



10789 - The Role of Environment in the Formation of Dwarf Galaxies

Cycle: 15, 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) NPERSEUS1	WFPC2	2	06-Jun-2007 21:01:27.0	yes
02	(2) NPERSEUS2	WFPC2	2	06-Jun-2007 21:01:36.0	yes
03	(3) NPERSEUS3	WFPC2	2	06-Jun-2007 21:01:42.0	yes
04	(4) NPERSEUS4	WFPC2	2	06-Jun-2007 21:01:47.0	yes
05	(5) NPERSEUS5	WFPC2	2	06-Jun-2007 21:01:54.0	yes
06	(6) NPERSEUS6	WFPC2	2	06-Jun-2007 21:01:59.0	yes
07	(7) NPERSEUS7	WFPC2	2	06-Jun-2007 21:02:04.0	yes

14 Total Orbits Used

ABSTRACT

Clusters of galaxies contain an overdensity of dwarfs compared to the field. Within galaxy clusters there is also a correlation between the overdensity of dwarfs and local galaxy density, such that areas of lower galaxy density contain more dwarfs per giant. The origin of these 'extra' dwarfs is unknown, but a large fraction of them did not form through standard collapses early in the universe. Some dwarf ellipticals in clusters have metal rich and young (< 6 Gyr) stellar populations while others contain old metal poor populations, suggesting multiple formation mechanisms and time scales. We propose to test the idea that dwarfs descend from galaxies accreted into clusters during the past 8 Gyr by correlating ages and metallicities of dwarfs with their internal structures - spiral arms, bars, and disks. If dwarfs originate from more massive galaxies then these features should be common in metal rich and young dwarfs. On the other hand, if no correlation is found it would suggest that dwarfs form through in-situ collapses of gas in the intragalactic medium after the universe was reionized.

