



11835 - The multi-faceted X-ray activity of low-redshift active galaxies

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) NGC-7385	WFC3/IR WFC3/UVIS	2	27-Oct-2008 21:24:47.0	yes
04	(2) DA240	WFC3/IR WFC3/UVIS	2	27-Oct-2008 21:24:52.0	yes
03	(3) 4C73.08	WFC3/UVIS	1	27-Oct-2008 21:24:56.0	yes
02	(4) PKS1227+119	WFC3/IR WFC3/UVIS	2	27-Oct-2008 21:24:59.0	yes

7 Total Orbits Used

ABSTRACT

We propose ACIS-I observations of Chandra-unobserved low-redshift 3CRR active galaxies and their environments. The data will complete Chandra observations of 3CRR at $z < 0.1$, making the sample useful for statistical studies. Only Chandra can resolve the multiple components of these sources, as is needed for an improved understanding of source physics and gas heating. The imaging and spectroscopy of cores, jets, hot spots, and atmospheres will be of permanent legacy value. We will use the data to investigate particle acceleration, interactions between radio plasma and the ISM and IGM, the emission mechanisms of hot spots, and AGN fueling. Comparison with our complete Spitzer coverage and HST images will aid interpretation. The dataset will be made public immediately.

OBSERVING DESCRIPTION

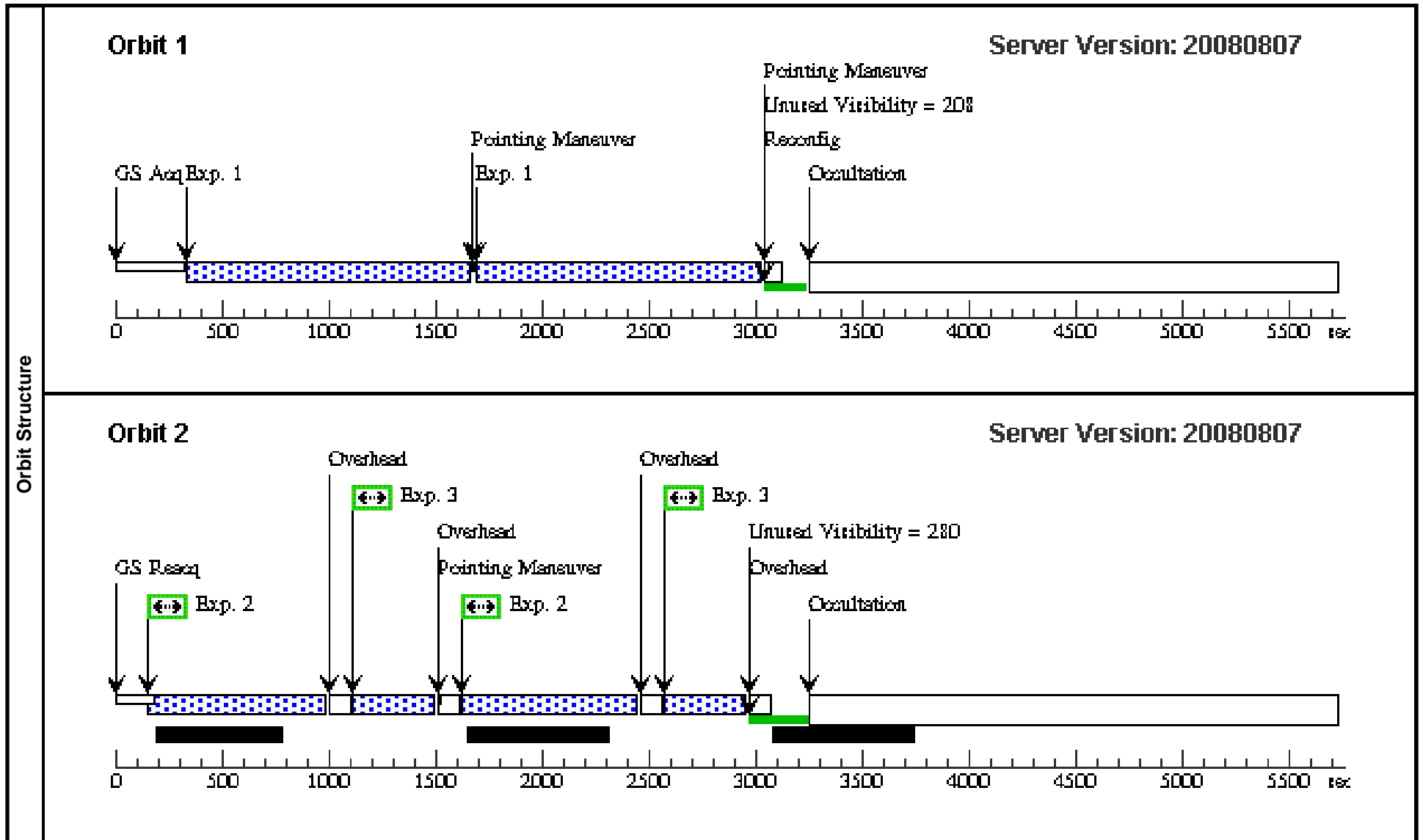
We will obtain HST images of four 3CR radio galaxies which were not observed during the 3CR snapshot surveys led by Sparks et al. This will yield a uniformly observed sample with imaging data in two optical bands as well as in the near-infrared. The HST data will shed light on such issues as galactic structure, star formation, optical jets, dust features, tidal tails. When viewed in combination with the Chandra and archival radio observations, this will allow us to disentangle how the radio plasma impacts the properties of the gas it flows through as well as the galaxy as a whole. We will also probe the reverse side of the equation -- that is how the galaxy type and other galaxy features affect the evolution of the radio source and the surrounding X-ray atmosphere.

