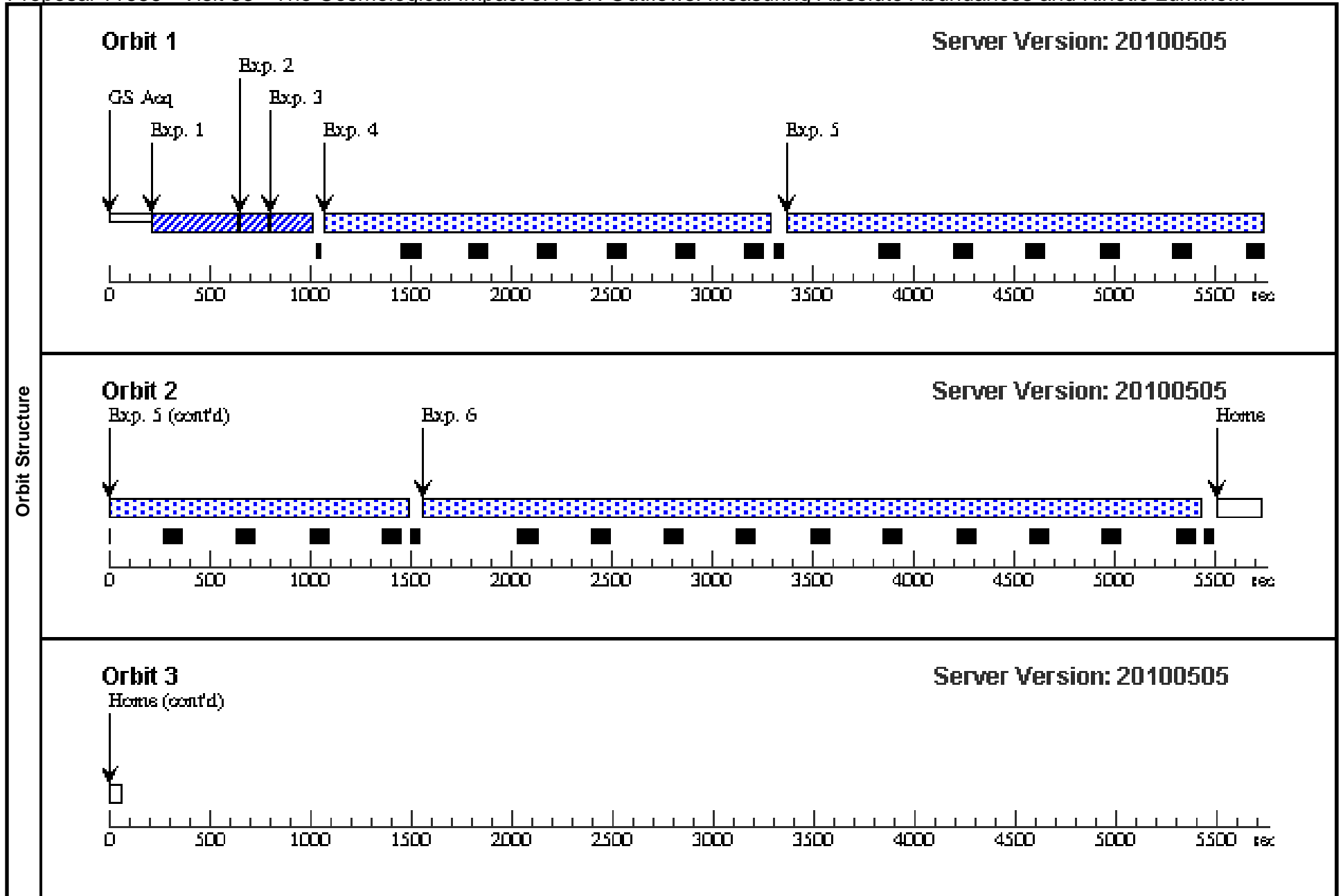
Proposal 11686 - Visit 03 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:50 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 33, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: CVZ</p> <p><i>Comments: IRAS-F04250 G130M (Two CVZ Orbits): Second 1/2 of G130M observations</i></p> <p><i>Goals were: G130M: 9445s G160M: 8875</i></p> <p><i>Actual was : G130M: 4*3750+4410s=19410s</i>  <i>G160M: 3774*4=15096</i></p> <p><i>We deviate from our normal strategy to get maximum flux at the lowest wavelengths</i></p>																								
	<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>IRAS-F04250-5718</td> <td>RA: 04 26 0.7773 (66.5032388d)</td> <td>Redshift: 0.104</td> <td>V=14.1+/-0.2</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: J042600.8-571201</td> <td>Dec: -57 12 1.13 (-57.20031d)</td> <td></td> <td>F(1180)=5E-14</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: 1H0419-577</td> <td>Equinox: J2000</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Comments: F(1180)=5E-14 (FUSE, f0260101)</i>  <i>F(1600)=2E-14 (IUE, swp52673), F(2000)=2E-14</i></p> <p><i>Target is too bright for PSA+MIRRORB, so going spectroscopic.</i></p> <p><i>We get safety and the BT from 2.5xflux, and the ET from 0.5xflux</i></p> <p><i>COS71222 -&gt; safe, BT = 546 *2/3 = 364</i>  <i>COS71223 -&gt; ET=2.2 s</i></p> <p><i>Goals were: G130M: 9445s G160M: 8875</i></p> <p><i>Actual was :</i>  <i>G130M: 3805*4=15220</i>  <i>G160M: 3774*4=15096</i></p>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	IRAS-F04250-5718	RA: 04 26 0.7773 (66.5032388d)	Redshift: 0.104	V=14.1+/-0.2	Reference Frame: ICRS		Alt Name1: J042600.8-571201	Dec: -57 12 1.13 (-57.20031d)		F(1180)=5E-14			Alt Name2: 1H0419-577	Equinox: J2000		
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																				
(2)	IRAS-F04250-5718	RA: 04 26 0.7773 (66.5032388d)	Redshift: 0.104	V=14.1+/-0.2	Reference Frame: ICRS																				
	Alt Name1: J042600.8-571201	Dec: -57 12 1.13 (-57.20031d)		F(1180)=5E-14																					
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Proposal 11686 - Visit 03 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

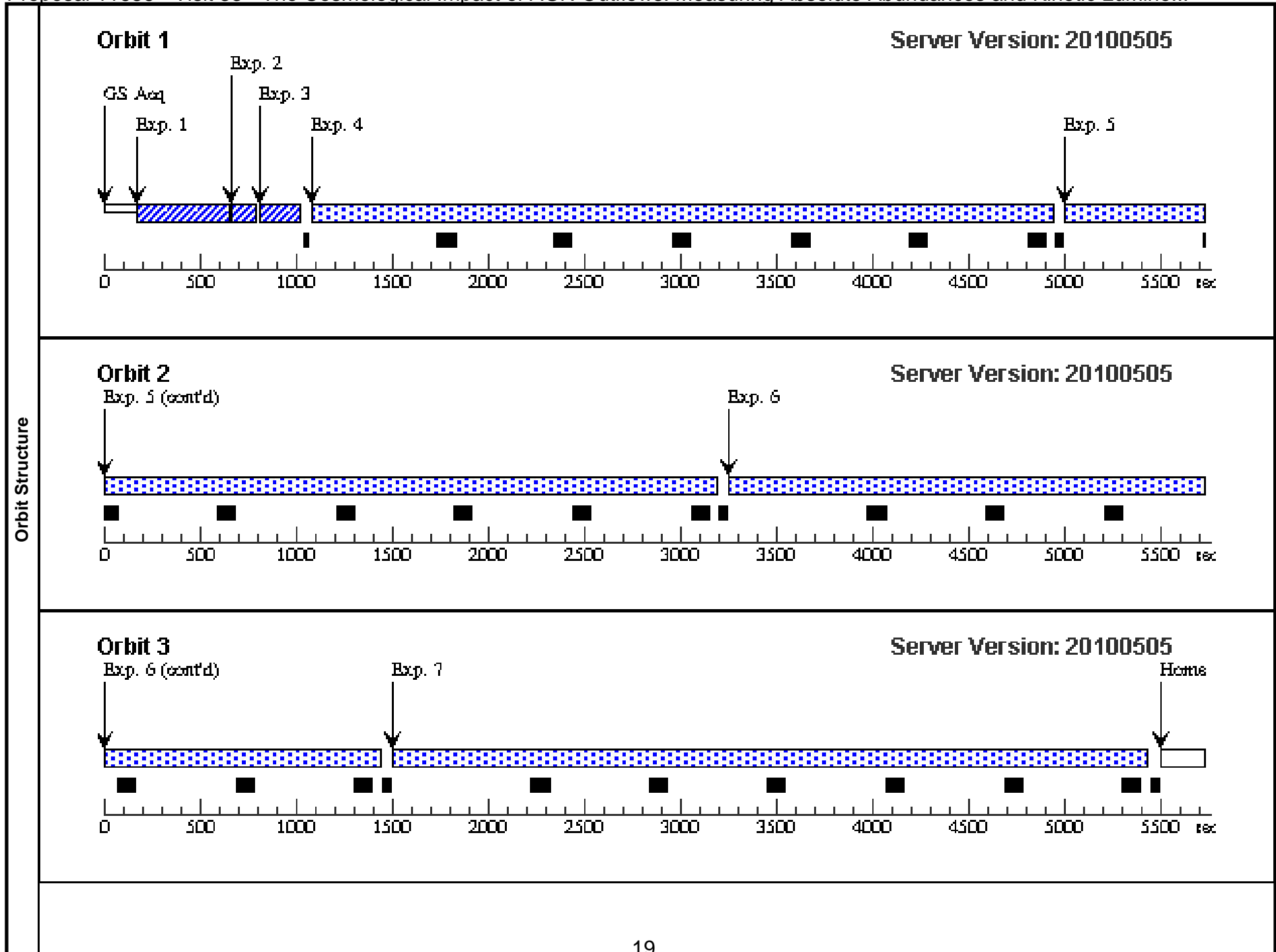
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	IRAS-F0425 0-ACQ/SEA RCH-G130 M	(2) IRAS-F04250-57	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3				3 Secs [==>]	[1]
	<i>Comments: F(1180)=5E-14 (FUSE, f0260101)                      F(1600)=2E-14 (IUE, swp52673), F(2000)=2E-14                      Target is too bright for PSA+MIRRORB, so going spectroscopic.                      We get safety and the BT from 2.5xflux, and the ET from 0.5xflux                      COS71222 -&gt; safe, BT = 546 *2/3 = 364                      COS71223 -&gt; ET=2.2 s</i>										
	2	IRAS-F0425 0-ACQ/XD- G130M	(2) IRAS-F04250-57	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A					3 Secs [==>]	[1]
	<i>Comments: see previous TA comment</i>										
	3	IRAS-F0425 0-ACQ/DD- G130M	(2) IRAS-F04250-57	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; STEP-SIZE=1.2				3 Secs [==>]	[1]
	<i>Comments: see previous TA comment</i>										
4	F04250-G13 0M-1291-3	(2) IRAS-F04250-57	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=34 3; FP-POS=3				2170 Secs [==>]	[1]	
<i>Comments: Bonus orbit at lowest wavelength setting, see previous G130M comments</i>											
5	F04250-G13 0M-1300	(2) IRAS-F04250-57	COS/FUV, TIME-TAG, PSA	G130M 1300 A	BUFFER-TIME=36 4				3750 Secs [==>]	[1]	
<i>Comments: see previous G130M comment</i>											
6	F04250-G13 0M-1318	(2) IRAS-F04250-57	COS/FUV, TIME-TAG, PSA	G130M 1318 A	BUFFER-TIME=36 4				3750 Secs [==>]	[2]	
<i>Comments: see previous G130M comment</i>											