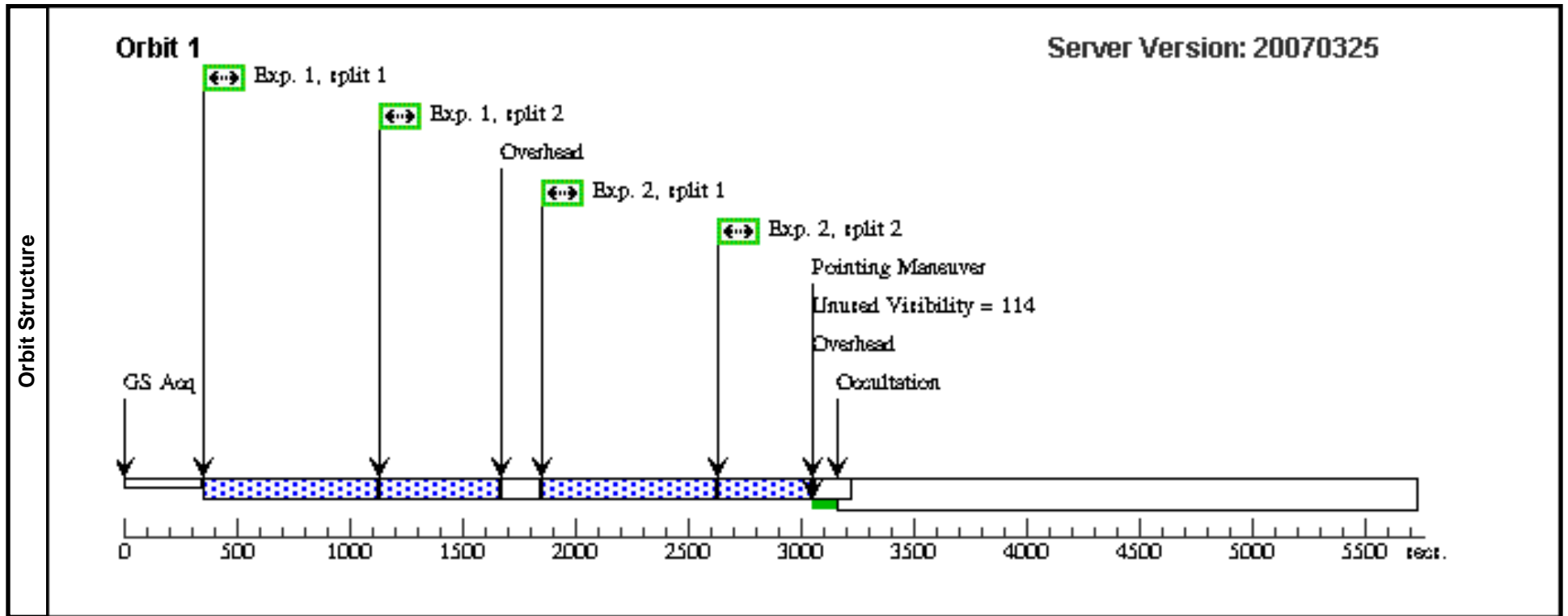
OBSERVING DESCRIPTION

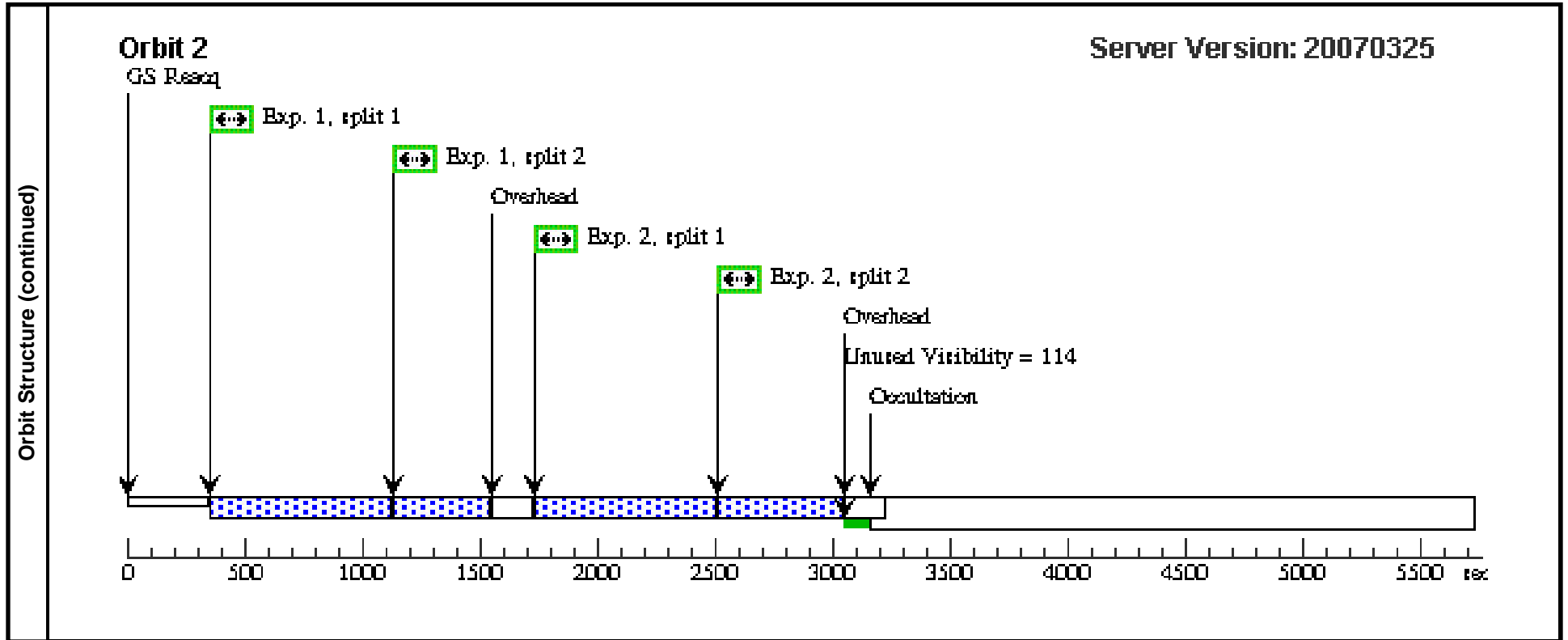
Our observing program consists of imaging in the F814W band and F555W band for outer fields of the Perseus cluster. Our program is fairly straightforward and consists of 1 orbit in each band per pointing. We split each orbit into three different exposures to remove cosmic rays.

Proposal 10789 - Visit 01 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:08 GMT 2007

Visit	Proposal 10789, Visit 01, pi Diagnostic Status: Warning Scientific Instruments: WFPC2 Special Requirements: (none)									
	(Visit 01) Warning: EXPOSURE TIME DECREASED FOR WFPC									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NPERSEUS1	RA: 03 18 49.5000 (49.7062500d) Dec: +41 24 7.30 (41.40203d) Equinox: J2000		V=20.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	Exposure 1	(1) NPERSEUS1	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-2 (1)	800.0 Secs	
									[==>500.0 Secs (Pattern 1, Split 1)]	[1]
									[==>500.0 Secs (Pattern 1, Split 2)]	[2]
									[==>500.0 Secs (Pattern 2, Split 1)]	[1]
									[==>400.0 Secs (Pattern 2, Split 2)]	[2]
2		(1) NPERSEUS1	WFPC2, IMAGE, WFALL-FIX	F555W				Pattern 1-2 (1)	800.0 Secs	
								[==>500.0 Secs (Pattern 1, Split 1)]	[1]	
								[==>450.0 Secs (Pattern 1, Split 2)]	[2]	
								[==>500.0 Secs (Pattern 2, Split 1)]	[1]	
								[==>500.0 Secs (Pattern 2, Split 2)]	[2]	

