



17201 - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Cycle: 30, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Dr. Eileen T Meyer (PI) (Contact)	University of Maryland Baltimore County
Dr. Marco Chiaberge (CoI) (ESA Member)	Space Telescope Science Institute - ESA - JWST
Dr. William B. Sparks (CoI)	SETI Institute
Dr. Markos Georganopoulos (CoI)	University of Maryland Baltimore County
Dr. Karthik Reddy Solipuram (CoI)	Arizona State University
Prof. Judd Bowman (CoI)	Arizona State University
Prof. Eric S. Perlman (CoI)	Florida Institute of Technology
Dr. Peter Breiding (CoI)	The Johns Hopkins University

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) PKS1136-135	WFC3/UVIS	2	18-Jun-2024 17:00:47.0	yes
02	(1) PKS1136-135	WFC3/UVIS	2	18-Jun-2024 17:00:48.0	yes
03	(1) PKS1136-135	WFC3/UVIS	2	18-Jun-2024 17:00:49.0	yes
04	(1) PKS1136-135	WFC3/IR	2	18-Jun-2024 17:00:50.0	yes
05	(2) PKS2209+080	WFC3/UVIS	1	18-Jun-2024 17:00:51.0	yes
06	(2) PKS2209+080	WFC3/UVIS	1	18-Jun-2024 17:00:51.0	yes

<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>
07	(3) 3C454.3	WFC3/UVIS	2	18-Jun-2024 17:00:52.0	yes
08	(3) 3C454.3	WFC3/UVIS	1	18-Jun-2024 17:00:53.0	yes
09	(3) 3C454.3	WFC3/UVIS	1	18-Jun-2024 17:00:54.0	yes

14 Total Orbits Used

ABSTRACT

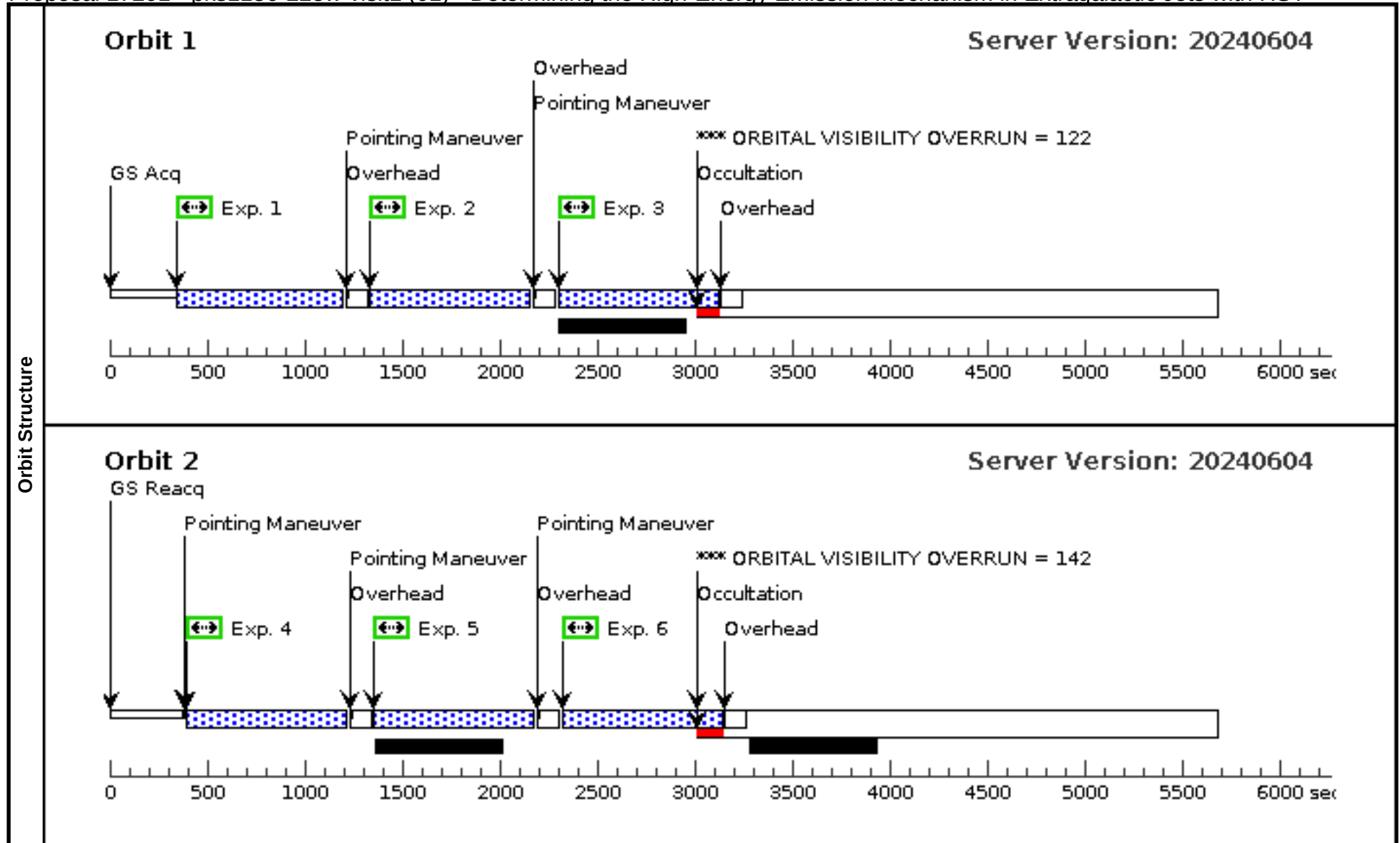
Bipolar jets of relativistic plasma are a well-known phenomenon associated with active galaxies, which are seen to emit high-energy radiation (optical through X-ray) on very large (kpc-Mpc) scales, requiring in-situ particle acceleration by an unknown mechanism. While the radio emission in these large-scale jets is understood to be synchrotron in origin, recent observations with HST, ALMA, and Chandra have revealed a second mysterious component at higher energies. While some optical jets have a very soft spectrum associated with the tail of the radio synchrotron component, a handful of sources have a favorable alignment such that the optical emission is very hard, indicating that it arises from the second component associated with the anomalous X-ray emission. We propose IR, optical, and UV observations of the 3 extragalactic jets known to have a very hard optical spectral index, in order to precisely measure the full IR-UV spectral shape of this rising component. The two main alternatives for the origin of the high-energy component, synchrotron and inverse Compton emission, predict different spectral slopes in the optical/UV, and these observations will allow us to conclusively determine which of these mechanisms is consistent with the data. Distinguishing the emission mechanism is critical -- the two alternatives are vastly different in terms of physical properties and implied jet powers, by orders of magnitude.

OBSERVING DESCRIPTION

Here are requested near-IR, optical, and UV observations of 3 AGN jets previously detected in the optical. In all cases the science target is the faint jet extending out on tens of arcsecond scales from a central bright 'core' which appears star-like (V-mag ~16-18). The central core is variable, so there is some concern that diffraction spikes could interfere with imaging the jet. Some roll constraints are specified to avoid this. Minor saturation of the core is not an issue since it is not the science target.