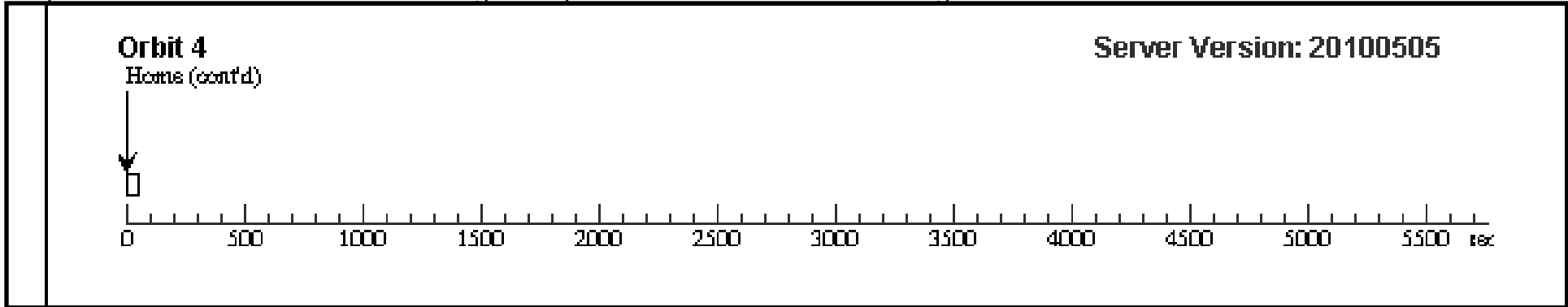


Proposal 11686 - Visit 33 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:50 GMT 2010

Visit	<b>Proposal 11686, Visit 04, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV Special Requirements: CVZ <i>Comments: IRAS-F04250 G160M (Three CVZ Orbits)</i>									
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Fixed Targets	(2)	IRAS-F04250-5718	RA: 04 26 0.7773 (66.5032388d) Dec: -57 12 1.13 (-57.20031d) Equinox: J2000	Redshift: 0.104	V=14.1+/-0.2 F(1180)=5E-14	Reference Frame: ICRS				
	Alt Name1: J042600.8-571201 Alt Name2: 1H0419-577 <i>Comments: F(1180)=5E-14 (FUSE, f0260101)                  F(1600)=2E-14 (IUE, swp52673), F(2000)=2E-14</i> Target is too bright for PSA+MIRRORB, so going spectroscopic. We get safety and the BT from 2.5xflux, and the ET from 0.5xflux COS71222 -> safe, BT = 546 *2/3 = 364 COS71223 -> ET=2.2 s Goals were: G130M: 9445s G160M: 8875 Actual was : G130M: 3805*4=15220 G160M: 3774*4=15096									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	IRAS-F0425 0 ACQ/SEA RCH - G160 M	(2) IRAS-F04250-57 18	COS/FUV, ACQ/SEARCH, PSA	G160M 1589 A	SCAN-SIZE=3			4 Secs [==>]	[1]
	<i>Comments: F(1180)=5E-14 (FUSE, f0260101)                  F(1600)=2E-14 (IUE, swp52673), F(2000)=2E-14</i> Target is too bright for PSA+MIRRORB, so going spectroscopic. We get safety and the BT from 2.5xflux, and the ET from 0.5xflux COS71234 -> safe, BT = 942 *2/3 = 628, COS71231 -> ET=3.5 s									
	2	IRAS-F0425 0 ACQ/XD	(2) IRAS-F04250-57 18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1589 A				4 Secs [==>]	[1]
	<i>Comments: see previous comment</i>									
	3	IRAS-F0425 0 ACQ/DD	(2) IRAS-F04250-57 18	COS/FUV, ACQ/PEAKD, PSA	G160M 1589 A	NUM-POS=5; STEP-SIZE=1.2			4 Secs [==>]	[1]
	<i>Comments: see previous comment</i>									
4	F04250-G16 0M-1589	(2) IRAS-F04250-57 18	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=61 6			3810 Secs [==>]	[1]	
5	F04250-G16 0M-1600	(2) IRAS-F04250-57 18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=61 6			3810 Secs [==>]	[1]	
<i>Comments: see previous comment</i>										
6	F04250-G16 0M-1611	(2) IRAS-F04250-57 18	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=61 6			3810 Secs [==>]	[2]	
7	F04250-G16 0M-1623	(2) IRAS-F04250-57 18	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=61 6			3810 Secs [==>]	[3]	





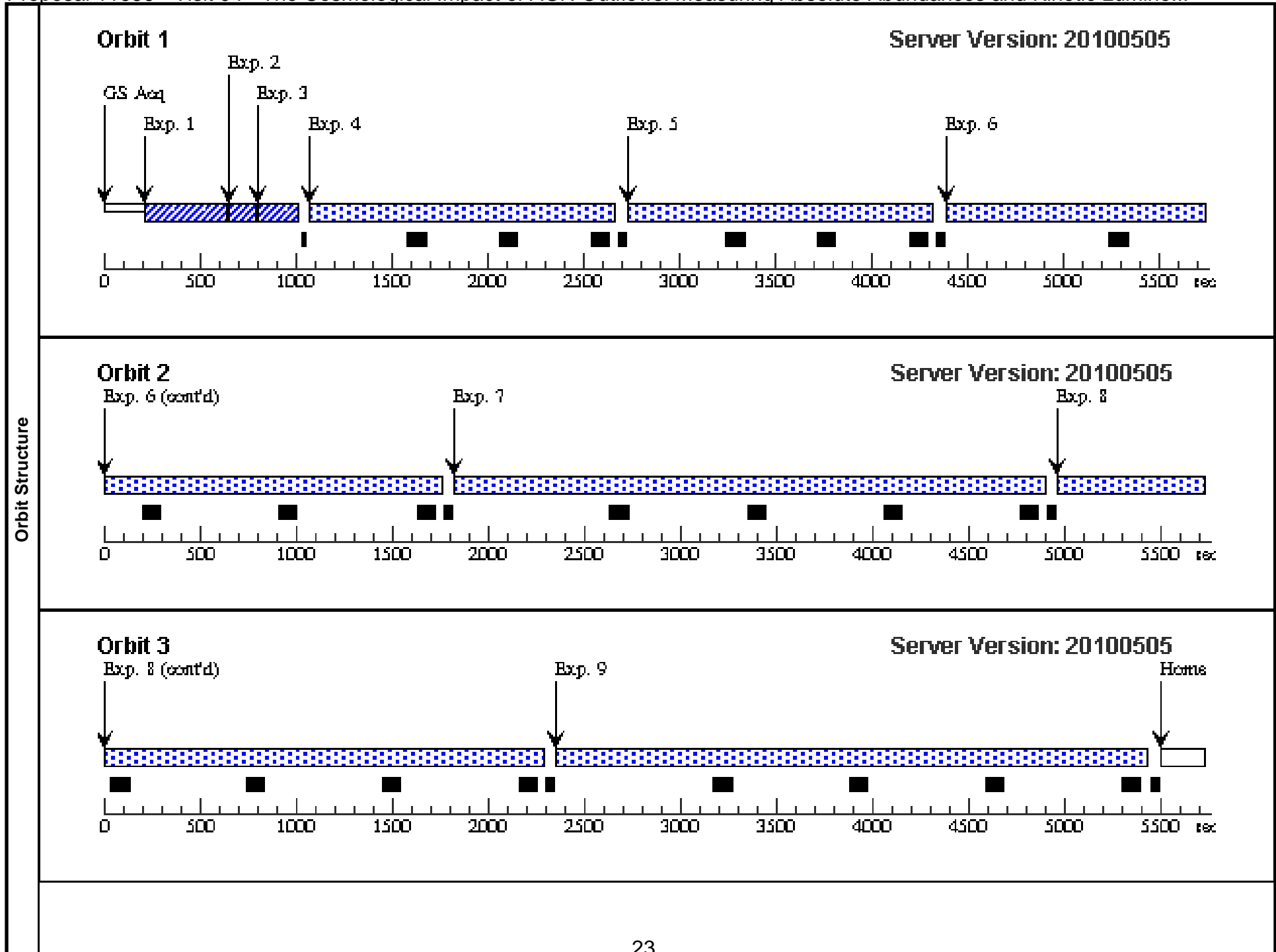
Proposal 11686 - Visit 04 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