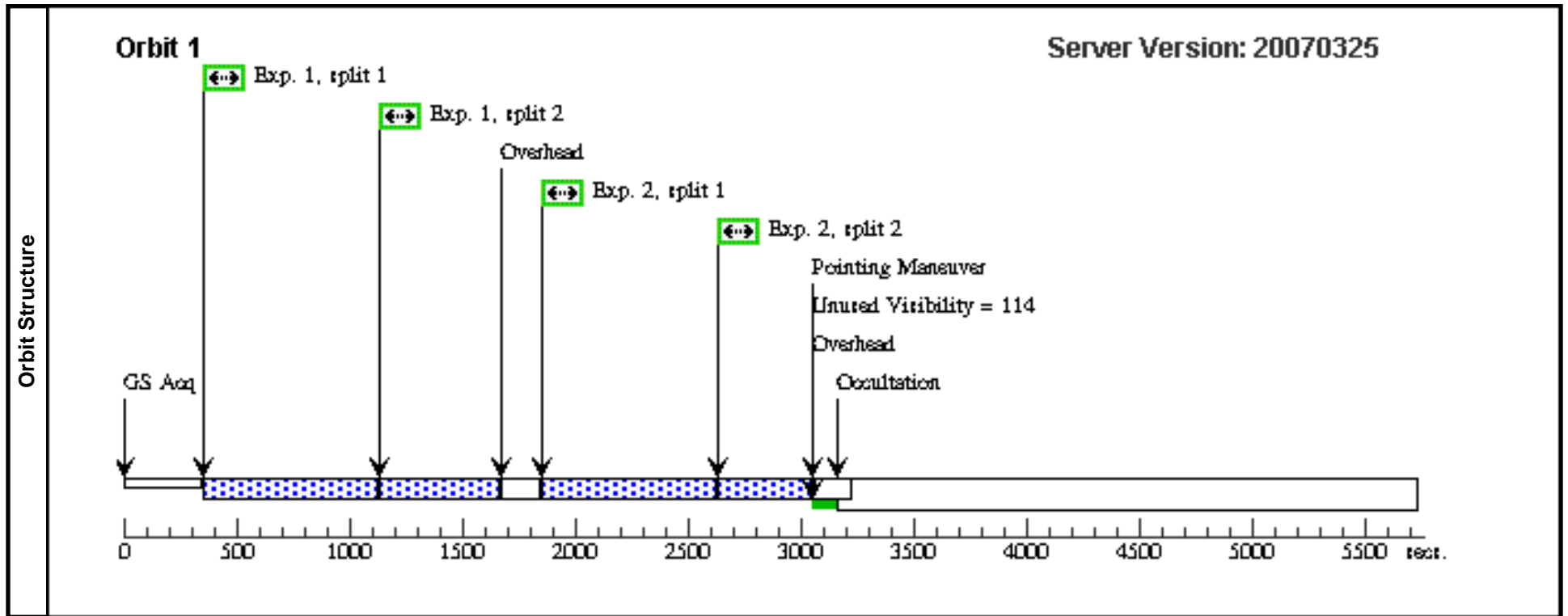


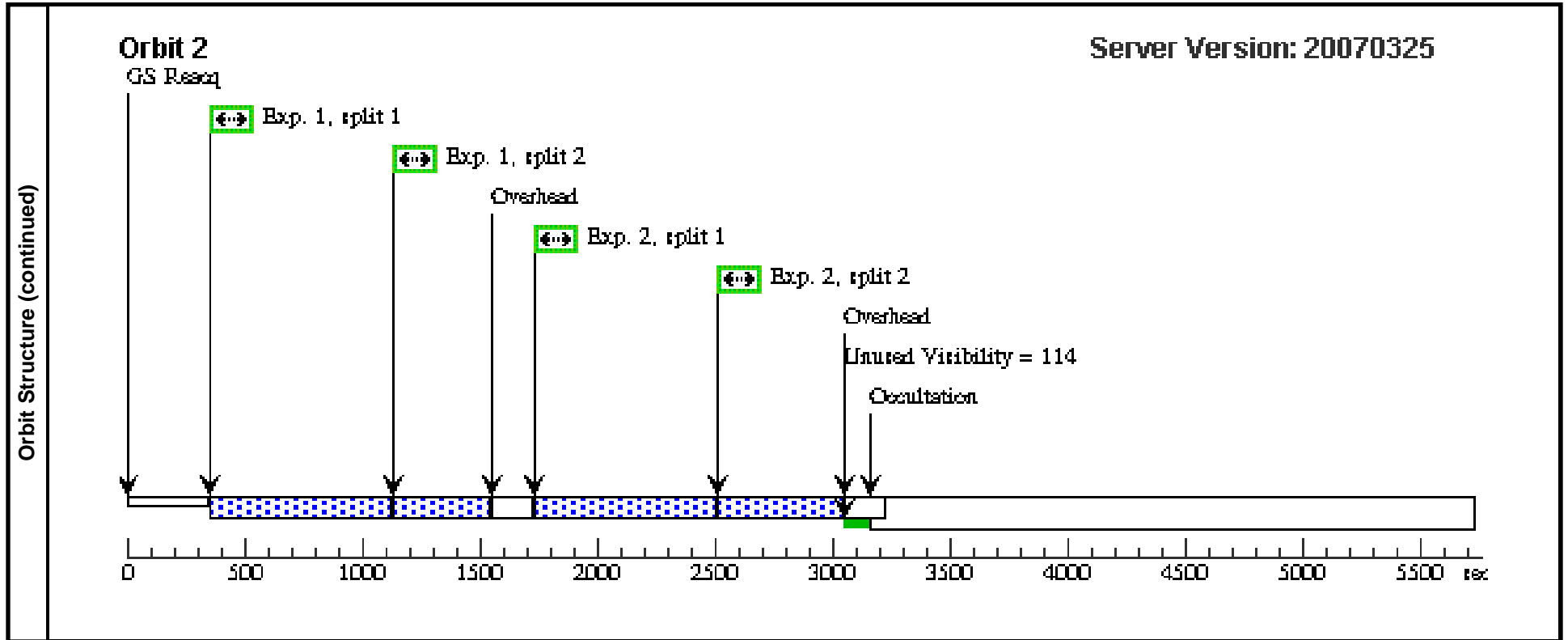


Proposal 10789 - Visit 02 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:10 GMT 2007

Visit	Proposal 10789, Visit 02, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false						(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NPERSEUS2	RA: 03 18 33.0000 (49.6375000d) Dec: +41 26 37.80 (41.44383d) Equinox: J2000			V=20.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	expose 1	(2) NPERSEUS2	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-2 (1)	800.0 Secs		
									[=>500.0 Secs (Pattern 1, Split 1)]		[1]
									[=>500.0 Secs (Pattern 1, Split 2)]		[1]
									[=>500.0 Secs (Pattern 2, Split 1)]		[2]
									[=>400.0 Secs (Pattern 2, Split 2)]		[2]
2		(2) NPERSEUS2	WFPC2, IMAGE, WFALL-FIX	F555W				Pattern 1-2 (1)	800.0 Secs		
									[=>500.0 Secs (Pattern 1, Split 1)]		[1]
									[=>400.0 Secs (Pattern 1, Split 2)]		[1]
									[=>500.0 Secs (Pattern 2, Split 1)]		[2]
									[=>500.0 Secs (Pattern 2, Split 2)]		[2]