We will obtain observations in three bands with HST: F555W and F775W in the optical, using the WFC3 UVIS channel, and F160W in the near-IR, using the WFC3 IR channel. This strategy closely parallels that used in the highly successful 3CR snapshot programs, although the use of the F775W band is a change, made necessary by the fact that the F702W filter (used for the 3CR SNAP) is not available on WFC3. Observing times have been calculated to obtain roughly equal sensitivity in all three bands ($H=25.1$, $i=23.2$ and $V=23.6$ mag/arcsec² respectively).

REAL TIME JUSTIFICATION

These observations can be scheduled as flexibly as necessary. We do not have any special requirements as far as roll angle or orbital visibilities; the default parameters will do fine. Also there are no requirements as far as scheduling times.

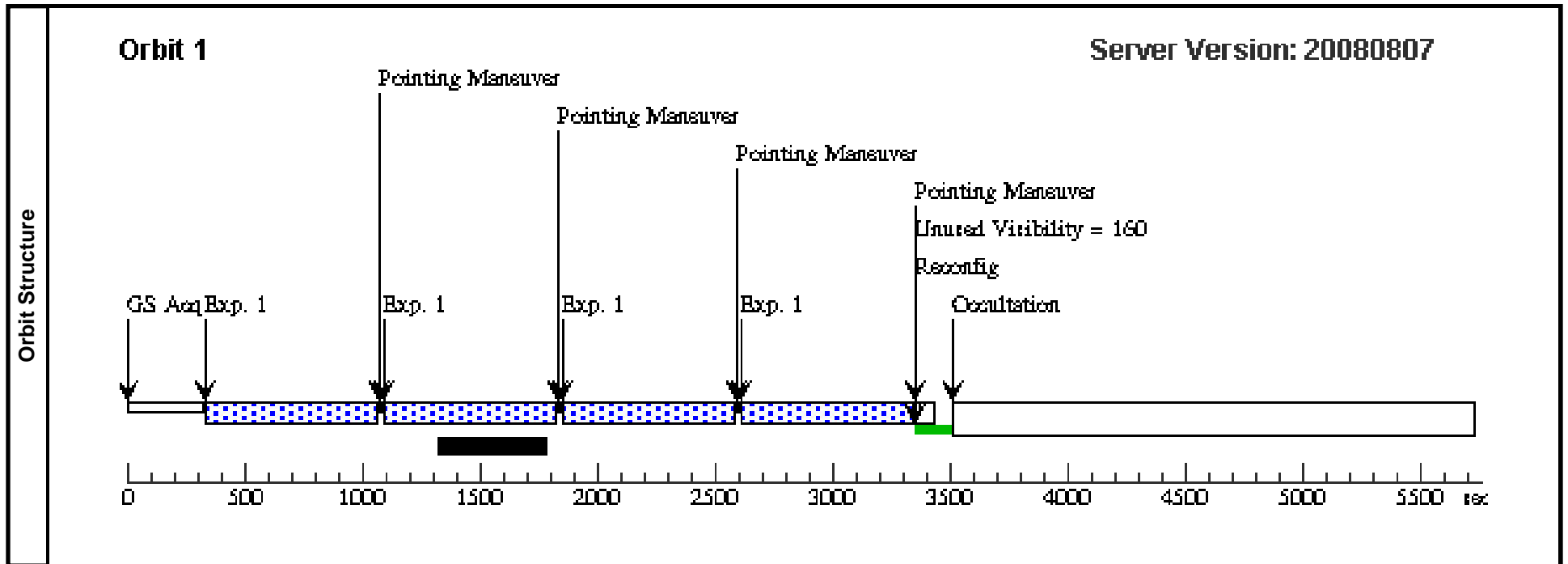
Visit	Proposal 11835, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.364 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=34.34 Angle Between Sides= Center Pattern=false		(1)				
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=2.391 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.248 Angle Between Sides= Center Pattern=false		(2-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-7385	RA: 22 49 54.6000 (342.4775000d) Dec: +11 36 31.00 (11.60861d) Equinox: J2000		V=16	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) NGC-7385	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=14		Pattern 1-1 (1)	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2		(1) NGC-7385	WFC3/UVIS, ACCUM, UVIS	F775W	CR-SPLIT=NO		Pattern 2-3 (2)	800 Secs [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	3		(1) NGC-7385	WFC3/UVIS, ACCUM, UVIS	F555W	CR-SPLIT=NO		Pattern 2-3 (2)	356 Secs [=>(Pattern 1)] [=>(Pattern 2)]	[2]