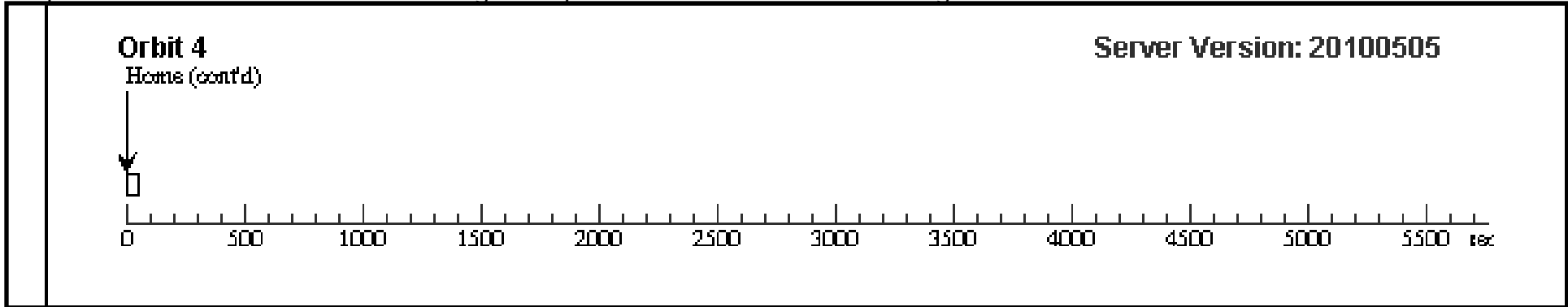
Wed Sep 15 01:03:51 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 05, completed</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: CVZ</p> <p><i>Comments: MRK876 is also a GTO target. Here we observe only G160M and the lowest G130M setting (to get the intrinsic Ly-beta). We do not overlap in science, or grating/central wavelength combinations with the GTO proposal.</i></p> <p><i>The G130M portions of this program have been modified to be the lowest FP-POS settings (the IHB provided incorrect information).</i></p>																								
	<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(3)</td> <td>MRK876</td> <td>RA: 16 13 57.2000 (243.4883333d)</td> <td>Redshift: 0.129</td> <td>V=15.23</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1: MRK0876</td> <td>Dec: +65 43 10.00 (65.71944d)</td> <td></td> <td>F(1180)=2.5E-14,</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2: MRK-0876</td> <td>Equinox: J2000</td> <td></td> <td>F(1600) = 2E-14</td> <td></td> </tr> </tbody> </table> <p><i>Comments: Nominal flux = 1.8E-14 at 1850 (IUE), F(1600)=2E-14 (swp40289, 1990)</i>  <i>FUSE(1180)=9E-14, F(1110)=8E-14 (p1073101, 1999)</i>  <i>FUSE(1180)=6E-14 (d0280203, 2004)</i>  <i>FUSE(1180)=2.5E-14 (d0280201, 2003)</i>  <i>FUSE(1180)=2.5E-14 (u1036601, 2006)</i></p> <p><i>PI has also indicated 3.9e-14 @ 1110 Angstroms</i></p>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	MRK876	RA: 16 13 57.2000 (243.4883333d)	Redshift: 0.129	V=15.23	Reference Frame: ICRS		Alt Name1: MRK0876	Dec: +65 43 10.00 (65.71944d)		F(1180)=2.5E-14,			Alt Name2: MRK-0876	Equinox: J2000		F(1600) = 2E-14
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	Alt Name2: MRK-0876	Equinox: J2000		F(1600) = 2E-14																					

Proposal 11686 - Visit 04 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	MRK876-A CQ/SEARC H-G130M	(3) MRK876	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3		3 Secs [==>]	[1]	
	<p>Comments: Using an uploaded IUE composite spectrum at 1/2 the nominal flux (COS69291) gives the ET=2.14s. Using 2.5x the flux for safety gives BT (1462/5 * 2/3 = 195s)</p> <p>Nominal flux = 1.8E-14 at 1850 (IUE), F(1600)=2E-14</p> <p>For comparison, a z=0.129 QSO with F(1600)=1E-14 was also simulated (COS75572) gives G130M+1291 S/N=40 in 2.4 s with a BT=2094. F(1600)=5E-14 was also simulated (COS75573) gives G130M+1291 S/N=40 in 0.5 s with a BT=583*2/3=388s.</p>									
	2	MRK876-A CQ/PEAKX D-G130M	(3) MRK876	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A				3 Secs [==>]	[1]
	Comments: see previous comment									
	3	MRK876-A CQ/PEAKD -G130M	(3) MRK876	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; STEP-SIZE=1.2			3 Secs [==>]	[1]
	Comments: see previous comment									
	4	MRK876-G 130M-1291- 3	(3) MRK876	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=47 8; FP-POS=3			1540 Secs [==>]	[1]
	<p>Comments: ETC TEST SERVER ID: COS91664</p> <p>Flux was 2.5x nominal = 4.5e-14 @ 1800, this gives the BT=618*2/3 = ~412 using (1530-110)/3 = 473</p> <p>Here, BT=(1500-110)/4=463</p>									
	5	MRK876-G 130M-1291- 4	(3) MRK876	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=47 8; FP-POS=4			1540 Secs [==>]	[1]
Comments: see previous G130M comment										
6	MRK876-G 160M-1589- 3	(3) MRK876	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=71 1; FP-POS=3			2955 Secs [==>]	[1]	
<p>Comments: ETC TEST SERVER ID: COS91665</p> <p>Nominal flux = 1.8E-14 at 1850 (IUE)</p> <p>We use 2.5x the flux for safety and BT (1149*2/3=766) but 0.5*flux for exposure time.</p> <p>Here, BT=(2960-110)/4=645</p>										
7	MRK876-G 160M-1600- 3	(3) MRK876	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=71 1; FP-POS=3			2954 Secs [==>]	[2]	
Comments: see previous G160M comment										
8	MRK876-G 160M-1611- 3	(3) MRK876	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=71 1; FP-POS=3			2955 Secs [==>]	[2]	
Comments: see previous G160M comment										
9	MRK876-G 160M-1623- 3	(3) MRK876	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=71 1; FP-POS=3			2955 Secs [==>]	[3]	
Comments: see previous G160M comment										





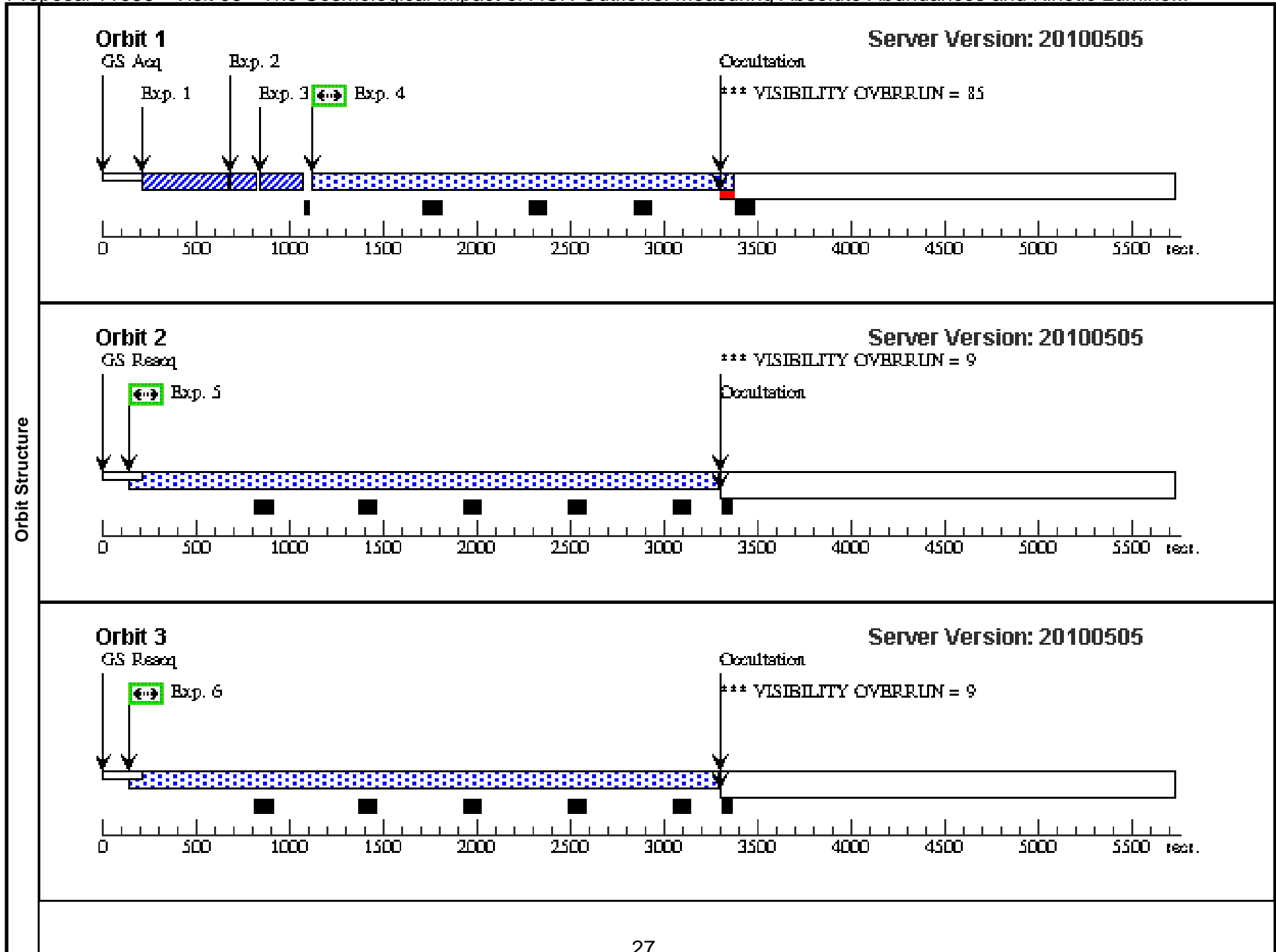
Proposal 11686 - Visit 05 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