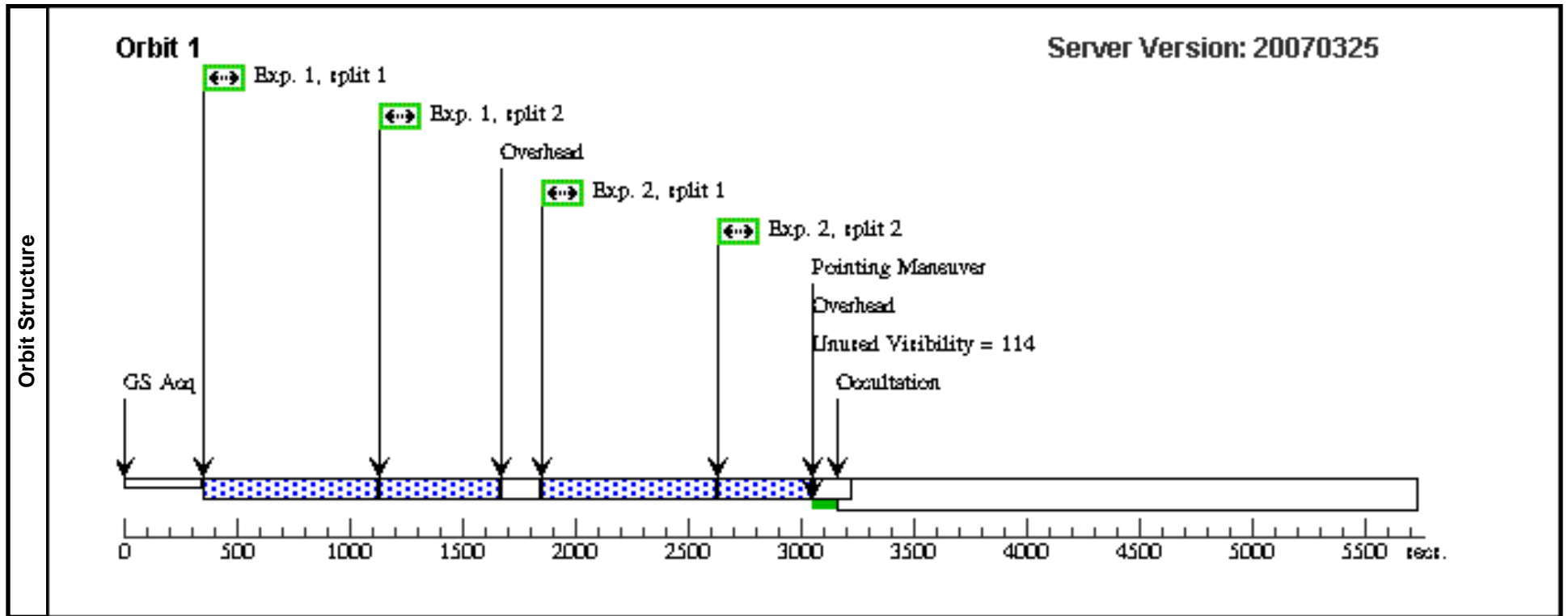


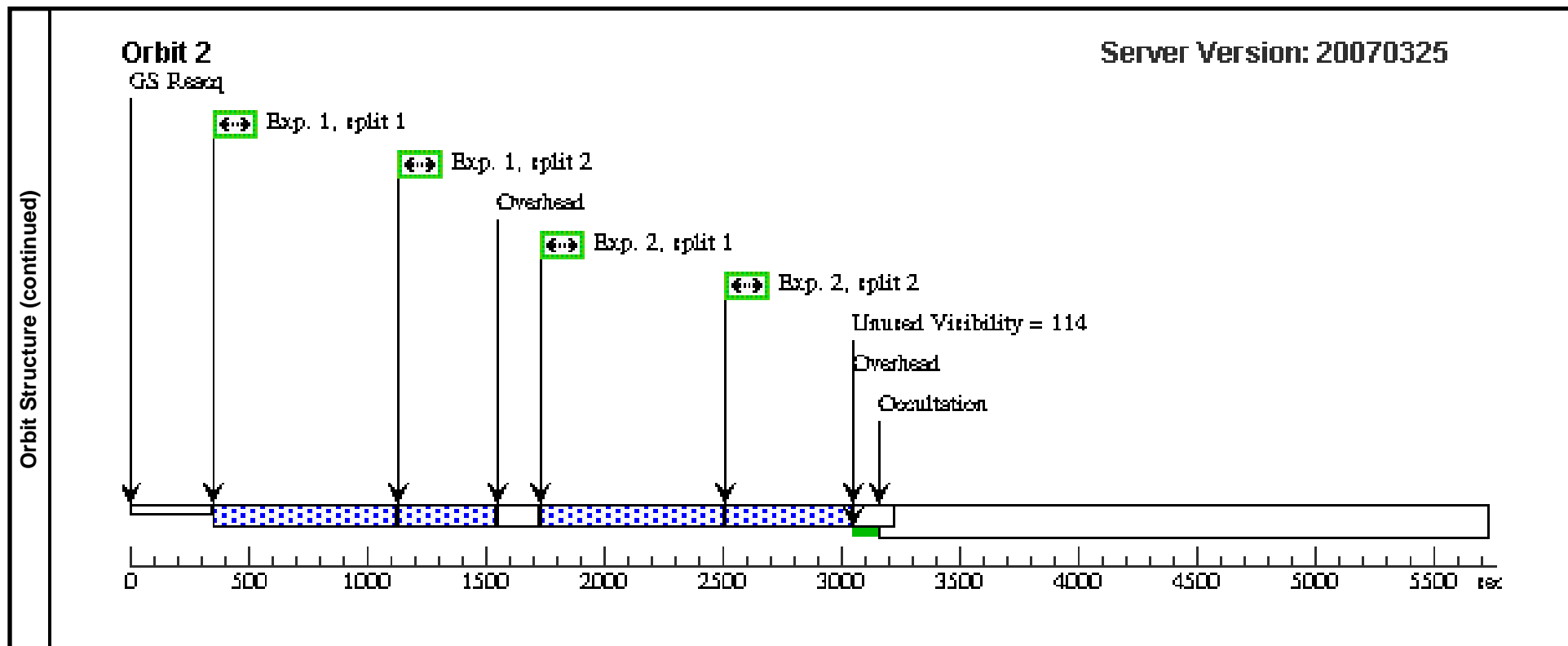


Proposal 10789 - Visit 03 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:11 GMT 2007

Visit	Proposal 10789, Visit 03, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=		Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false					(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	NPERSEUS3	RA: 03 18 34.3000 (49.6429167d) Dec: +41 22 53.70 (41.38158d) Equinox: J2000			V=20.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	Exposure 1	(3) NPERSEUS3	WFPC2, IMAGE, WFALL-FIX	F555W			Pattern 1-2 (1)	800.0 Secs		
									[=>500.0 Secs (Pattern 1, Split 1)]		[1]
									[=>500.0 Secs (Pattern 1, Split 2)]		[1]
									[=>500.0 Secs (Pattern 2, Split 1)]		[2]
									[=>400.0 Secs (Pattern 2, Split 2)]		[2]
2		(3) NPERSEUS3	WFPC2, IMAGE, WFALL-FIX	F814W				Pattern 1-2 (1)	800.0 Secs		
									[=>500.0 Secs (Pattern 1, Split 1)]		[1]
									[=>400.0 Secs (Pattern 1, Split 2)]		[1]
									[=>500.0 Secs (Pattern 2, Split 1)]		[2]
									[=>500.0 Secs (Pattern 2, Split 2)]		[2]