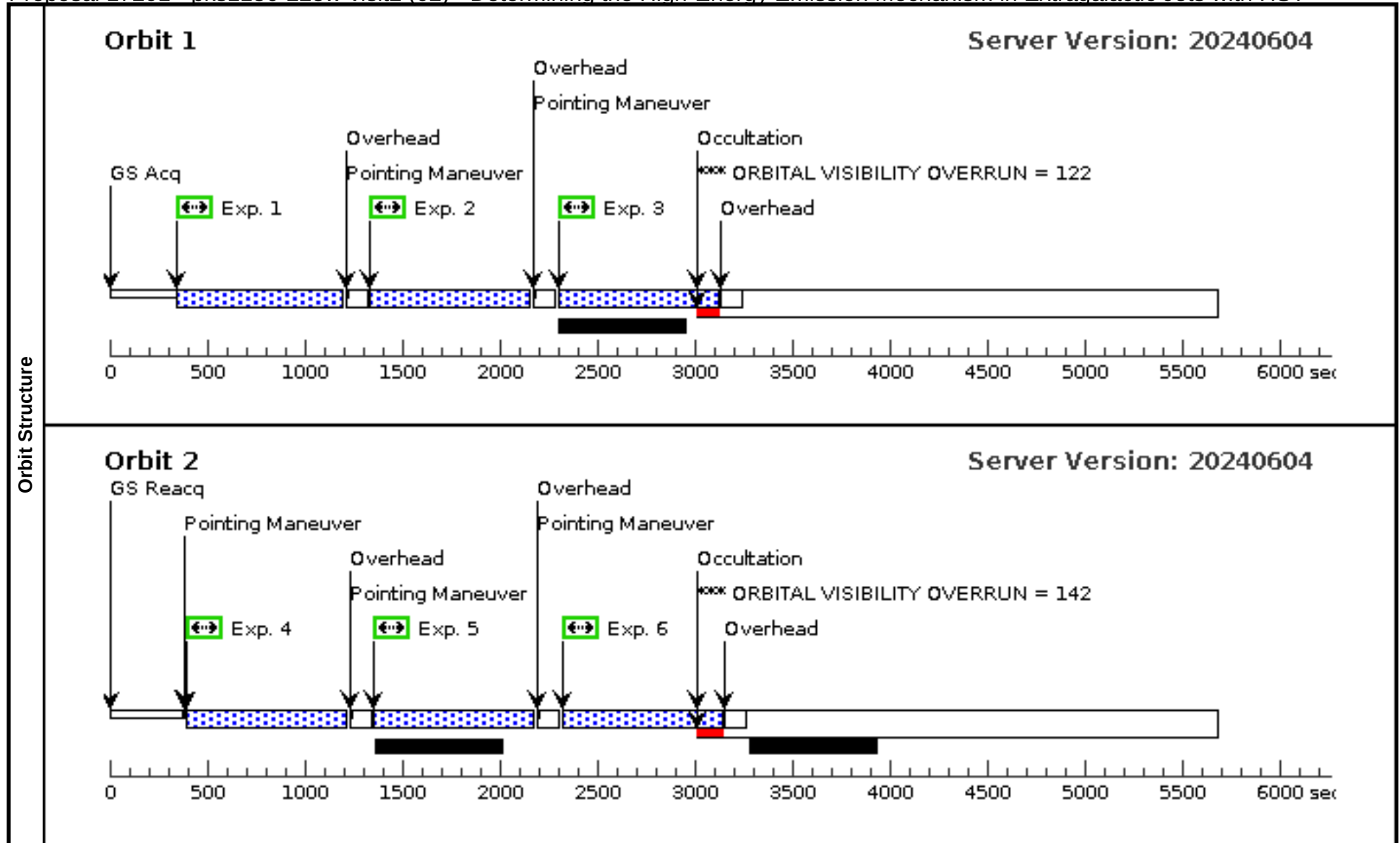
Proposal 17201 - pks1136-225w-visit1 (01) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, pks1136-225w-visit1 (01), completed							Tue Jun 18 21:00:54 GMT 2024		
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: ORIENT 295D TO 312 D; ORIENT 210D TO 225 D; ORIENT 20D TO 50 D; ORIENT 120D TO 135 D									
Comments: PKS 1136-135 is a bright quasar hosting a faint arcseconds-scale optical jet previously imaged at optical wavelengths with HST. The flux ratio between the bright core and the faint jet knots is approximately 2000:1, which complicates the observing strategy. We have opted to place the target near one of the readouts to lessen CTE and therefore do not use the full recommended FLASH level. This is because the poisson noise from the FLASH significantly degrades the sensitivity of the observations to the faint extended jet knots. NOTE: this visit contains 2/4 total orbits allocated to this target in the F22W filter to increase schedulability.										
Diagnostics	(pks1136-225w-visit1 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(pks1136-225w-visit1 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PKS1136-135	RA: 11 39 10.7026 (174.7945942d) Dec: -13 50 43.64 (-13.84546d) Equinox: J2000	Epoch of Position: 2015.5	V=16.17	Reference Frame: SIMBAD				
	Comments: Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50,-15		825 Secs (825 Secs) [==>]	[1]
	2	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.092 7,-15.3376		825 Secs (825 Secs) [==>]	[1]
	3	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.185 1,-15.1978		825 Secs (825 Secs) [==>]	[1]
	4	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.238 2,-15.5130		825 Secs (825 Secs) [==>]	[2]
	5	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.330 5,-15.3732		825 Secs (825 Secs) [==>]	[2]
	6	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.502 4,-15.5171		825 Secs (825 Secs) [==>]	[2]



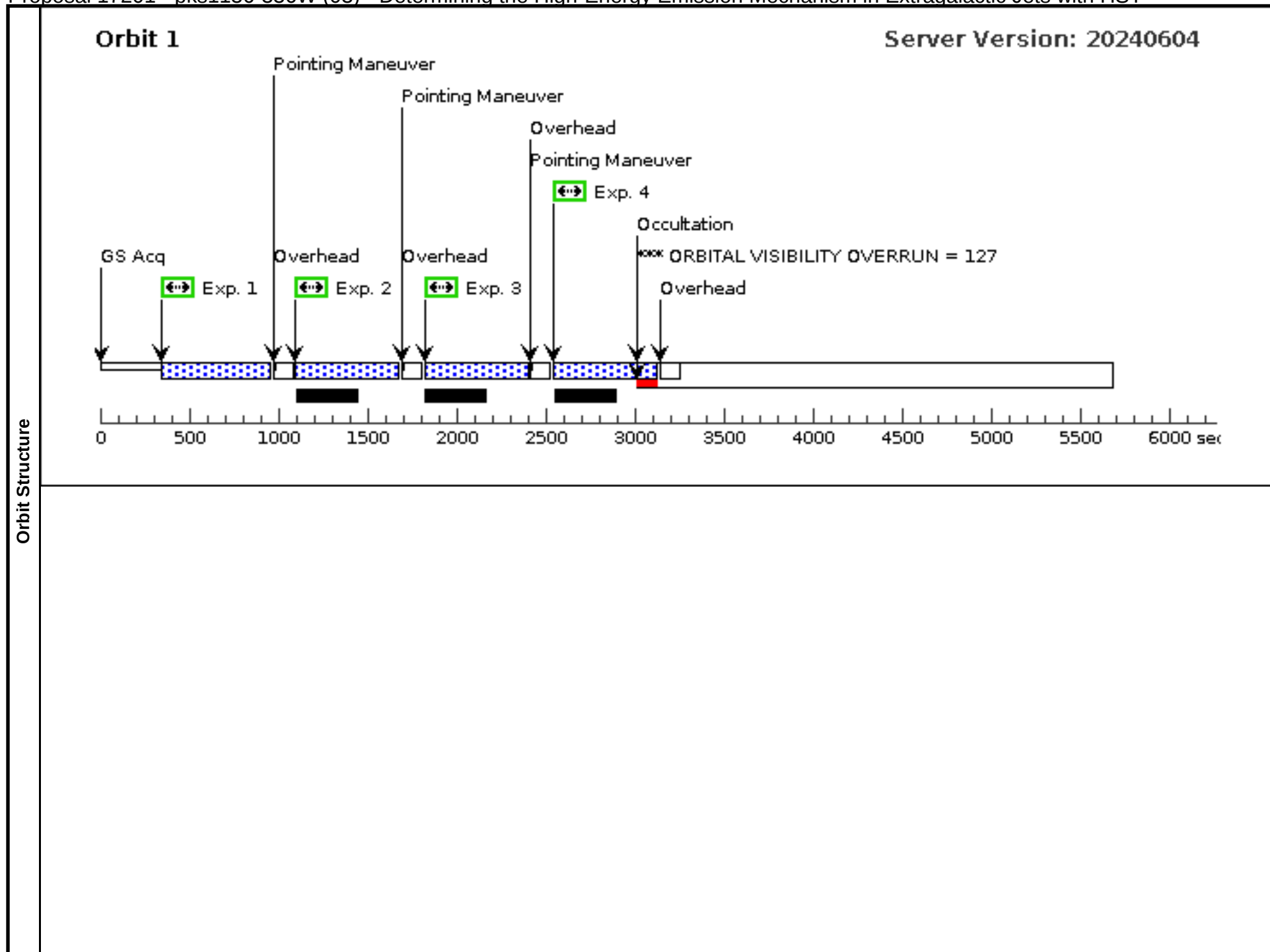
Proposal 17201 - pks1136-225w-visit2 (02) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

