



16435 - Imaging of Arp 143

Cycle: 28, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Christopher Britt (PI) (Contact)	Space Telescope Science Institute	cbritt@stsci.edu
Max Mutchler (CoI) (Contact)	Space Telescope Science Institute	mutchler@stsci.edu
Quyen Hart (CoI) (Contact)	Space Telescope Science Institute	qhart@stsci.edu
Joseph DePasquale (CoI)	Space Telescope Science Institute	jdepasquale@stsci.edu
Alyssa Pagan (CoI)	Space Telescope Science Institute	apagan@stsci.edu
Christine Pulliam (CoI)	Space Telescope Science Institute	cpulliam@stsci.edu
Cheryl Gundy (CoI)	Space Telescope Science Institute	gundy@stsci.edu
Holly Ryer (Greathouse) (CoI)	Space Telescope Science Institute	hgreat@stsci.edu
Ray Villard (CoI)	Space Telescope Science Institute	villard@stsci.edu
Elizabeth Rafferty (CoI)	Space Telescope Science Institute	erafferty@stsci.edu

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-2444-ACS ANY	ACS/WFC WFC3/UVIS	4	30-Oct-2020 15:00:29.0	yes
02	(2) NGC-2444-WFC3 ANY	ACS/WFC WFC3/UVIS	2	30-Oct-2020 15:00:31.0	yes

6 Total Orbits Used

ABSTRACT

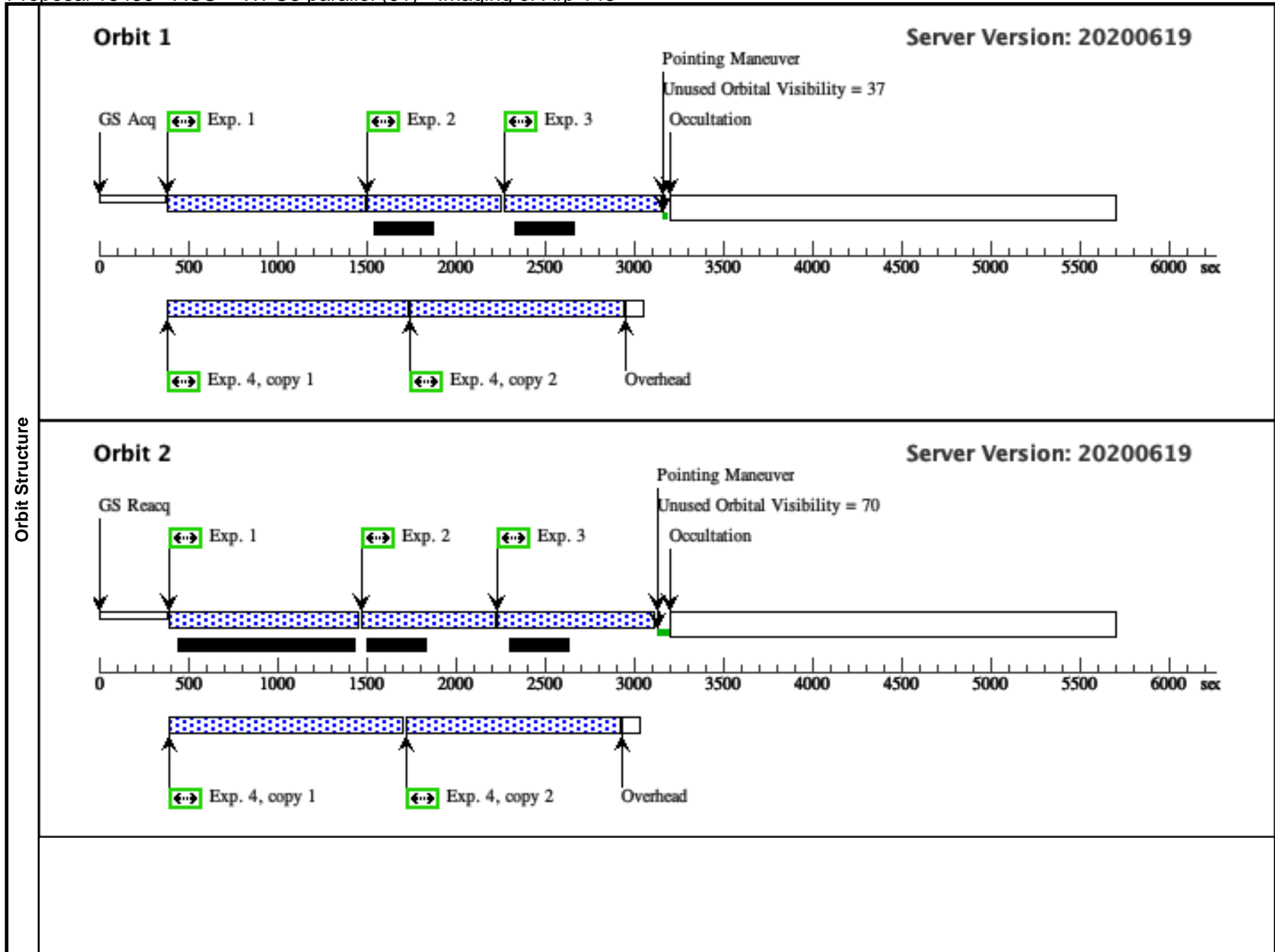
We propose to obtain imaging of the interacting galaxies Arp 143 with 3 broadband ACS filters F475W, F606W, and F814W as well as the WFC3 Ha+NII narrowband filter F665N.