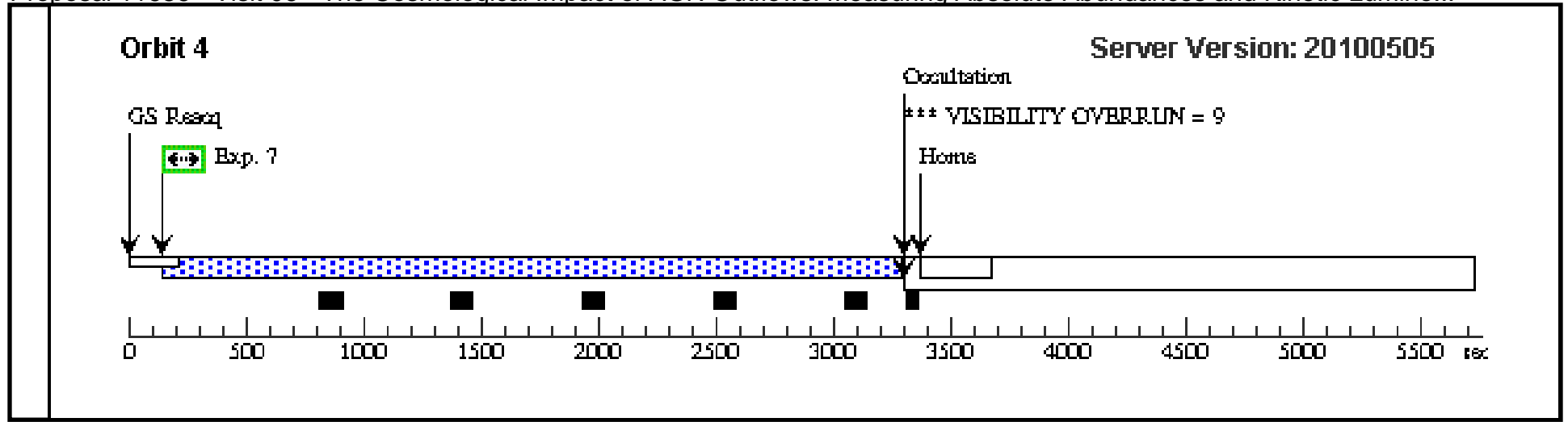
Wed Sep 15 01:03:51 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 06, failed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: Q0045 G130M (Four Orbits), Spectroscopic TA with ET=6.3 and BT=561s.</i></p> <p><i>3x3 ACQ/SEARCH is probably overkill, a 2x2 would be sufficient.</i></p> <p><i>Original goal was 9235 for G130M, and 11565 for G160M.</i></p> <p><i>In eight orbits, we get</i></p> <p><i>G130M: 2199+3*3049=11346.</i></p> <p><i>G160M: 2168+3*3049=11315</i></p>																																			
	<p>(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN</p>																																			
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Proposal 11686 - Visit 05 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	Q0045-ACQ (4) QSO0045+3926 /SEARCH-G130M	COS/FUV, ACQ/SEARCH, PSA	G130M 1318 A	SCAN-SIZE=3			6.3 Secs [==>]	[1]	
	<p>Comments: <math>F(1180) = 2E-14</math> (<math>d1310106, d1310101</math>)  <math>F(1180) = 1.5E-14</math> (<math>z0020401</math>)</p> <p>GALEX J004818.9+394111 gives  NUV=16.56 +/- 0.03  FUV=16.77 +/- 0.04</p> <p>As usual, we will get our BT from 2.5 times the brightest measurement, and the ET from 1/2 times the faintest. First the BT:</p> <p>COS75710 uses G130M/1318+ <math>F(1180)=2.5*2E-14=5E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*841=561s</math> (<math>ET=0.7s</math>)  COS75714 uses G130M/1318+ GALEX FUV -1 = 15.77 for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*1370=914</math> (<math>ET=1.26s</math>)</p> <p>Now at 1/2 the faintest to get ET:</p> <p>COS75713 uses <math>F(1180)=0.5*1.5E-14=0.75E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>ET=3.5s</math>  COS75715 uses GALEX FUV +0.75 = 17.5 for a <math>z=0.134</math> FOS QSO template gives <math>ET=6.3</math></p> <p>So, we are going with <math>ET=6.3</math> and <math>BT=561s</math></p>									
	2	Q0045-ACQ (4) QSO0045+3926 /PEAKXD	COS/FUV, ACQ/PEAKXD, PSA	G130M 1318 A				6.3 Secs [==>]	[1]	
	Comments: see previous comment									
	3	Q0045-ACQ (4) QSO0045+3926 /PEAKD	COS/FUV, ACQ/PEAKD, PSA	G130M 1318 A	NUM-POS=5; STEP-SIZE=1.2			6.3 Secs [==>]	[1]	
	Comments: see previous comment									
	4	Q0045-G13 0M-1318	(4) QSO0045+3926 COS/FUV, TIME-TAG, PSA	G130M 1318 A	BUFFER-TIME=56 1			2194 Secs [==>]	[1]	
<p>Comments: As usual, we will get our BT from 2.5 times the brightest measurement:</p> <p>COS75710 uses G130M/1318+ <math>F(1180)=2.5*2E-14=5E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*841=561s</math> (<math>ET=0.7s</math>)  COS75714 uses G130M/1318+ GALEX FUV -1 = 15.77 for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*1370=914</math> (<math>ET=1.26s</math>)</p> <p>So, we are going with <math>BT=561s</math></p>										
5	Q0045-G13 0M-1291	(4) QSO0045+3926 COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=56 1			3024 Secs [==>]	[2]		
Comments: see previous comment										
6	Q0045-G13 0M-1300	(4) QSO0045+3926 COS/FUV, TIME-TAG, PSA	G130M 1300 A	BUFFER-TIME=56 1			3024 Secs [==>]	[3]		
Comments: see previous G130M comment										
7	Q0045-G13 0M-1309	(4) QSO0045+3926 COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=56 1			3024 Secs [==>]	[4]		
Comments: see previous G130M comment										