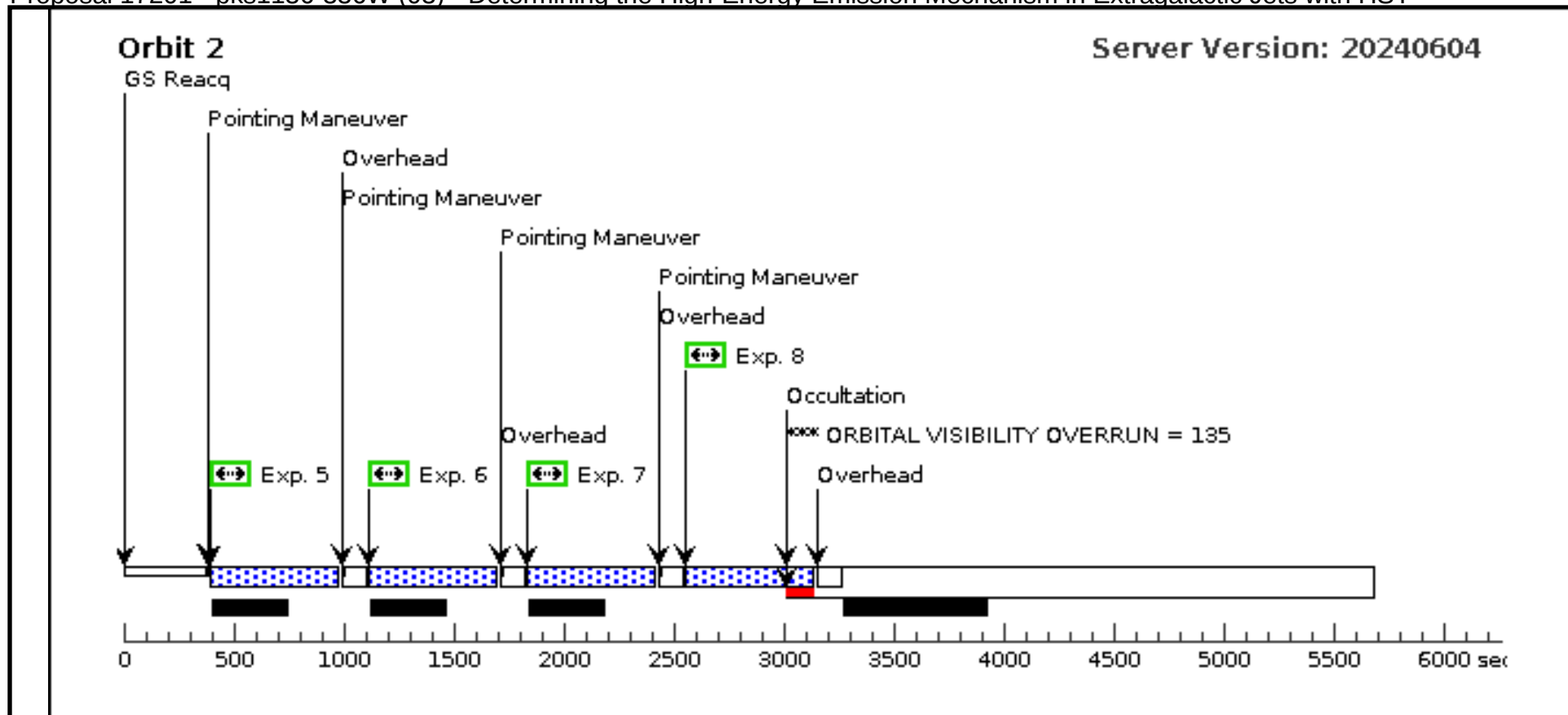
Visit	Proposal 17201, pks1136-225w-visit2 (02), completed							Tue Jun 18 21:00:55 GMT 2024		
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: ORIENT 295D TO 312 D; ORIENT 210D TO 225 D; ORIENT 20D TO 50 D; ORIENT 120D TO 135 D									
Comments: PKS 1136-135 is a bright quasar hosting a faint arcseconds-scale optical jet previously imaged at optical wavelengths with HST. The flux ratio between the bright core and the faint jet knots is approximately 2000:1, which complicates the observing strategy. We have opted to place the target near one of the readouts to lessen CTE and therefore do not use the full recommended FLASH level. This is because the poisson noise from the FLASH significantly degrades the sensitivity of the observations to the faint extended jet knots. NOTE: this visit contains 2/4 total orbits allocated to this target in the F22W filter to increase schedulability.										
Diagnostics	(pks1136-225w-visit2 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(pks1136-225w-visit2 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	PKS1136-135	RA: 11 39 10.7026 (174.7945942d) Dec: -13 50 43.64 (-13.84546d) Equinox: J2000	Epoch of Position: 2015.5	V=16.17	Reference Frame: SIMBAD				
	Comments: Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.5,-15.5		825 Secs (825 Secs) [==>]	[1]
	2	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -51.0927,-16.3376		825 Secs (825 Secs) [==>]	[1]
	3	wfc3-225w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.6851,-15.6978		825 Secs (825 Secs) [==>]	[1]
	4	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.7382,-16.0130		825 Secs (825 Secs) [==>]	[2]
	5	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -50.8305,-15.8732		825 Secs (825 Secs) [==>]	[2]
	6	wfc3-225w	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F225W	FLASH=15	POS TARG -51.0024,-16.0171		825 Secs (825 Secs) [==>]	[2]