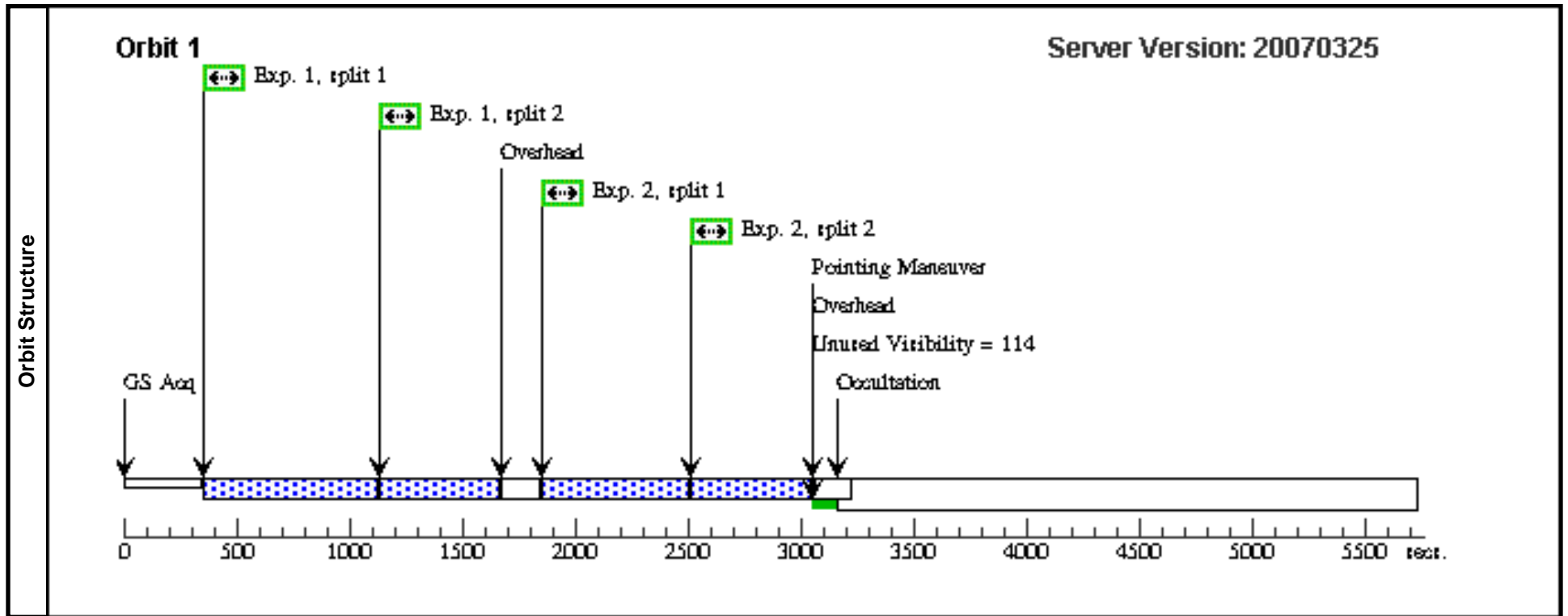


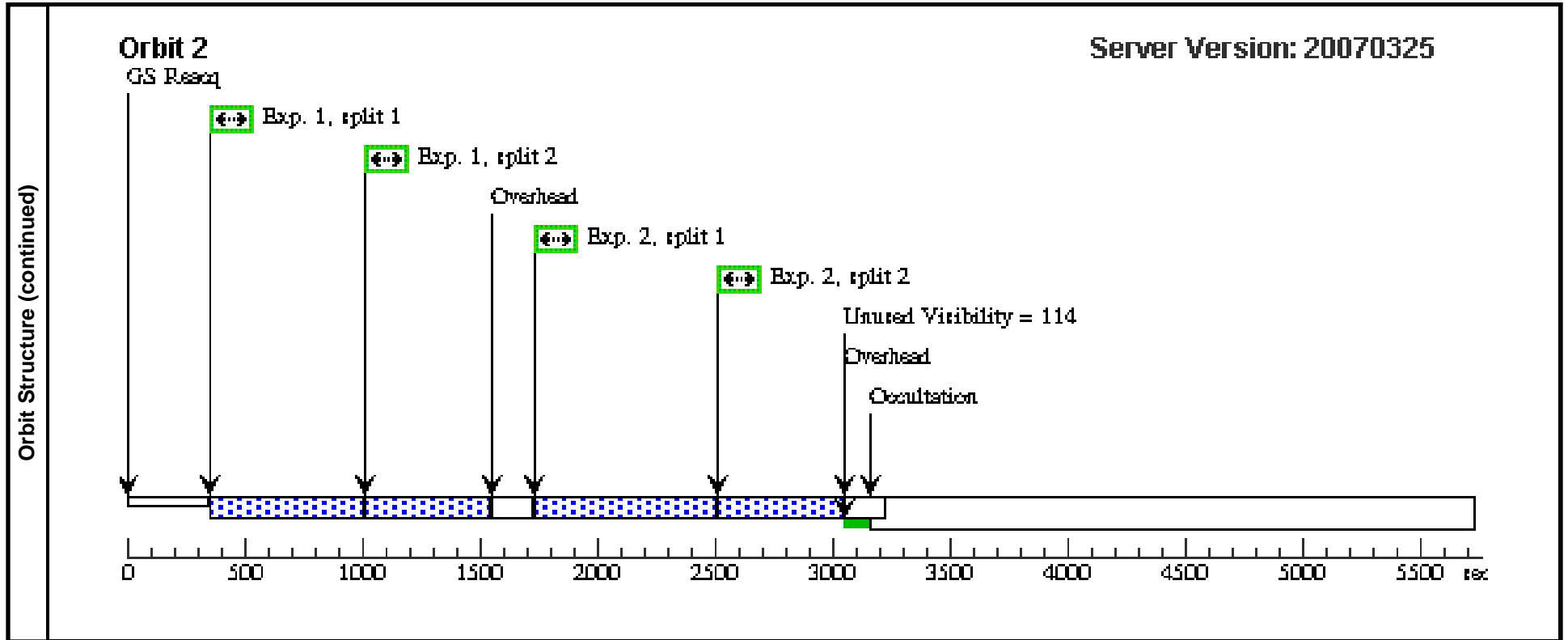


Proposal 10789 - Visit 04 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:12 GMT 2007