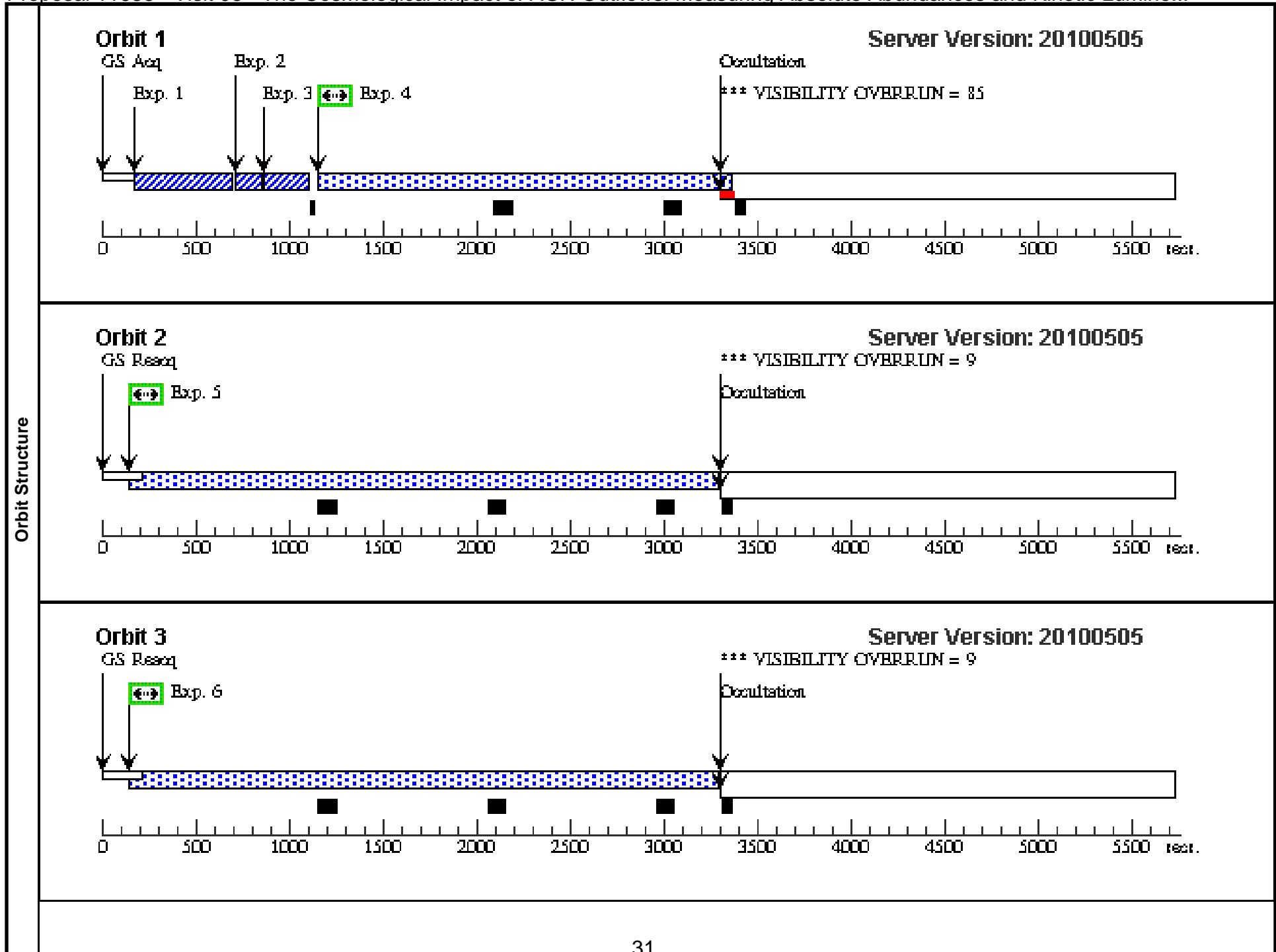
Proposal 11686 - Visit 06 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:52 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 07, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: Q0045 G160M (Four Orbits), Spectroscopic TA with BT=905 and ET=8.9s</i></p> <p><i>3x3 ACO/SEARCH is probably overkill, a 2x2 would be sufficient.</i></p>																																																																							
	<p><b>Diagnosics</b></p> <p>(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN</p> <p>(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN</p>																																																																							
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(4)</td> <td>QSO0045+3926</td> <td>RA: 00 48 18.9864 (12.0791100d)</td> <td>Redshift: 0.134</td> <td>V=16.5+/-0.1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td></td> <td>Alt Name1:</td> <td>Dec: +39 41 11.64 (39.68657d)</td> <td></td> <td>F(1180)=2E-14,</td> <td></td> </tr> <tr> <td></td> <td>RXJ0048.3+3941</td> <td>Equinox: J2000</td> <td></td> <td>F(1110)=1.5E-14</td> <td></td> </tr> <tr> <td></td> <td>Alt Name2:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>J004819.0+394111</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td colspan="5"><i>Comments: F(1180) = 2E-14 (d1310106,d1310101)</i></td> </tr> <tr> <td></td> <td colspan="5"><i>F(1180) = 1.5E-14 (z0020401)</i></td> </tr> <tr> <td></td> <td colspan="5"><i>GALEX J004818.9+394111 gives</i></td> </tr> <tr> <td></td> <td colspan="5"><i>NUV=16.56 +/- 0.03</i></td> </tr> <tr> <td></td> <td colspan="5"><i>FUV=16.77 +/- 0.04</i></td> </tr> </tbody> </table>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(4)	QSO0045+3926	RA: 00 48 18.9864 (12.0791100d)	Redshift: 0.134	V=16.5+/-0.1	Reference Frame: ICRS		Alt Name1:	Dec: +39 41 11.64 (39.68657d)		F(1180)=2E-14,			RXJ0048.3+3941	Equinox: J2000		F(1110)=1.5E-14			Alt Name2:						J004819.0+394111						<i>Comments: F(1180) = 2E-14 (d1310106,d1310101)</i>						<i>F(1180) = 1.5E-14 (z0020401)</i>						<i>GALEX J004818.9+394111 gives</i>						<i>NUV=16.56 +/- 0.03</i>						<i>FUV=16.77 +/- 0.04</i>				
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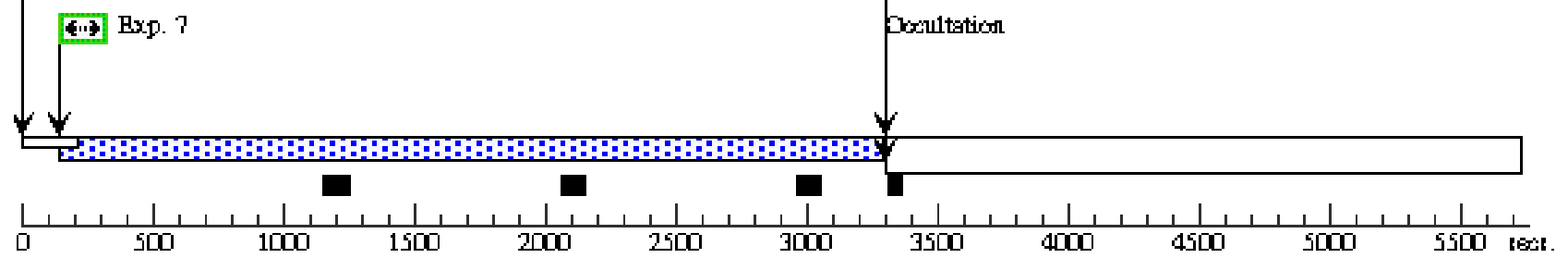
Proposal 11686 - Visit 06 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	Q0045-ACQ (4) QSO0045+3926 /SEARCH/ G160M	COS/FUV, ACQ/SEARCH, PSA	G160M 1589 A	SCAN-SIZE=3			8.9 Secs [==>]	[1]	
	<i>Comments: G160M</i>									
	<i>COS75711 uses G160M/1577 + F(1180)=2.5*2E-14=5E-14 for a z=0.134 FOS QSO template gives BT=2/3*1357=905s (ET=1s)</i>									
	<i>COS75717 uses GALEX NUV -1.0 = 15.56 for a z=0.134 FOS QSO template gives ET=1.7s, BT=2398*2/3.=1599s</i>									
	<i>COS75712 uses G160M/1577 + F(1180)=0.5*1.5E-14=0.75E-14 for a z=0.134 FOS QSO template gives ET= 5s</i>									
	<i>COS75716 uses GALEX NUV +0.75 = 17.31 for a z=0.134 FOS QSO template gives ET=8.9s</i>									
	<i>So, we are being overly cautious and going with BT=905 and ET=8.9s</i>									
	2	Q0045-ACQ (4) QSO0045+3926 /PEAKXD- G160M	COS/FUV, ACQ/PEAKXD, PSA	G160M 1589 A					8.9 Secs [==>]	[1]
<i>Comments: PEAKXD, see previous G160M TA comment</i>										
3	Q0045-ACQ (4) QSO0045+3926 /PEAKD-G1 60M	COS/FUV, ACQ/PEAKD, PSA	G160M 1589 A	NUM-POS=5; STEP-SIZE=1.2				8.9 Secs [==>]	[1]	
<i>Comments: PEAKXD, see previous G160M TA comment</i>										
4	Q0045-G16 (4) QSO0045+3926 0M-1589	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=90 5				2163 Secs [==>]	[1]	
<i>Comments: G160M</i>										
<i>COS75711 uses G160M/1577 + F(1180)=2.5*2E-14=5E-14 for a z=0.134 FOS QSO template gives BT=2/3*1357=905s (ET=1s)</i>										
<i>COS75717 uses GALEX NUV -1.0 = 15.56 for a z=0.134 FOS QSO template gives ET=1.7s, BT=2398*2/3.=1599s</i>										
<i>COS75712 uses G160M/1577 + F(1180)=0.5*1.5E-14=0.75E-14 for a z=0.134 FOS QSO template gives ET= 5s</i>										
<i>COS75716 uses GALEX NUV +0.75 = 17.31 for a z=0.134 FOS QSO template gives ET=8.9s</i>										
<i>So, we are being overly cautious and going with BT=905 and ET=8.9s</i>										
5	Q0045-G16 (4) QSO0045+3926 0M-1600	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=90 5				3024 Secs [==>]	[2]	
<i>Comments: see previous comment</i>										
6	Q0045-G16 (4) QSO0045+3926 0M-1611	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=90 5				3024 Secs [==>]	[3]	
<i>Comments: see previous comment</i>										
7	Q0045-G16 (4) QSO0045+3926 0M-1623	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=90 5				3024 Secs [==>]	[4]	
<i>Comments: see previous comment</i>										
8	Q0045-G16 (4) QSO0045+3926 0M-1577	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=90 5; FP-POS=3				3024 Secs [==>]	[5]	
<i>Comments: bonus coverage at lowest G160M setting</i>										



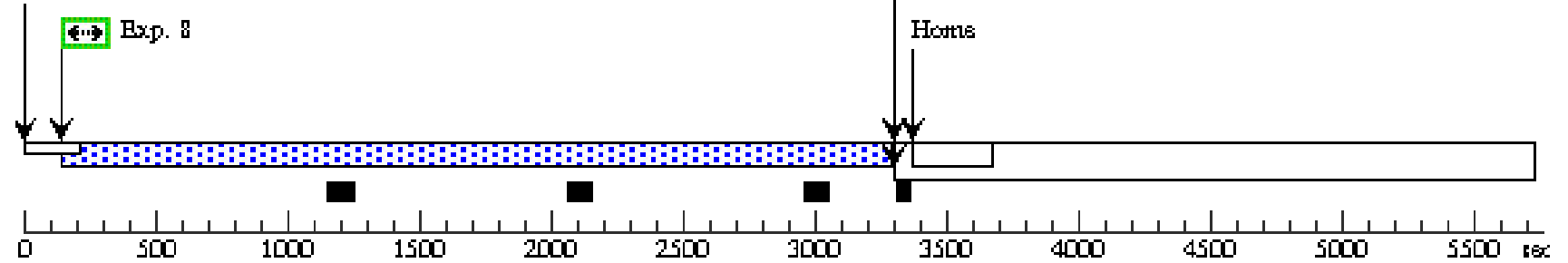
### Orbit 4

GS Reseq



### Orbit 5

GS Reseq



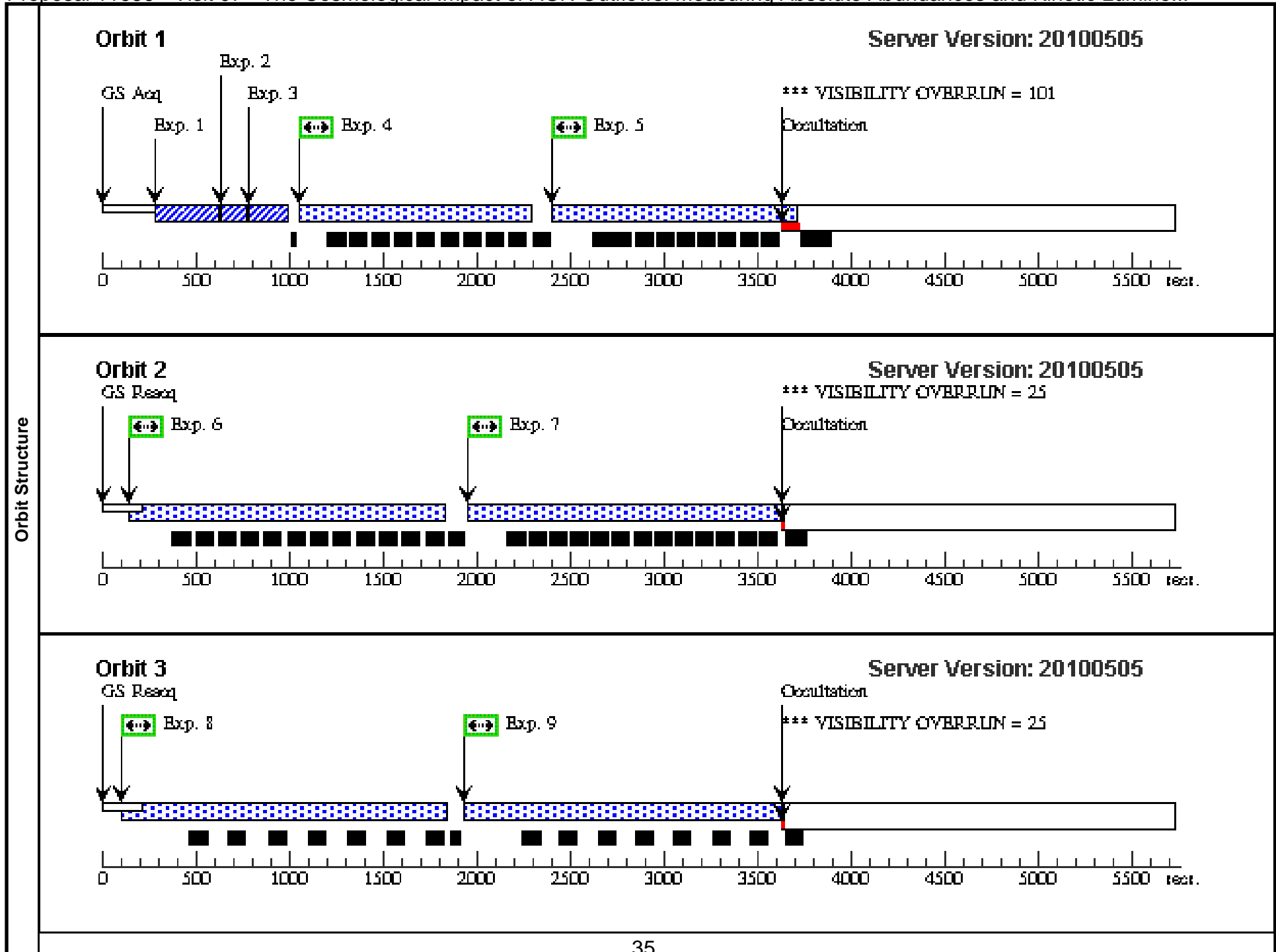
Proposal 11686 - Visit 07 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:53 GMT 2010

