



11831 - Probing X-Ray Jet Emission Mechanisms in a Complete Blazar Sample

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) 1641+399	ACS/WFC	1	04-Jun-2009 21:08:52.0	yes
02	(2) 0106+013	ACS/WFC	1	04-Jun-2009 21:08:56.0	yes

2 Total Orbits Used

ABSTRACT

We propose deep (70 ksec) followup Chandra X-ray observations and new HST ACS/WFC/F475W observations of two quasars, viz., 0106+013 and 1641+399, belonging to the complete flux-limited MOJAVE Chandra blazar sample. These two quasars have HST WFPC2/F702W data available in the archive. Combining the existing optical and radio data with the new Chandra and HST data at an additional optical band we aim to construct a significantly more accurate multi-waveband (four frequency) spectral energy distributions for distinct knots in the jets. This will serve as a first step towards resolving longstanding ambiguities surrounding the primary X-ray emission mechanisms in a well-defined sample of powerful FR-II class jets.

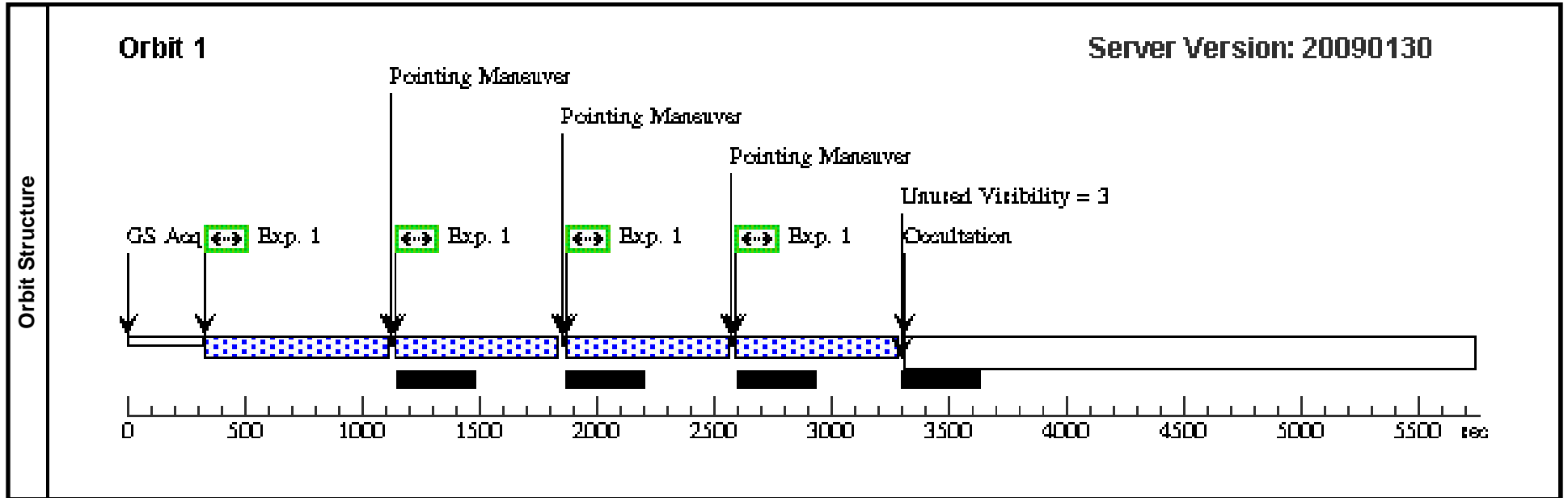
OBSERVING DESCRIPTION

In this proposal, we aim to observe the two quasars, 0106+013 and 1641+399, with ACS/WFC through the F475W filter. Both the quasars have previously been observed with HST WFPC2/F702W. While the HST archival data on 0106+013 are unpublished, jet features have been detected in 1641+399 by Sambruna et al. (2004). Using the optical knot flux densities listed in Sambruna et al. (2004), which are typically of the order of 0.3 microJy in the R-band (F702W), we have estimated that ~2700 seconds will yield a B-band (F475W) detection with a signal-to-noise ratio ~15 for the sources. Therefore, with one HST orbit per target we expect to obtain optical spectral indices with errors ~0.1 for both the sources, which will provide an essential constraint for the unambiguous interpretation of their broad-band SEDs.

Proposal 11831 - Visit 01 - Probing X-Ray Jet Emission Mechanisms in a Complete Blazar Sample

Fri Jun 05 01:08:59 GMT 2009

Visit	Proposal 11831, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: ORIENT 127D TO 167. D; ORIENT 307D TO 347 D Comments: Observing 1641+399 PA of jet in 1641+399 = 325D Offset = 2D ORIENT = 327D +/- 20D = 307D TO 347D also ORIENT = 127D TO 167D We have allowed a larger range of angles (+/- 20D) because jet is short.									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	1641+399 Alt Name1: 3C345	RA: 16 42 58.8000 (250.7450000d) Dec: +39 48 37.00 (39.81028d) Equinox: J2000	Redshift: 0.5928	V=16.6	Reference Frame: ICRS				
	Comments: This object was generated by the targetselector and retrieved from the NED database.									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) 1641+399	ACS/WFC, ACCUM, WFC1	F475W			Pattern 1, Exps 1-1 (1)	2700 Secs [==>570.0 Secs (Pattern 1)] [==>570.0 Secs (Pattern 2)] [==>570.0 Secs (Pattern 3)] [==>570.0 Secs (Pattern 4)]	[1]



Proposal 11831 - Visit 02 - Probing X-Ray Jet Emission Mechanisms in a Complete Blazar Sample

Fri Jun 05 01:09:00 GMT 2009

Visit	Proposal 11831, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: ORIENT 82D TO 112 D; ORIENT 262D TO 292 D Comments: Observing 0106+013 PA of jet in 0106+013 = 95D Offset = 2D ORIENT = 97D +/- 15D = 82D TO 112D also ORIENT = 262D TO 292D									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
(1)		Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187		Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false					(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	0106+013 Alt Name1: 4C+01.02	RA: 01 08 38.8000 (17.1616667d) Dec: +01 35 0.00 (1.58333d) Equinox: J2000	Redshift: 2.099	V=18.34	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the NED database.										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) 0106+013	ACS/WFC, ACCUM, WFC1	F475W		GS ACQ SCENARI O SINGLE	Pattern 1, Exps 1-1 (1)	2700 Secs [==>575.0 Secs (Pattern 1)] [==>575.0 Secs (Pattern 2)] [==>575.0 Secs (Pattern 3)] [==>575.0 Secs (Pattern 4)]	[1]