Visit	Proposal 10789, Visit 04, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false						(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	NPERSEUS4	RA: 03 18 8.8000 (49.5366667d) Dec: +41 23 11.40 (41.38650d) Equinox: J2000				V=20.0	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(4) NPERSEUS4	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-2 (1)	800.0 Secs		
									[==>500.0 Secs (Pattern 1, Split 1)]		[1]
									[==>500.0 Secs (Pattern 1, Split 2)]		[1]
									[==>400.0 Secs (Pattern 2, Split 1)]		[2]
									[==>500.0 Secs (Pattern 2, Split 2)]		[2]
2		(4) NPERSEUS4	WFPC2, IMAGE, WFALL-FIX	F555W				Pattern 1-2 (1)	800.0 Secs		
								[==>400.0 Secs (Pattern 1, Split 1)]		[1]	
								[==>500.0 Secs (Pattern 1, Split 2)]		[1]	
								[==>500.0 Secs (Pattern 2, Split 1)]		[2]	
								[==>500.0 Secs (Pattern 2, Split 2)]		[2]	

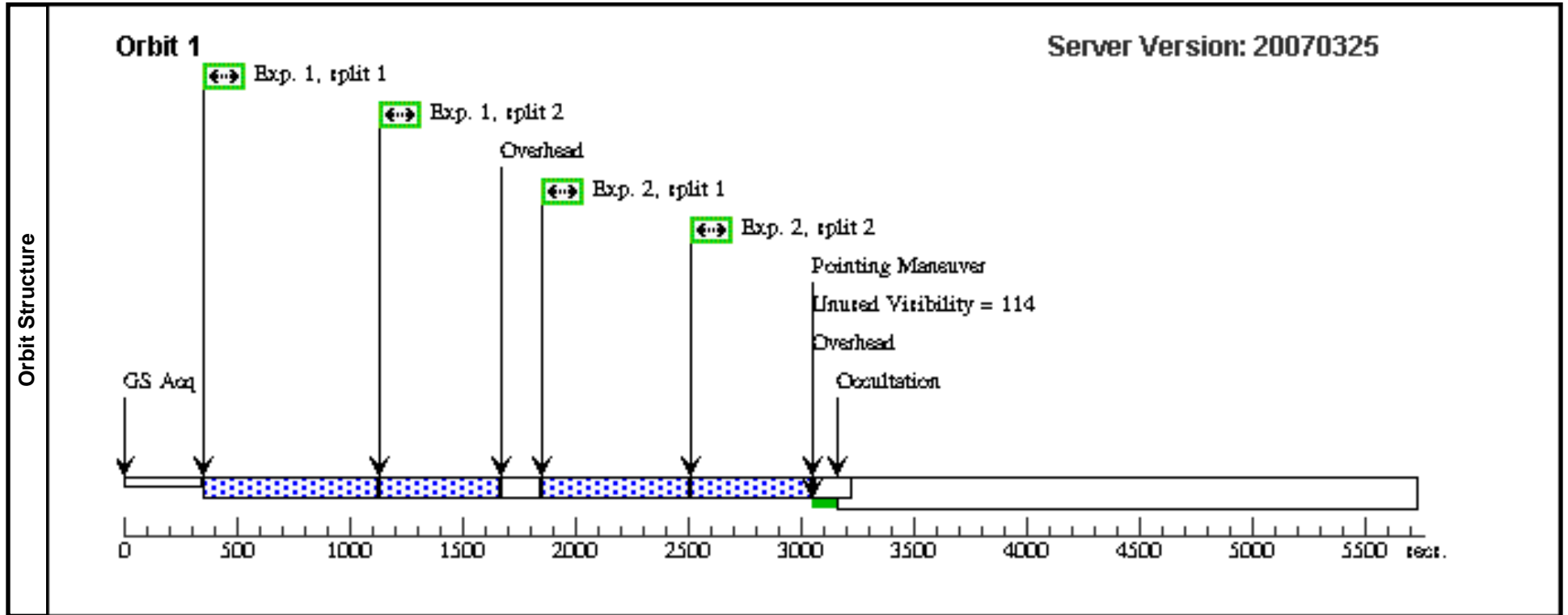


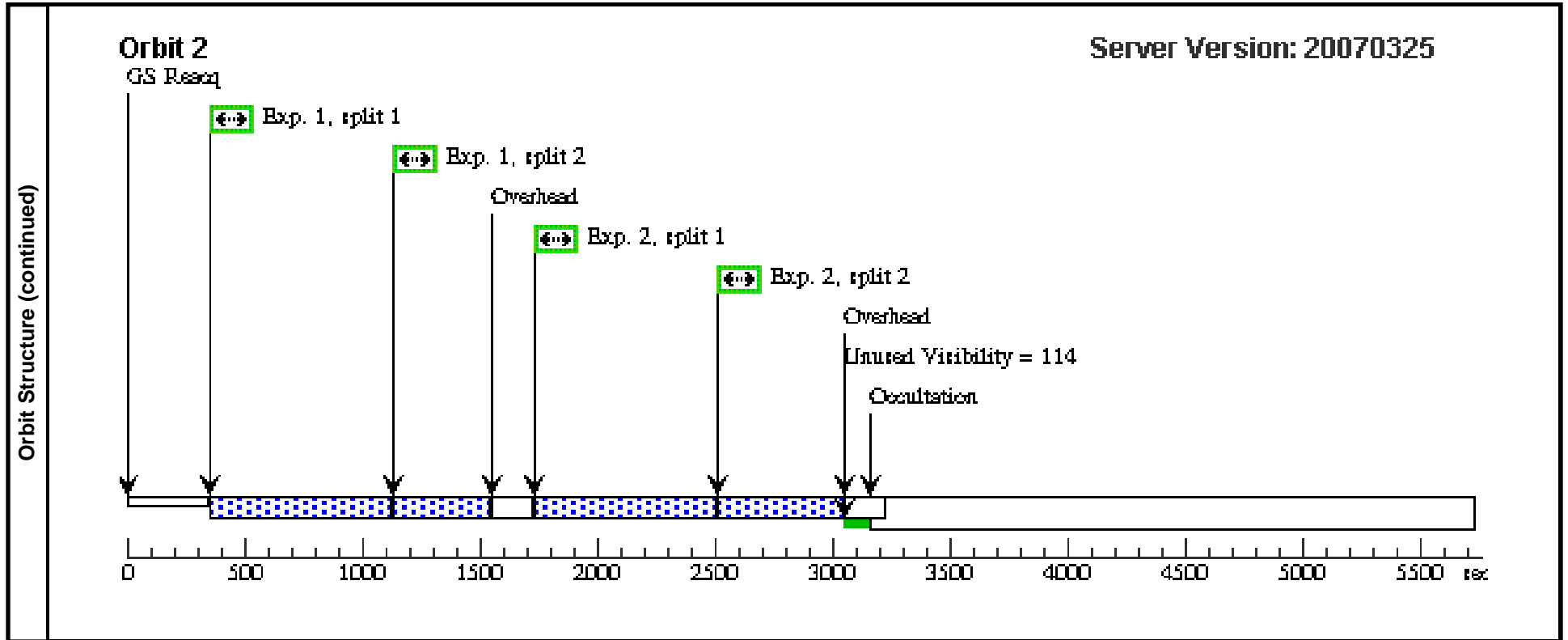


Proposal 10789 - Visit 05 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:13 GMT 2007

Visit	Proposal 10789, Visit 05, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false						(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	NPERSEUS5	RA: 03 18 8.2000 (49.5341667d) Dec: +41 25 50.80 (41.43078d) Equinox: J2000				V=20.0	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(5) NPERSEUS5	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-2 (1)	800.0 Secs		
									[==>500.0 Secs (Pattern 1, Split 1)]		[1]
									[==>500.0 Secs (Pattern 1, Split 2)]		[1]
									[==>500.0 Secs (Pattern 2, Split 1)]		[2]
									[==>400.0 Secs (Pattern 2, Split 2)]		[2]
2		(5) NPERSEUS5	WFPC2, IMAGE, WFALL-FIX	F555W				Pattern 1-2 (1)	800.0 Secs		
								[==>400.0 Secs (Pattern 1, Split 1)]		[1]	
								[==>500.0 Secs (Pattern 1, Split 2)]		[1]	
								[==>500.0 Secs (Pattern 2, Split 1)]		[2]	
								[==>500.0 Secs (Pattern 2, Split 2)]		[2]	