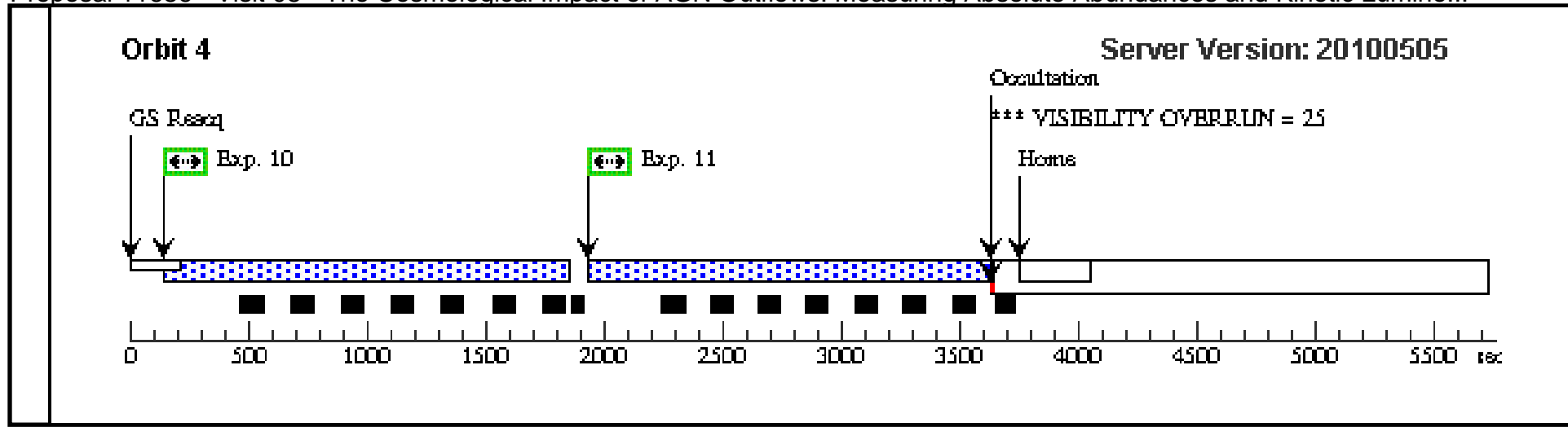
<b>Visit</b>	<p><b>Proposal 11686, Visit 08, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: PG0804+761, Four orbits split between G130M and G160M.</i></p> <p><i>This target is highly variable, so we need to be conservative in the TA. Recent flux measurements are</i></p> <p><i>F(1180)=7E-14 (FUSE, s6011001, Feb. 2008)</i></p> <p><i>F(1180)=1E-13 (FUSE, p1011901, March 2008)</i></p> <p><i>F(1180)=1.25E-13 (FUSE, p1011903, Apr. 2008)</i></p> <p><i>F(1600)=6E-14, F(2000)=3E-14 (IUE, swp08882), But this target was fading from 1979-1986.</i></p>																																									
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Proposal 11686 - Visit 07 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	PG0804-AC Q/SEARCH +G130M/13 09	(5) PG0804+761	COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	SCAN-SIZE=3			1 Secs [==>]	[1]
<p><i>Comments: We will use the 2x the brightest recent FUSE flux for safety and BT determination, and 1/2 times the recent faintest fuse for ET.</i></p> <p><i>F(1180)=7E-14 (FUSE, s6011001, Feb. 2008)</i>  <i>F(1180)=1E-13 (FUSE, p1011901, March 2008)</i>  <i>F(1180)=1.25E-13 (FUSE, p1011903, Apr. 2008)</i></p> <p><i>ET: COS75719 (z=0.1 QSO +FUV/G130M/1309 gives ET=1s) for F(1180)=3.5E-14</i>  <i>BT: COS75722 (z=0.1 QSO +FUV/G130M/1309 gives BT=161*2/3 ~111s) for F(1180)=2.5E-13</i></p> <p><i>For G160M/1600</i></p> <p><i>BT: COS75726 (z=0.1 QSO +FUV/G160M/1600 gives BT=306*2/3 ~204s) for F(1180)=2.5E-13</i></p>									
2	PG0804-AC Q/PEAKXD	(5) PG0804+761	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A				1 Secs [==>]	[1]
<i>Comments: see previous TA comment</i>									
3	PG0804- A CQ/PEAKD	(5) PG0804+761	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=5; STEP-SIZE=1.2			2 Secs [==>]	[1]
<i>Comments: see previous TA comment</i>									
4	PG0804-G1 30M-1309	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=12 1			1186 Secs [==>]	[1]
<p><i>Comments: ET: COS75719 (z=0.1 QSO +FUV/G130M/1309 gives ET=1s) for F(1180)=3.5E-14</i>  <i>BT: COS75722 (z=0.1 QSO +FUV/G130M/1309 gives BT=161*2/3 ~111s) for F(1180)=2.5E-13</i></p>									
5	PG0804-G1 30M-1318	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G130M 1318 A	BUFFER-TIME=11 2			1187 Secs [==>]	[1]
<i>Comments: see previous comment</i>									
6	PG0804-G1 30M-1291	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 3			1568 Secs [==>]	[2]
<i>Comments: see previous G130M comments</i>									
7	PG0804-G1 30M-1300	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G130M 1300 A	BUFFER-TIME=11 2			1569 Secs [==>]	[2]
<i>Comments: see previous G130M comments</i>									
8	PG0804-G1 60M-1589	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=21 2			1578 Secs [==>]	[3]
<p><i>Comments: For G160M/1600</i></p> <p><i>BT: COS75726 (z=0.1 QSO +FUV/G160M/1600 gives BT=306*2/3 ~204s) for F(1180)=2.5E-13</i></p>									
9	PG0804-G1 60M-1600	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=20 4			1587 Secs [==>]	[3]
<i>Comments: see previous G160M comment</i>									
10	PG0804-G1 60M-1611	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=21 3			1582 Secs [==>]	[4]
<i>Comments: see previous G160M comment</i>									
11	PG0804-G1 60M-1623	(5) PG0804+761	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=20 4			1583 Secs [==>]	[4]
<i>Comments: see previous G160M comment</i>									



Orbit Structure



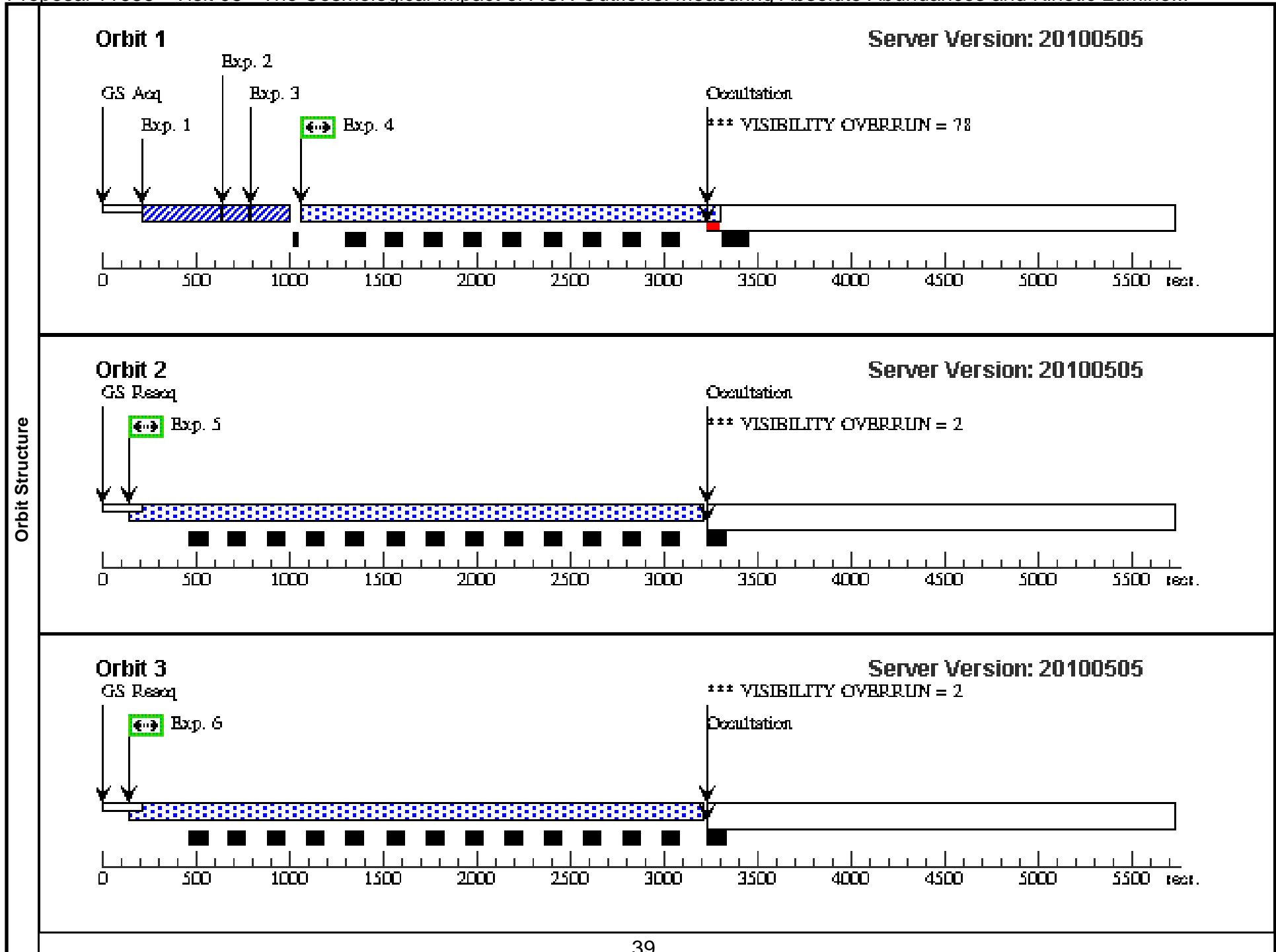
Proposal 11686 - Visit 08 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