Proposal 17201 - pks1136-336W (03) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, pks1136-336W (03), completed							Tue Jun 18 21:00:55 GMT 2024		
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: ORIENT 295D TO 312 D; ORIENT 210D TO 225 D; ORIENT 20D TO 50 D; ORIENT 120D TO 135 D									
Comments: PKS 1136-135 is a bright quasar hosting a faint arcseconds-scale optical jet previously imaged at optical wavelengths with HST. The flux ratio between the bright core and the faint jet knots is approximately 2000:1, which complicates the observing strategy. We have opted to place the target near one of the readouts to lessen CTE and therefore do not use the full recommended FLASH level. This is because the poisson noise from the FLASH significantly degrades the sensitivity of the observations to the faint extended jet knots. NOTE: this visit contains 2/4 total orbits allocated to this target in the F22W filter to increase schedulability.										
Diagnostics	(pks1136-336W (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(pks1136-336W (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous		
	(1)	PKS1136-135	RA: 11 39 10.7026 (174.7945942d) Dec: -13 50 43.64 (-13.84546d) Equinox: J2000		Epoch of Position: 2015.5		V=16.17	Reference Frame: SIMBAD		
Comments: Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50,-15		585 Secs (585 Secs) [==>]	[1]
	2	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.089 4,-15.3341		585 Secs (585 Secs) [==>]	[1]
	3	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.178 5,-15.1908		585 Secs (585 Secs) [==>]	[1]
	4	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.267 9,-15.5249		585 Secs (585 Secs) [==>]	[1]
	5	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.317 3,-15.3591		582 Secs (582 Secs) [==>]	[2]
	6	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.406 7,-15.6932		582 Secs (582 Secs) [==>]	[2]
	7	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.495 8,-15.5101		582 Secs (582 Secs) [==>]	[2]
	8	wfc3-336w (FC3UVIS.i m.1814621)	(1) PKS1136-135	WFC3/UVIS, ACCUM, UVIS2	F336W	FLASH=17	POS TARG -50.664 4,-15.6902		582 Secs (582 Secs) [==>]	[2]



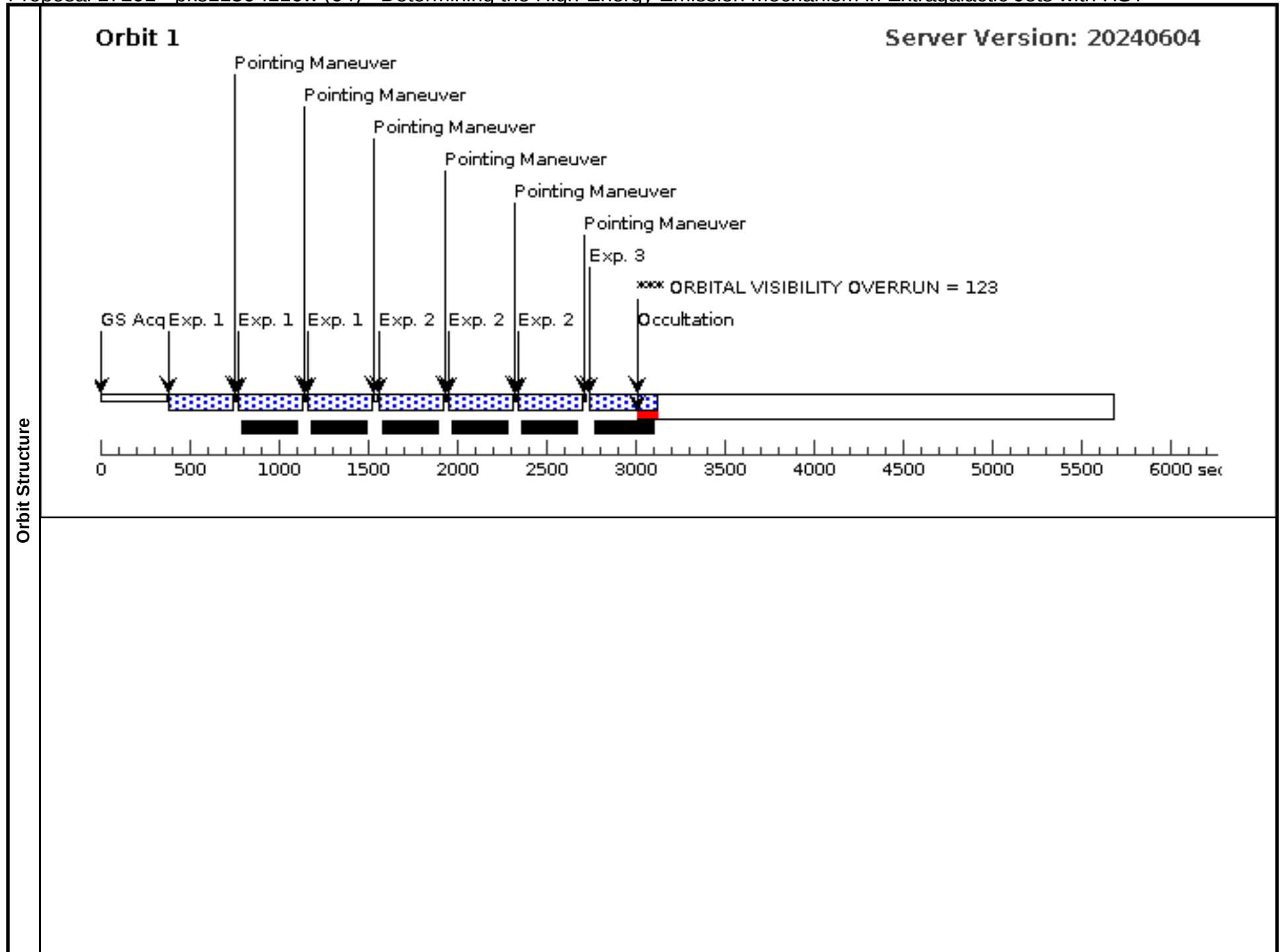


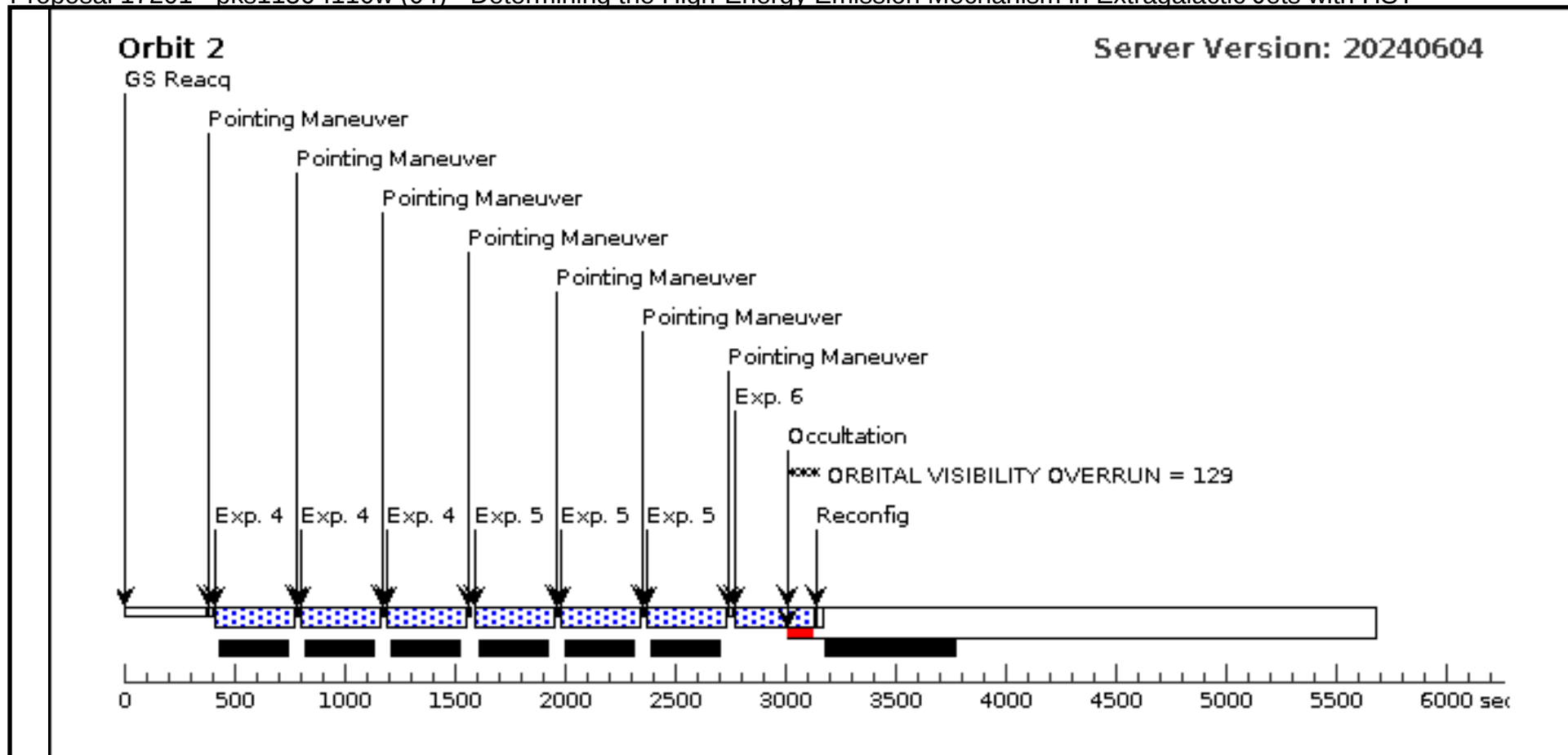
Proposal 17201 - pks1136-f110w (04) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, pks1136-f110w (04), completed Tue Jun 18 21:00:55 GMT 2024				
	Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: ORIENT 30D TO 55 D; ORIENT 125D TO 140 D; ORIENT 215D TO 230 D; ORIENT 295D TO 325 D <i>Comments: PKS 1136-135 is a bright quasar hosting a faint arcseconds-scale optical jet previously imaged at optical wavelengths with HST. In the IR, the AGN core is expected to be very bright, ~ 8e-4 Jy at 1.2 microns. For this reason relatively short exposures are needed. Some low-level self-persistence may be present but should be manageable.</i>				
Diagnostics	(pks1136-f110w (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN				
	(pks1136-f110w (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN				
Patterns	#	Primary Pattern		Secondary Pattern	Exposures
	(1)	Pattern Type=WFC3-IR-DITHER- LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false			(1), (2), (4), (5)
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
	(1)	PKS1136-135	RA: 11 39 10.7026 (174.7945942d) Dec: -13 50 43.64 (-13.84546d) Equinox: J2000	Epoch of Position: 2015.5	V=16.17
	<i>Comments:</i> Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES Reference Frame: SIMBAD				