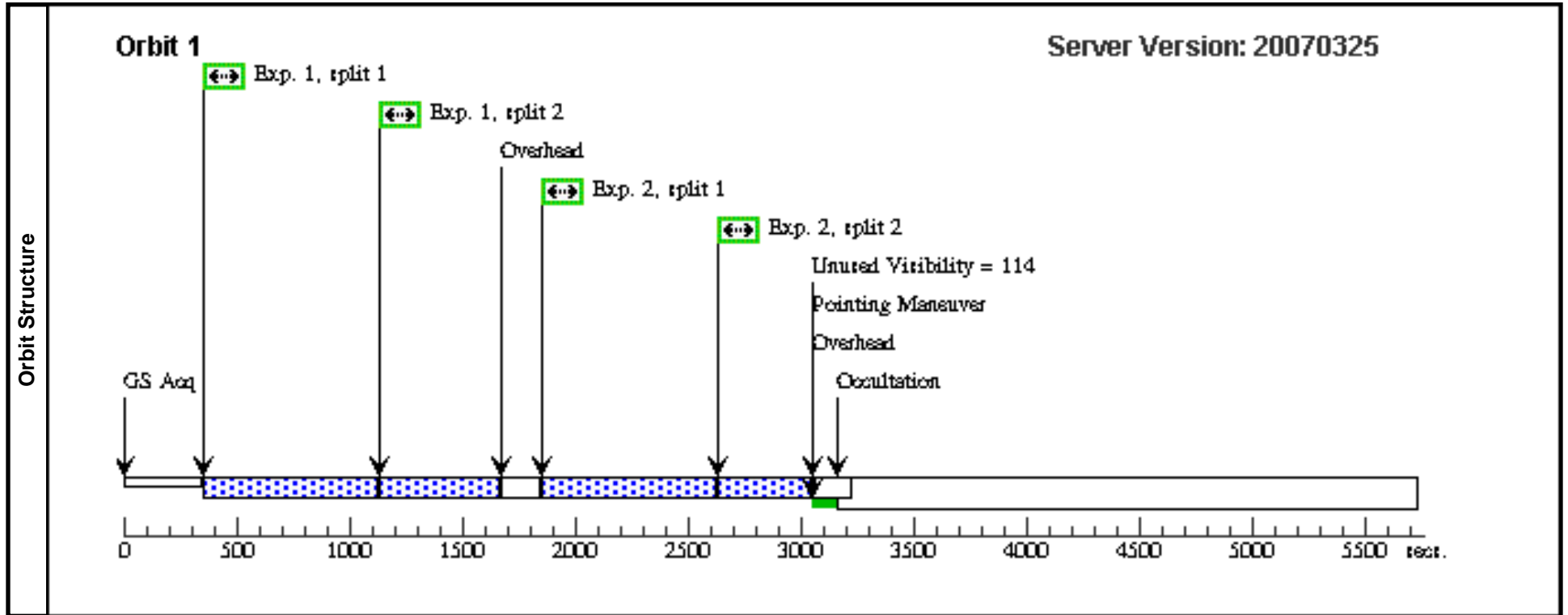


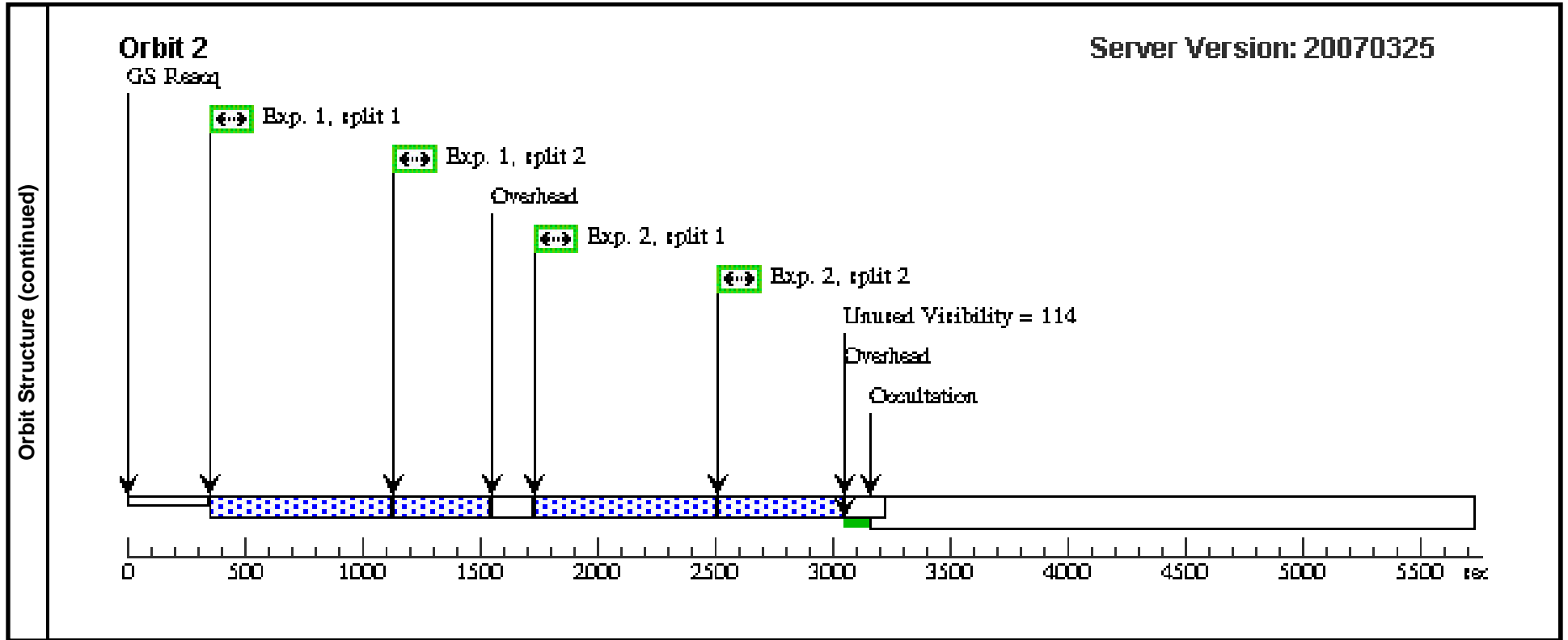


Proposal 10789 - Visit 06 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:14 GMT 2007

Visit	Proposal 10789, Visit 06, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false				(1-2)			
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(6)	NPERSEUS6	RA: 03 17 54.1000 (49.4754167d) Dec: +41 27 46.30 (41.46286d) Equinox: J2000			V=20.0	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(6) NPERSEUS6	WFPC2, IMAGE, WFALL-FIX	F814W				Pattern 1-2 (1)	800.0 Secs	
									[==>500.0 Secs (Pattern 1, Split 1)]	[1]
									[==>500.0 Secs (Pattern 1, Split 2)]	[1]
									[==>500.0 Secs (Pattern 2, Split 1)]	[2]
									[==>400.0 Secs (Pattern 2, Split 2)]	[2]
2	(6) NPERSEUS6	WFPC2, IMAGE, WFALL-FIX	F555W					Pattern 1-2 (1)	800.0 Secs	
									[==>500.0 Secs (Pattern 1, Split 1)]	[1]
									[==>400.0 Secs (Pattern 1, Split 2)]	[1]
									[==>500.0 Secs (Pattern 2, Split 1)]	[2]
									[==>500.0 Secs (Pattern 2, Split 2)]	[2]