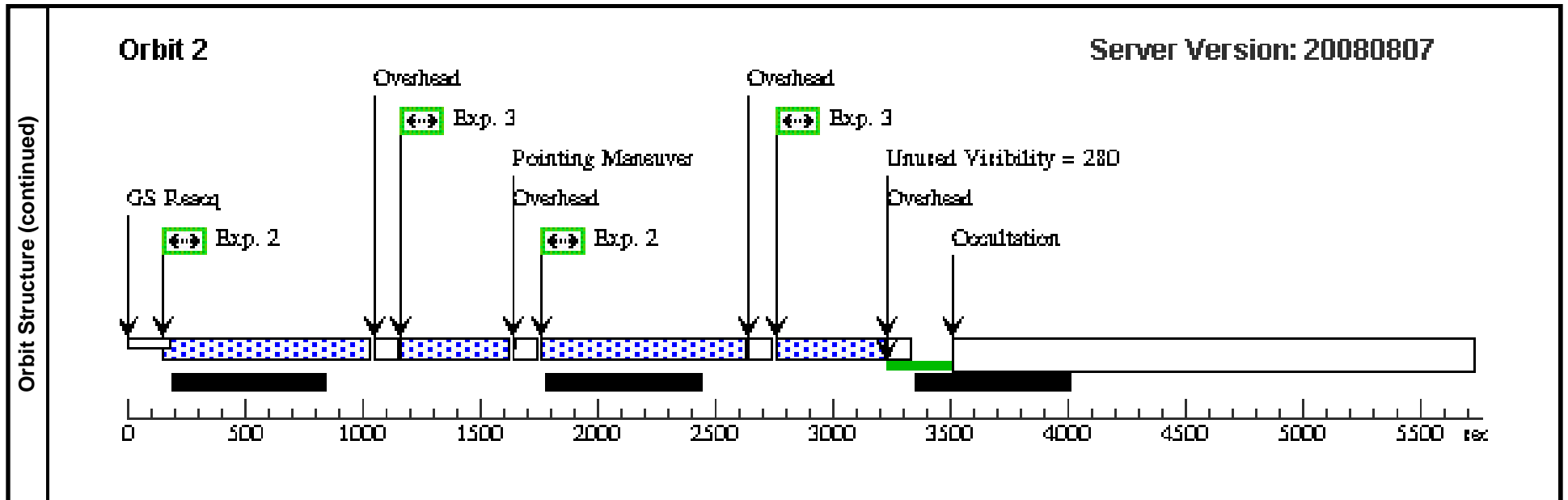


Proposal 11835 - Visit 04 - The multi-faceted X-ray activity of low-redshift active galaxies

Tue Oct 28 01:25:04 GMT 2008

Visit	Proposal 11835, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=2.391 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.248 Angle Between Sides= Center Pattern=false		(2-3)				
	(3)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.528 Line Spacing=0.382	Coordinate Frame=POS-TARG Pattern Orientation=23.348 Angle Between Sides=95.036 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	DA240	RA: 07 48 36.9000 (117.1537500d) Dec: +55 48 58.00 (55.81611d) Equinox: J2000		V=16	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) DA240	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=STEP100; NSAMP=13		Pattern 1-1 (3)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2		(2) DA240	WFC3/UVIS, ACCUM, UVIS	F775W	CR-SPLIT=NO		Pattern 2-3 (2)	850 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[2]
	3		(2) DA240	WFC3/UVIS, ACCUM, UVIS	F555W	CR-SPLIT=NO		Pattern 2-3 (2)	439 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[2]