Proposal 17201 - pks1136-f110w (04) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

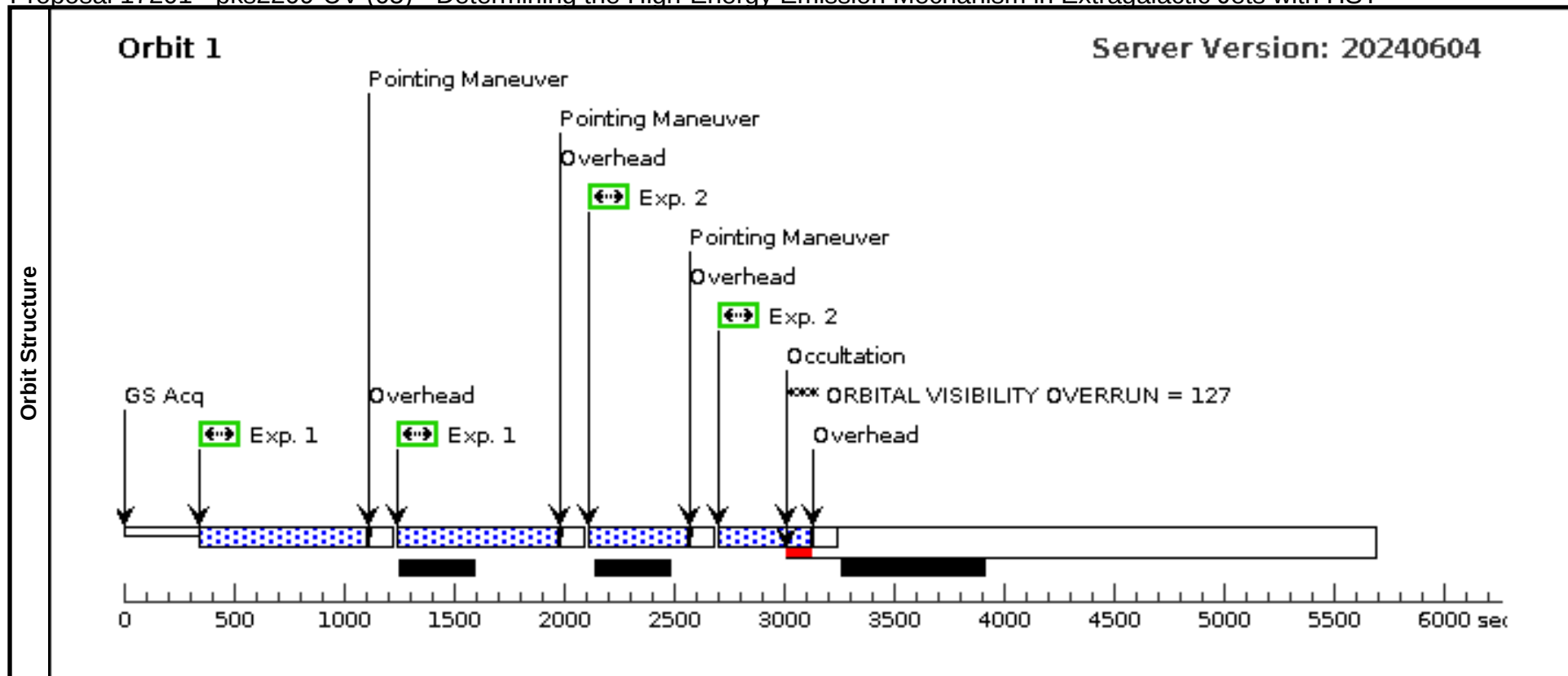
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG -10,10	Pattern 1, Exps 1-1 i n pks1136-f110w (04)) (1)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG 4,2	Pattern 1, Exps 2-2 i n pks1136-f110w (04)) (1)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	3		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=15	POS TARG 7,-5		352.939501 Secs (352.94 Secs) [==>]	[1]
	4		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG 0,-15	Pattern 1, Exps 4-4 i n pks1136-f110w (04)) (1)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	5		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG -4,-20	Pattern 1, Exps 5-5 i n pks1136-f110w (04)) (1)	327.938986 Secs (983.817 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	6		(1) PKS1136-135	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=14	POS TARG 10,-25		327.938986 Secs (327.939 Secs) [==>]	[2]