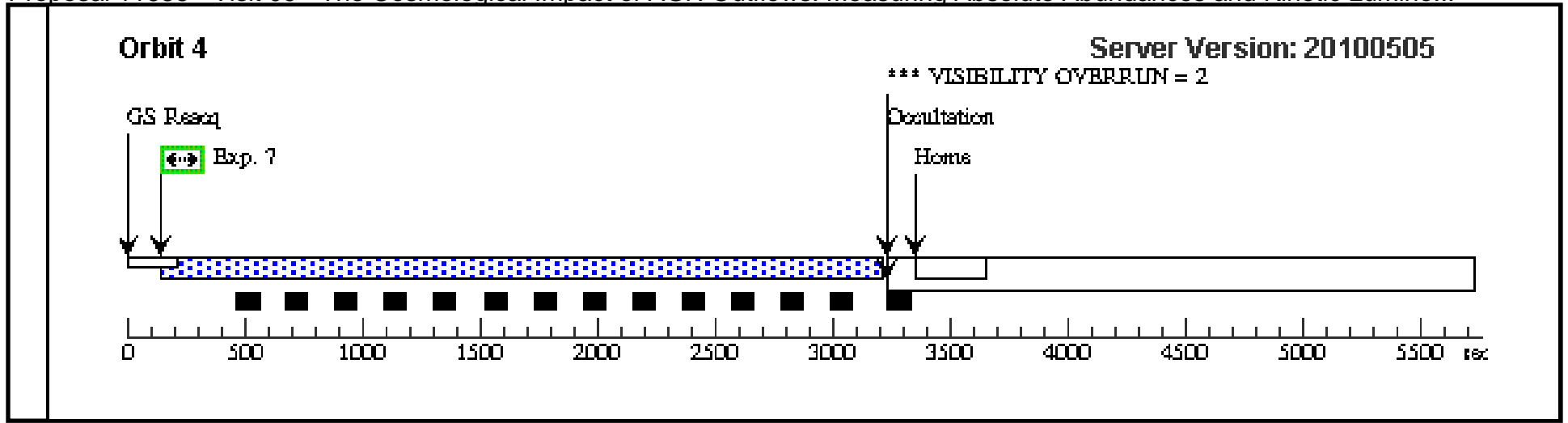
Wed Sep 15 01:03:55 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 09, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: RXJ1230- G130M (Four Orbits)</i></p> <p><i>There are no BOT constraints (the reported violation is our target)</i></p>																																																																							
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Proposal 11686 - Visit 08 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	RXJ1230-A CQ/SEARC H-G130M/1 318	(6) RXJ1230.8+0115 COS/FUV, ACQ/SEARCH, PSA	G130M 1318 A	SCAN-SIZE=3			2 Secs [==>]	[1]	
	<p>Comments: <math>F(1180)=5E-14</math> (FUSE, p1019001)</p> <p>GALEX J123050.1+011522: <math>NUV=14.84 \pm 0.01</math>; <math>FUV=15.15 \pm 0.02</math></p> <p>As usual, we get our BT from the 2.5x the brightest observation, and ET from 0.5* the faintest observation.</p> <p>G130M_1318: <math>z=0.117</math>            COS75737 gives BT = <math>316*2/3 = 211s</math> (<math>F1180=1.25E-13</math>)            COS75741 gives BT = <math>366*2/3 = 244s</math> (<math>FUV=14.15</math>)            COS75740 gives ET = 1.2s (<math>F1180=0.25E-13</math>)            COS75745 gives ET = 1.4s (<math>FUV=15.9</math>)            ET=1.4, BT=211</p> <p>G160M_1589: <math>z=0.0117</math>            COS75738 gives BT = <math>526*2/3 = 351s</math> (<math>F1180=1.25E-13</math>)            COS75742 gives BT = <math>614*2/3 = 409s</math> (<math>FUV=14.15</math>)            COS75739 give ET=1.9s (<math>F1180=0.25E-13</math>)            COS75744 gives ET = 2.24s (<math>FUV=15.9</math>)</p> <p>ET=2.3s, BT=351</p>									
	2	RXJ1230-A CQ/PEAKX D-G130M/1 318	(6) RXJ1230.8+0115 COS/FUV, ACQ/PEAKXD, PSA	G130M 1318 A					2 Secs [==>]	[1]
	<p>Comments: see previous G130M TA comment</p>									
	3	RXJ1230-A CQ/PEAKD -G130M/13 18	(6) RXJ1230.8+0115 COS/FUV, ACQ/PEAKD, PSA	G130M 1318 A	NUM-POS=5; STEP-SIZE=1.2				2 Secs [==>]	[1]
	<p>Comments: see previous G130M comment</p>									
	4	RXJ1230-G 130M-1318	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G130M 1318 A	BUFFER-TIME=21 1				2186 Secs [==>]	[1]
<p>Comments: <math>F(1180)=5E-14</math> (FUSE, p1019001)</p> <p>GALEX J123050.1+011522: <math>NUV=14.84 \pm 0.01</math>; <math>FUV=15.15 \pm 0.02</math></p> <p>As usual, we get our BT from the 2.5x the brightest observation, and ET from 0.5* the faintest observation.</p> <p>G130M_1318: <math>z=0.117</math>            COS75737 gives BT = <math>316*2/3 = 211s</math> (<math>F1180=1.25E-13</math>)            COS75741 gives BT = <math>366*2/3 = 244s</math> (<math>FUV=14.15</math>)            COS75740 gives ET = 1.2s (<math>F1180=0.25E-13</math>)            COS75745 gives ET = 1.4s (<math>FUV=15.9</math>)            ET=1.4, BT=211</p>										
5	RXJ1230-G 130M-1291	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=21 1				2950 Secs [==>]	[2]	
<p>Comments: see previous G130M comment</p>										
6	RXJ1230-G 130M-1300	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G130M 1300 A	BUFFER-TIME=21 1				2950 Secs [==>]	[3]	
<p>Comments: see previous G130M comment</p>										
7	RXJ1230-G 130M-1309	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=21 1				2950 Secs [==>]	[4]	
<p>Comments: see previous G130M comment</p>										





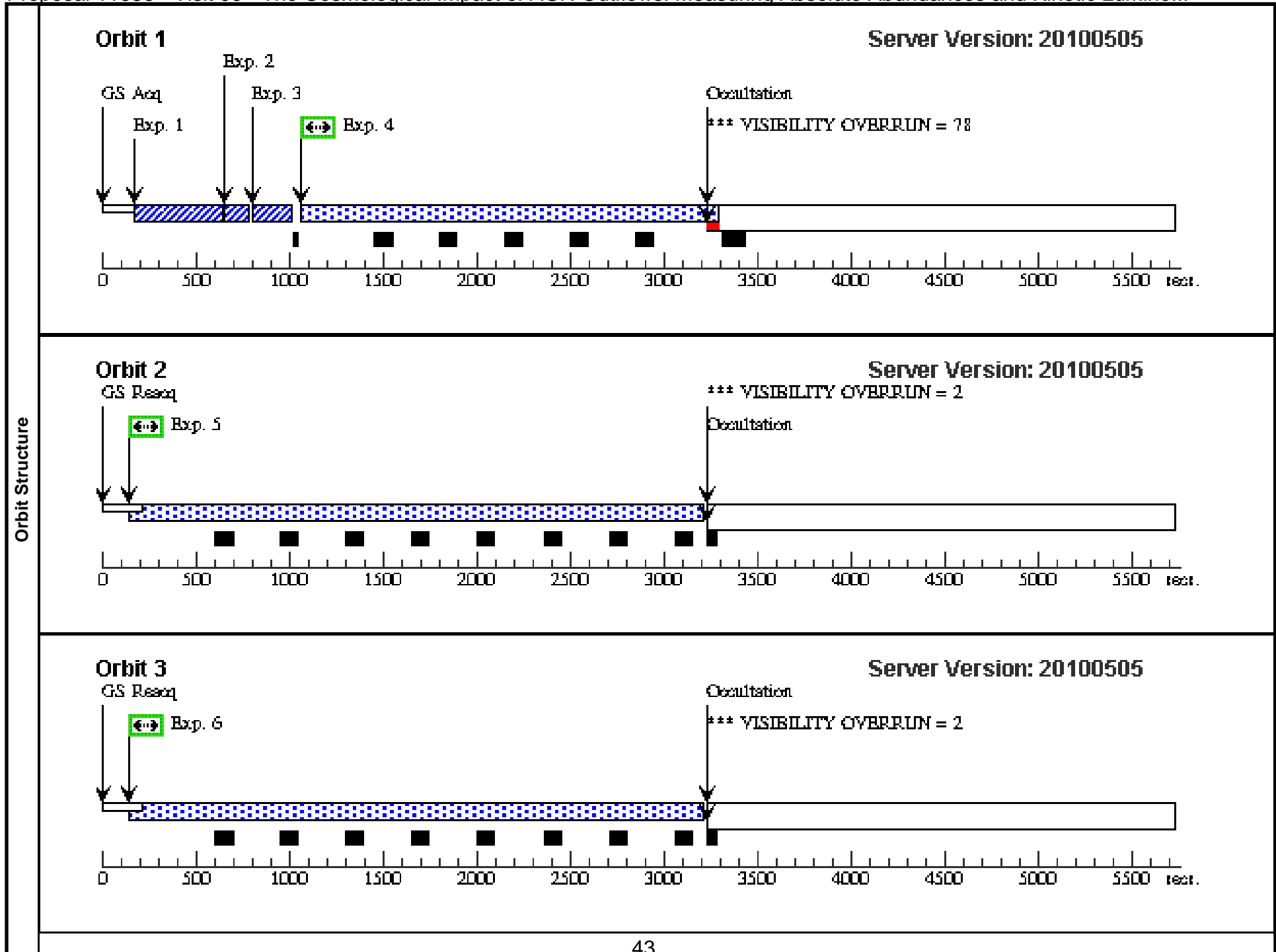
Proposal 11686 - Visit 09 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