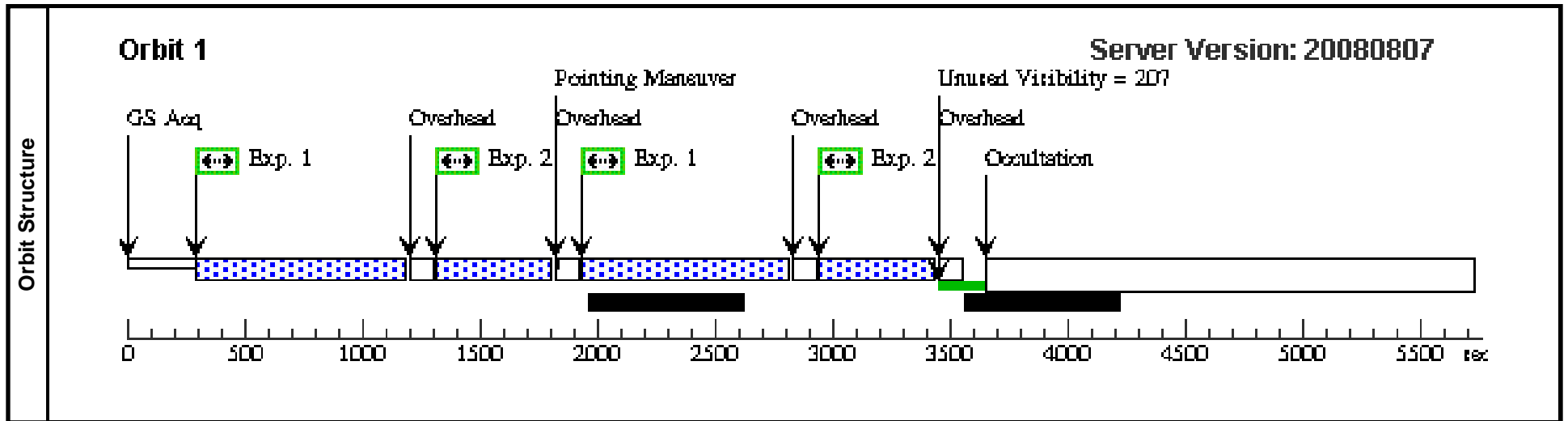




Proposal 11835 - Visit 03 - The multi-faceted X-ray activity of low-redshift active galaxies

Tue Oct 28 01:25:04 GMT 2008

Visit	Proposal 11835, Visit 03, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
(2)		Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=2.391 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.248 Angle Between Sides= Center Pattern=false					(1-2)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	4C73.08	RA: 09 49 45.9000 (147.4412500d) Dec: +73 14 23.00 (73.23972d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>		V=16	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(3) 4C73.08		WFC3/UVIS, ACCUM, UVIS	F775W	CR-SPLIT=NO		Pattern 1-2 (2)	860 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	
2	(3) 4C73.08		WFC3/UVIS, ACCUM, UVIS	F555W	CR-SPLIT=NO			Pattern 1-2 (2)	467 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	



Proposal 11835 - Visit 02 - The multi-faceted X-ray activity of low-redshift active galaxies

Tue Oct 28 01:25:05 GMT 2008

Visit	Proposal 11835, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.364 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=34.34 Angle Between Sides= Center Pattern=false		(1)				
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=2.391 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.248 Angle Between Sides= Center Pattern=false		(2-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	PKS1227+119	RA: 12 29 52.3000 (187.4679167d) Dec: +11 40 38.90 (11.67747d) Equinox: J2000		V=16.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) PKS1227+119	WFC3/IR, MULTIACCUM, IR-FIX	F160W	SAMP-SEQ=SPARS 100; NSAMP=14		Pattern 1-1 (1)	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2		(4) PKS1227+119	WFC3/UVIS, ACCUM, UVIS	F775W	CR-SPLIT=NO		Pattern 2-3 (2)	800 Secs [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	3		(4) PKS1227+119	WFC3/UVIS, ACCUM, UVIS	F555W	CR-SPLIT=NO		Pattern 2-3 (2)	356 Secs [=>(Pattern 1)] [=>(Pattern 2)]	[2]