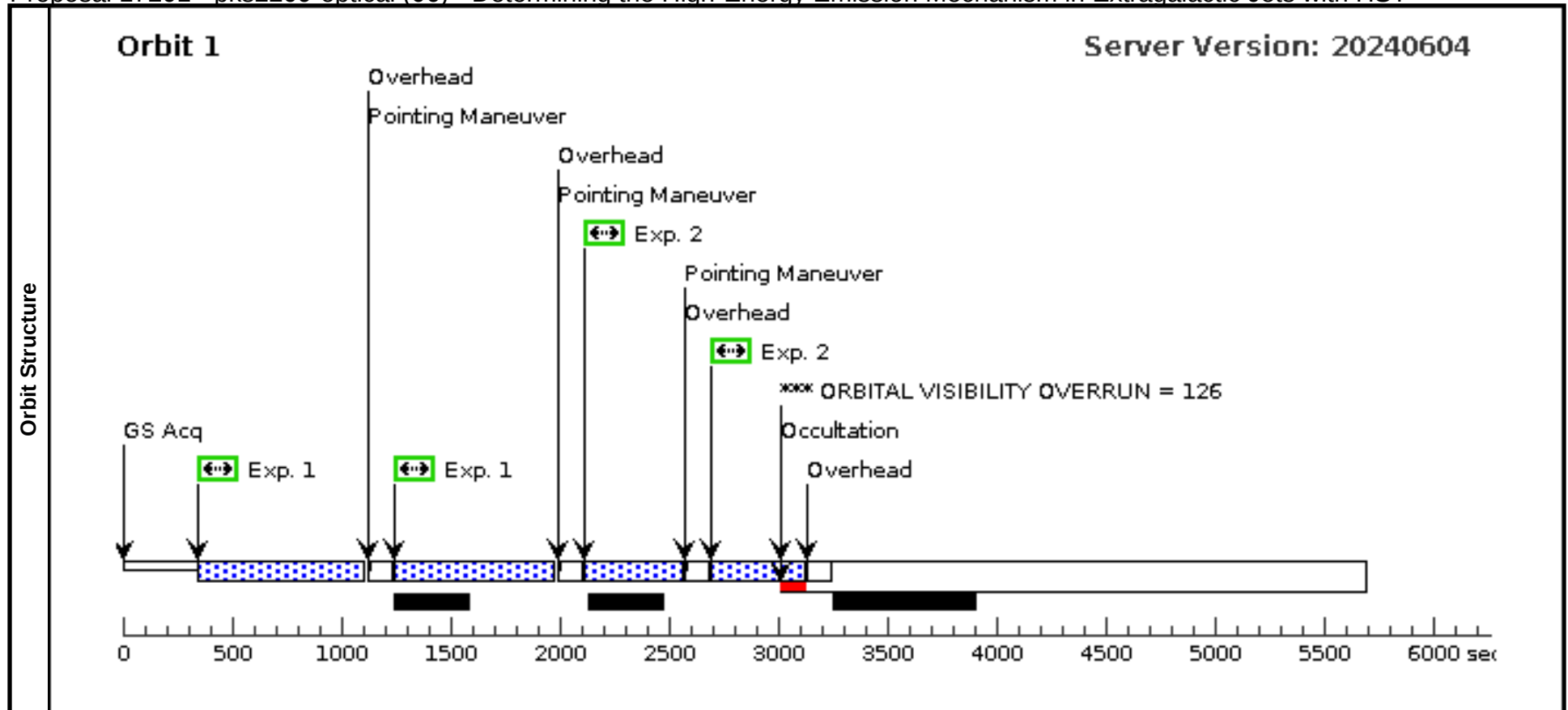
Proposal 17201 - pks2209-UV (05) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, pks2209-UV (05), completed										Tue Jun 18 21:00:55 GMT 2024		
	Diagnostic Status: Warning												
	Scientific Instruments: WFC3/UVIS												
	Special Requirements: ORIENT 345D TO 10 D; ORIENT 65D TO 95 D; ORIENT 160D TO 180 D; ORIENT 245D TO 280 D												
Comments: PKS 2209+080 is a moderately bright quasar hosting a prominent optical/IR jet discovered by HST. ORIENT constraints have been specified in the case the (variable) core brightens and produces significant diffraction spikes, to avoid these running over the fainter jet knots which extend from the bright central AGN on a ~ 10" scale.													
Diagnostics	(pks2209-UV (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN												
Patterns	#	Primary Pattern					Secondary Pattern					Exposures	
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=										(1), (2)	
Fixed Targets	#	Name		Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous			
	(2)	PKS2209+080		RA: 22 12 1.5893 (333.0066221d) Dec: +08 19 16.51 (8.32125d) Equinox: J2000		Epoch of Position: 2015.5		V=18.5		Reference Frame: SIMBAD			
Comments: Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES													
Exposures	#	Label	Target	Config,Mode,Aperture		Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit	
	1		(2) PKS2209+080	WFC3/UVIS, ACCUM, UVIS1		F225W	FLASH=18	POS TARG 35,10	Pattern 2, Exps 1-1 in pks2209-UV (05) (2)	730 Secs (1460 Secs)			
										[==>(Pattern 1)]			
										[==>(Pattern 2)]		[1]	
	2		(2) PKS2209+080	WFC3/UVIS, ACCUM, UVIS1		F336W	FLASH=15	POS TARG 35,10	Pattern 2, Exps 2-2 in pks2209-UV (05) (2)	425 Secs (850 Secs)			
										[==>(Pattern 1)]			
										[==>(Pattern 2)]		[1]	



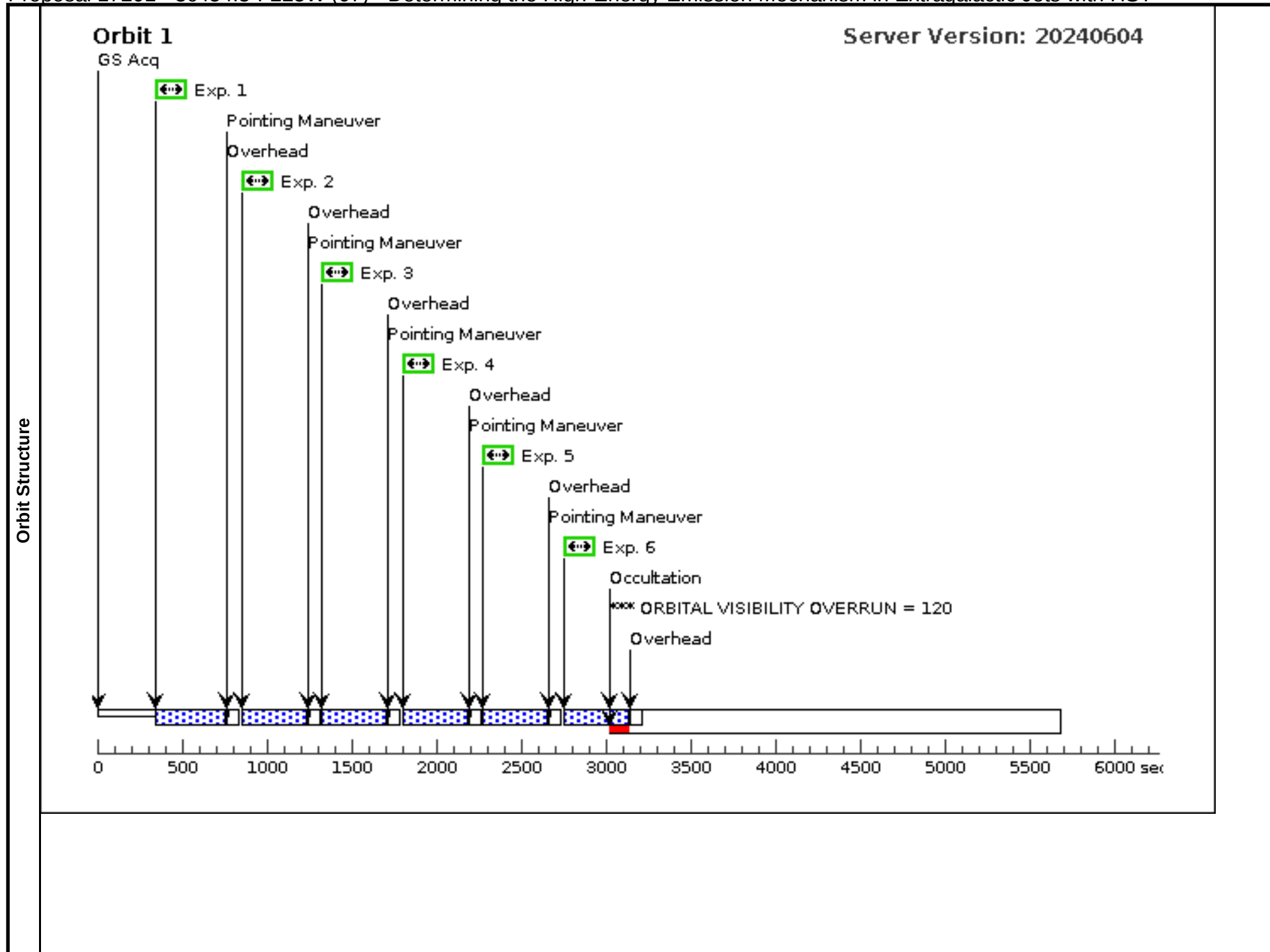
Proposal 17201 - pks2209-optical (06) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