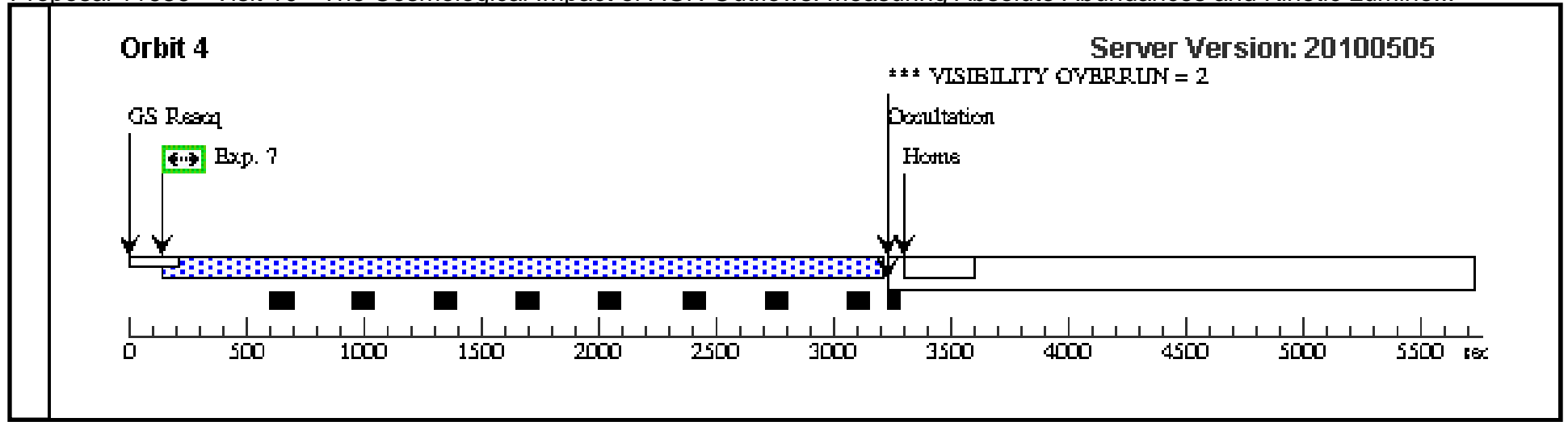
Wed Sep 15 01:03:55 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 10, completed</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: RXJ1230 G160M (Four Orbits)</i></p> <p><i>There are no BOT constraints (the reported violation is our target)</i></p>																																																																							
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Proposal 11686 - Visit 09 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	RXJ1230-A CQ/SEARC H-G160M/1 589	(6) RXJ1230.8+0115 COS/FUV, ACQ/SEARCH, PSA	G160M 1589 A	SCAN-SIZE=3			3 Secs [==>]	[1]	
	<p>Comments: <math>F(1180)=5E-14</math> (FUSE, p1019001)</p> <p>GALEX J123050.1+011522: <math>NUV=14.84 \pm 0.01</math>; <math>FUV=15.15 \pm 0.02</math></p> <p>As usual, we get our BT from the 2.5x the brightest observation, and ET from 0.5* the faintest observation.</p> <p>G160M_1589: <math>z=0.0117</math>            COS75738 gives <math>BT = 526*2/3 = 351s</math> (<math>F1180=1.25E-13</math>)            COS75742 gives <math>BT = 614*2/3 = 409s</math> (<math>FUV=14.15</math>)            COS75739 give <math>ET=1.9s</math> (<math>F1180=0.25E-13</math>)            COS75744 gives <math>ET = 2.24s</math> (<math>FUV=15.9</math>)</p> <p>ET=2.3s, BT=351</p>									
	2	RXJ1230-A CQ/PEAKX D-G160M/1 589	(6) RXJ1230.8+0115 COS/FUV, ACQ/PEAKXD, PSA	G160M 1589 A				3 Secs [==>]	[1]	
	<p>Comments: see previous G160M TA comment</p>									
	3	RXJ1230-A CQ/PEAKD -G160M/15 89	(6) RXJ1230.8+0115 COS/FUV, ACQ/PEAKD, PSA	G160M 1589 A	NUM-POS=5; STEP-SIZE=1.2			3 Secs [==>]	[1]	
	<p>Comments: see previous G160M TA comment</p>									
	4	RXJ1230-G 160M-1589	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G160M 1589 A	BUFFER-TIME=35 1			2179 Secs [==>]	[1]	
<p>Comments: <math>F(1180)=5E-14</math> (FUSE, p1019001)</p> <p>GALEX J123050.1+011522: <math>NUV=14.84 \pm 0.01</math>; <math>FUV=15.15 \pm 0.02</math></p> <p>As usual, we get our BT from the 2.5x the brightest observation, and ET from 0.5* the faintest observation.</p> <p>G160M_1589: <math>z=0.0117</math>            COS75738 gives <math>BT = 526*2/3 = 351s</math> (<math>F1180=1.25E-13</math>)            COS75742 gives <math>BT = 614*2/3 = 409s</math> (<math>FUV=14.15</math>)            COS75739 give <math>ET=1.9s</math> (<math>F1180=0.25E-13</math>)            COS75744 gives <math>ET = 2.24s</math> (<math>FUV=15.9</math>)</p> <p>ET=2.3s, BT=351</p>										
5	RXJ1230-G 160M-1600	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=35 1			2950 Secs [==>]	[2]		
<p>Comments: see previous G160M comment</p>										
6	RXJ1230-G 160M-1611	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=35 1			2950 Secs [==>]	[3]		
<p>Comments: see previous G160M comment</p>										
7	RXJ1230-G 160M-1623	(6) RXJ1230.8+0115 COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=35 1			2950 Secs [==>]	[4]		
<p>Comments: see previous G160M comment</p>										





Proposal 11686 - Visit 10 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

Wed Sep 15 01:03:56 GMT 2010

<b>Visit</b>	<p><b>Proposal 11686, Visit 56, implementation</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p> <p><i>Comments: Q0045 G130M (Four Orbits), Spectroscopic TA with ET=6.3 and BT=561s.</i></p> <p><i>3x3 ACQ/SEARCH is probably overkill, a 2x2 would be sufficient.</i></p> <p><i>Original goal was 9235 for G130M, and 11565 for G160M.</i></p> <p><i>In eight orbits, we get</i></p> <p><i>G130M: 2199+3*3049=11346.</i></p> <p><i>G160M: 2168+3*3049=11315</i></p>																																																										
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Proposal 11686 - Visit 10 - The Cosmological Impact of AGN Outflows: Measuring Absolute Abundances and Kinetic Lumino...

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	Q0045-ACQ (4) QSO0045+3926 /SEARCH-G130M	COS/FUV, ACQ/SEARCH, PSA	G130M 1318 A	SCAN-SIZE=3			6.3 Secs [==>]	[1]	
	<p>Comments: <math>F(1180) = 2E-14</math> (<math>d1310106, d1310101</math>)  <math>F(1180) = 1.5E-14</math> (<math>z0020401</math>)</p> <p>GALEX J004818.9+394111 gives  NUV=16.56 +/- 0.03  FUV=16.77 +/- 0.04</p> <p>As usual, we will get our BT from 2.5 times the brightest measurement, and the ET from 1/2 times the faintest. First the BT:  COS75710 uses G130M/1318+ <math>F(1180)=2.5*2E-14=5E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*841=561s</math> (<math>ET=0.7s</math>)  COS75714 uses G130M/1318+ GALEX FUV -1 = 15.77 for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*1370=914</math> (<math>ET=1.26s</math>)</p> <p>Now at 1/2 the faintest to get ET:  COS75713 uses <math>F(1180)=0.5*1.5E-14=0.75E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>ET=3.5s</math>  COS75715 uses GALEX FUV +0.75 = 17.5 for a <math>z=0.134</math> FOS QSO template gives <math>ET=6.3</math></p> <p>So, we are going with <math>ET=6.3</math> and <math>BT=561s</math></p>									
	2	Q0045-ACQ (4) QSO0045+3926 /PEAKXD	COS/FUV, ACQ/PEAKXD, PSA	G130M 1318 A				6.3 Secs [==>]	[1]	
	Comments: see previous comment									
	3	Q0045-ACQ (4) QSO0045+3926 /PEAKD	COS/FUV, ACQ/PEAKD, PSA	G130M 1318 A	NUM-POS=5; STEP-SIZE=1.2			6.3 Secs [==>]	[1]	
	Comments: see previous comment									
	4	Q0045-G13 (4) QSO0045+3926 0M-1318	COS/FUV, TIME-TAG, PSA	G130M 1318 A	BUFFER-TIME=56 1			2109 Secs [==>]	[1]	
<p>Comments: As usual, we will get our BT from 2.5 times the brightest measurement:  COS75710 uses G130M/1318+ <math>F(1180)=2.5*2E-14=5E-14</math> for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*841=561s</math> (<math>ET=0.7s</math>)  COS75714 uses G130M/1318+ GALEX FUV -1 = 15.77 for a <math>z=0.134</math> FOS QSO template gives <math>BT=2/3*1370=914</math> (<math>ET=1.26s</math>)</p> <p>So, we are going with <math>BT=561s</math></p>										
5	Q0045-G13 (4) QSO0045+3926 0M-1291	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=56 1			3015 Secs [==>]	[2]		
Comments: see previous comment										
6	Q0045-G13 (4) QSO0045+3926 0M-1300	COS/FUV, TIME-TAG, PSA	G130M 1300 A	BUFFER-TIME=56 1			3015 Secs [==>]	[3]		
Comments: see previous G130M comment										
7	Q0045-G13 (4) QSO0045+3926 0M-1309	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=56 1			3015 Secs [==>]	[4]		
Comments: see previous G130M comment										