Proposal 10789 - Visit 07 - The Role of Environment in the Formation of Dwarf Galaxies

Thu Jun 07 01:02:15 GMT 2007

Visit	Proposal 10789, Visit 07, pi Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.354 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false						(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	NPERSEUS7	RA: 03 17 30.9000 (49.3787500d) Dec: +41 25 10.20 (41.41950d) Equinox: J2000			V=20.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(7) NPERSEUS7	WFPC2, IMAGE, WFALL-FIX	F814W			Pattern 1-2 (1)	800.0 Secs		
									[=>500.0 Secs (Pattern 1, Split 1)]		[1]
									[=>500.0 Secs (Pattern 1, Split 2)]		[1]
									[=>500.0 Secs (Pattern 2, Split 1)]		[2]
									[=>400.0 Secs (Pattern 2, Split 2)]		[2]
2		(7) NPERSEUS7	WFPC2, IMAGE, WFALL-FIX	F555W				Pattern 1-2 (1)	800.0 Secs		
								[=>500.0 Secs (Pattern 1, Split 1)]		[1]	
								[=>400.0 Secs (Pattern 1, Split 2)]		[1]	
								[=>500.0 Secs (Pattern 2, Split 1)]		[2]	
								[=>500.0 Secs (Pattern 2, Split 2)]		[2]	