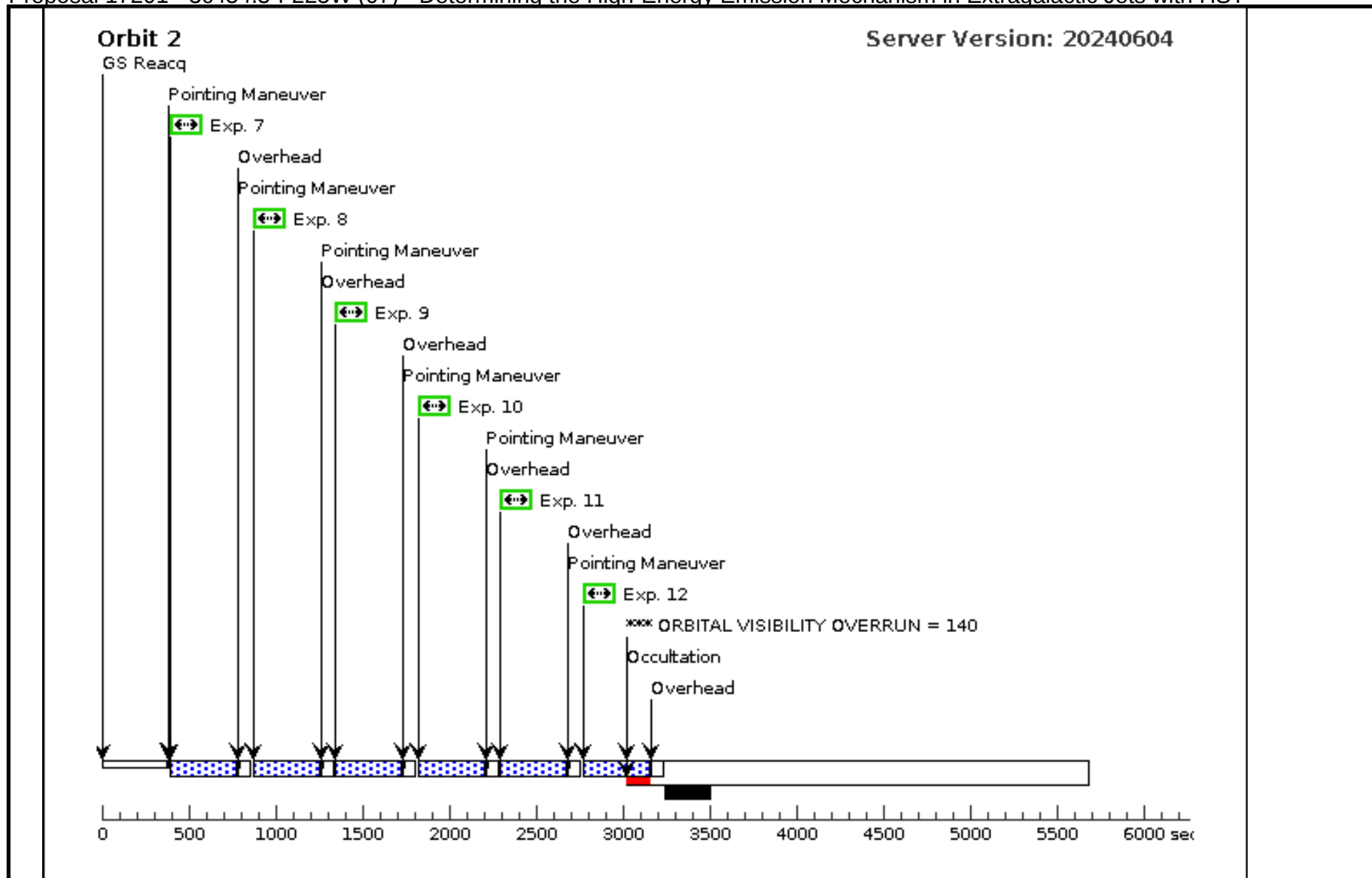
Visit	Proposal 17201, pks2209-optical (06), completed					Tue Jun 18 21:00:55 GMT 2024					
	Diagnostic Status: Warning										
	Scientific Instruments: WFC3/UVIS										
	Special Requirements: ORIENT 345D TO 355 D; ORIENT 55D TO 65 D; ORIENT 155D TO 167.5 D; ORIENT 238D TO 252 D <i>Comments: PKS 2209+080 is a moderately bright quasar hosting a prominent optical/IR jet discovered by HST. ORIENT constraints have been specified in the case the (variable) core brightens and produces significant diffraction spikes, to avoid these running over the fainter jet knots which extend from the bright central AGN on a ~ 10" scale. Further constraints were introduced to avoid the same from a bright source to the SW.</i>										
Diagnostics	(pks2209-optical (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=								(1), (2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(2)	PKS2209+080	RA: 22 12 1.5893 (333.0066221d) Dec: +08 19 16.51 (8.32125d) Equinox: J2000		Epoch of Position: 2015.5		V=18.5		Reference Frame: SIMBAD		
	<i>Comments:</i> <i>Category=GALAXY</i> <i>Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY]</i> <i>Extended=YES</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(2) PKS2209+080	WFC3/UVIS, ACCUM, UVIS1	F475W	FLASH=4	POS TARG 35,10	Pattern 2, Exps 1-1 in pks2209-optical (06) (2)	735 Secs (1470 Secs)		
									[==>(Pattern 1)] [==>(Pattern 2)]		[1]
	2		(2) PKS2209+080	WFC3/UVIS, ACCUM, UVIS1	F814W	FLASH=8	POS TARG 35,10	Pattern 2, Exps 2-2 in pks2209-optical (06) (2)	430 Secs (860 Secs)		
									[==>(Pattern 1)] [==>(Pattern 2)]		[1]



Proposal 17201 - 3c454.3-F225W (07) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

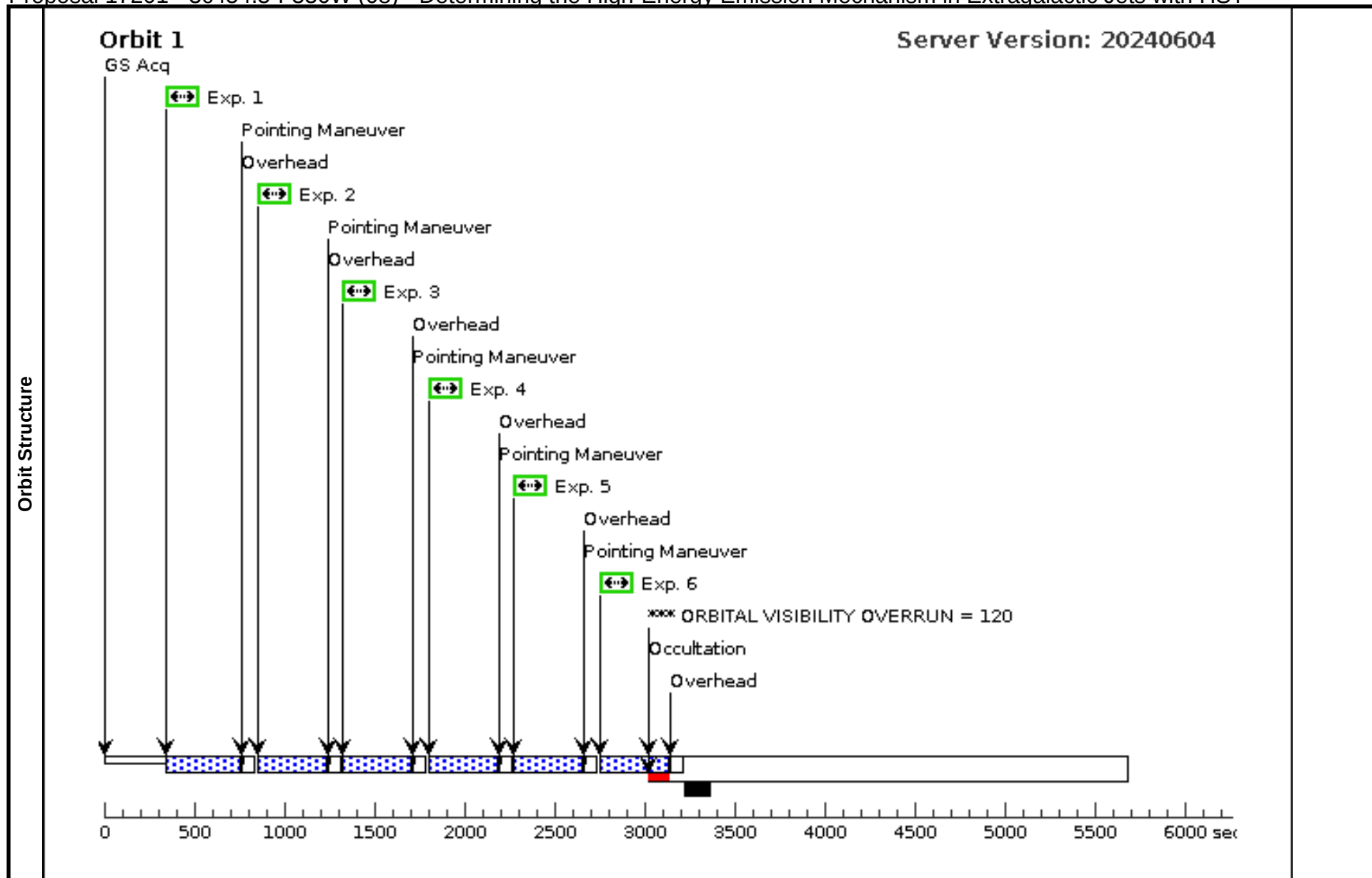
Visit	Proposal 17201, 3c454.3-F225W (07), failed										Tue Jun 18 21:00:55 GMT 2024	
	Diagnostic Status: Warning											
	Scientific Instruments: WFC3/UVIS											
	Special Requirements: ORIENT 35D TO 50 D; ORIENT 115D TO 135 D; ORIENT 210D TO 225 D; ORIENT 305D TO 320 D											
Diagnostics	(3c454.3-F225W (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(3c454.3-F225W (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	3C454.3	RA: 22 53 57.7480 (343.4906167d) Dec: +16 08 53.56 (16.14821d) Equinox: J2000			Epoch of Position: 2015.5		V=16.1		Reference Frame: SIMBAD		
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.											
	Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES											
Exposures	#	Label	Target	Config,Mode,Aperture		Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0,0		380 Secs (380 Secs) [==>]		[1]
	2		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.0927,0 .3376		380 Secs (380 Secs) [==>]		[1]
	3		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.1851,0 .1978		380 Secs (380 Secs) [==>]		[1]
	4		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.2382,0 .5130		380 Secs (380 Secs) [==>]		[1]
	5		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.3305,0 .3732		380 Secs (380 Secs) [==>]		[1]
	6		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.5024,0 .5171		380 Secs (380 Secs) [==>]		[1]
	7		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.5,0.5		380 Secs (380 Secs) [==>]		[2]
	8		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.5927,0 .8376		380 Secs (380 Secs) [==>]		[2]
	9		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.6851,0 .6978		380 Secs (380 Secs) [==>]		[2]
	10		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.7382,1 .0130		380 Secs (380 Secs) [==>]		[2]
	11		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 0.8305,0 .8732		380 Secs (380 Secs) [==>]		[2]
	12		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB		F225W	FLASH=15	POS TARG 1.0024,1 .0171		380 Secs (380 Secs) [==>]		[2]





Proposal 17201 - 3c454.3-F336W (08) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, 3c454.3-F336W (08), completed								Tue Jun 18 21:00:55 GMT 2024	
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: ORIENT 35D TO 50 D; ORIENT 115D TO 135 D; ORIENT 210D TO 225 D; ORIENT 305D TO 320 D									
Diagnostics	(3c454.3-F336W (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	3C454.3	RA: 22 53 57.7480 (343.4906167d) Dec: +16 08 53.56 (16.14821d) Equinox: J2000	Epoch of Position: 2015.5	V=16.1	Reference Frame: SIMBAD				
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.									
	Category=GALAXY Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0,0		380 Secs (380 Secs)	
									[==>]	[1]
	2		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0.0927,0 .3376		380 Secs (380 Secs)	
									[==>]	[1]
	3		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0.1851,0 .1978		380 Secs (380 Secs)	
									[==>]	[1]
	4		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0.2382,0 .5130		380 Secs (380 Secs)	
									[==>]	[1]
	5		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0.3305,0 .3732		380 Secs (380 Secs)	
									[==>]	[1]
	6		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F336W	FLASH=15	POS TARG 0.5024,0 .5171		380 Secs (380 Secs)	
									[==>]	[1]



Proposal 17201 - 3c454.3-F225W (09) - Determining the High-Energy Emission Mechanism in Extragalactic Jets with HST

Visit	Proposal 17201, 3c454.3-F225W (09), implementation								Tue Jun 18 21:00:55 GMT 2024	
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: ORIENT 35D TO 60 D; ORIENT 120D TO 140 D; ORIENT 205D TO 225 D; ORIENT 305D TO 320 D									
	Comments: Repeat of 1 orbit (out of 2) from visit 07 of this program, due to guide star failure. (First orbit of visit 07 does not include target).									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	3C454.3	RA: 22 53 57.7480 (343.4906167d) Dec: +16 08 53.56 (16.14821d) Equinox: J2000	Epoch of Position: 2015.5	V=16.1	Reference Frame: SIMBAD				
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.									
	Category=GALAXY									
	Description=[JET, KNOT, NUCLEUS, QUASAR, RADIO GALAXY] Extended=YES									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0,0		376 Secs (360 Secs)	
									[==>360.0 Secs]	[1]
	2		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0.0927,0 .3376		376 Secs (360 Secs)	
									[==>360.0 Secs]	[1]
	3		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0.1851,0 .1978		376 Secs (360 Secs)	
									[==>360.0 Secs]	[1]
	4		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0.2382,0 .5130		376 Secs (360 Secs)	
									[==>360.0 Secs]	[1]
	5		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0.3305,0 .3732		376 Secs (360 Secs)	
								[==>360.0 Secs]	[1]	
	6		(3) 3C454.3	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F225W	FLASH=15	POS TARG 0.5024,0 .5171		376 Secs (360 Secs)	
								[==>360.0 Secs]	[1]	