OBSERVING DESCRIPTION

We will obtain high signal-to-noise imaging of the interacting galaxies Arp 143, or NGC 2444, with both broad and narrowband optical filters using the ACS/WFC and WFC3/UVIS instruments. These new optical images will complement existing archival observations in F606W taken with ACS as part of program 15446 (PI: J. Dalcanton). The existing F606W observations are two 390s exposures. We propose to take additional ACS F606W exposures both to enable cosmic ray rejection and raise the S/N, in addition to new F475W and F814W observations. Altogether, we request 6 orbits to make these observations. Using Arp 220 as a template spectrum in the ACS/WFC Exposure Time Calculator, we can achieve a S/N ratio of at least 100 per resolution element in F475W with 3840s of exposure and in F814W with 2580s. To highlight regions with high star formation activity, we will obtain 4140s of WFC3 F665N, which will reach high S/N in those areas. We will obtain an additional 2310s of F606W to supplement what is in the archive, increasing the S/N to well over 100 per resolution element. At the same time as these observations, we can take parallel field observations with WFC3 in F475W and F606W, with 7200s in each. The Low Surface Brightness Galaxy MCG+07-16-015 is nearby to Arp 143 and can be covered as a WFC3 parallel field at an orientation angle of 245 degrees. Arp 143 fits within the ACS field at any orientation, but an orientation of 245 degrees, possible in December 2020, allows the WFC3 parallel field to cover a low surface brightness galaxy as well. Scheduling in December 2020 would be optimal, though is not strictly required.

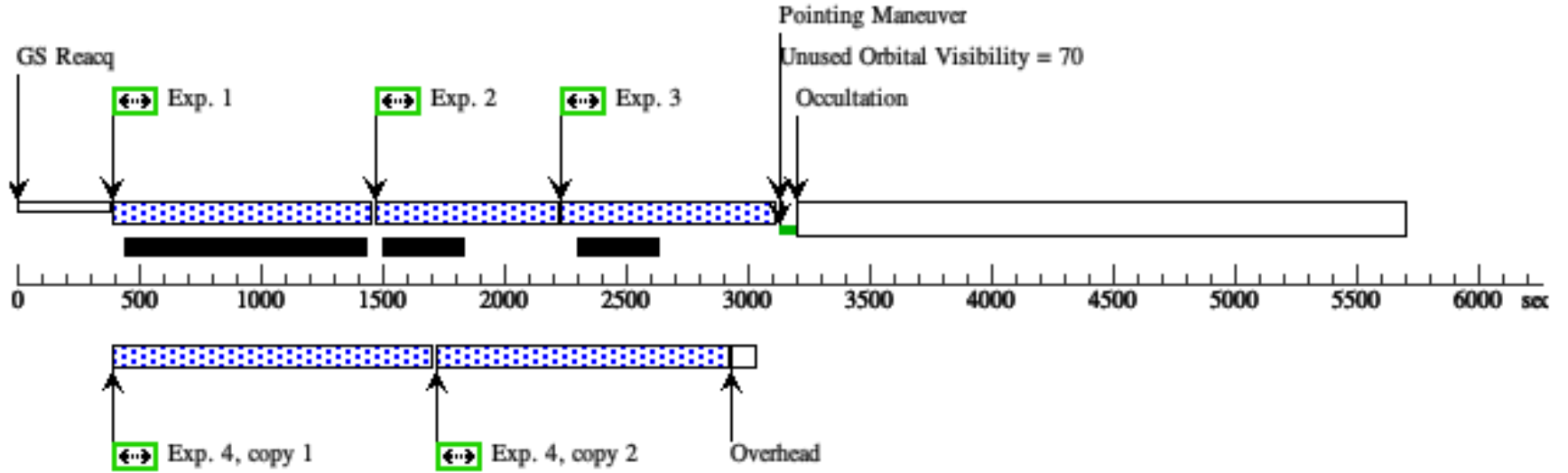
Proposal 16435 - ACS + WFC3 parallel (01) - Imaging of Arp 143

Visit	Proposal 16435, ACS + WFC3 parallel (01), implementation Fri Oct 30 19:00:31 GMT 2020									
	Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 242D TO 248 D									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=4 Point Spacing=3 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=86 Angle Between Sides= Center Pattern=false		(1-4)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-2444-ACS	RA: 07 46 51.5728 (116.7148867d) Dec: +39 01 7.63 (39.01879d) Equinox: J2000	Epoch of Position: 2015.5	V=12.9 B=13.1	Reference Frame: SIMBAD				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=GALAXY Description=[INTERACTING GALAXY, TIDAL TAIL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) NGC-2444-ACS	ACS/WFC, ACCUM, WFCENTER	F475W				Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01) (1) Prime + Parallel Group 1-4 in Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01)	900 Secs (3600 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2		(1) NGC-2444-ACS	ACS/WFC, ACCUM, WFCENTER	F606W				Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01) (1) Prime + Parallel Group 1-4 in Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01)	600 Secs (2400 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
3		(1) NGC-2444-ACS	ACS/WFC, ACCUM, WFCENTER	F814W				Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01) (1) Prime + Parallel Group 1-4 in Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01)	700 Secs (2800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1] [2] [3] [4]
4		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W				Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01) (1) Prime + Parallel Group 1-4 in Pattern 1, Exps 1-4 in ACS + WFC3 parallel (01)	1200 Secs X 2 (9600 Secs) [==>(Pattern 1, Copy 1)] [==>(Pattern 1, Copy 2)] [==>(Pattern 2, Copy 1)] [==>(Pattern 2, Copy 2)] [==>(Pattern 3, Copy 1)] [==>(Pattern 3, Copy 2)] [==>(Pattern 4, Copy 1)] [==>(Pattern 4, Copy 2)]	[1] [2] [3] [4]



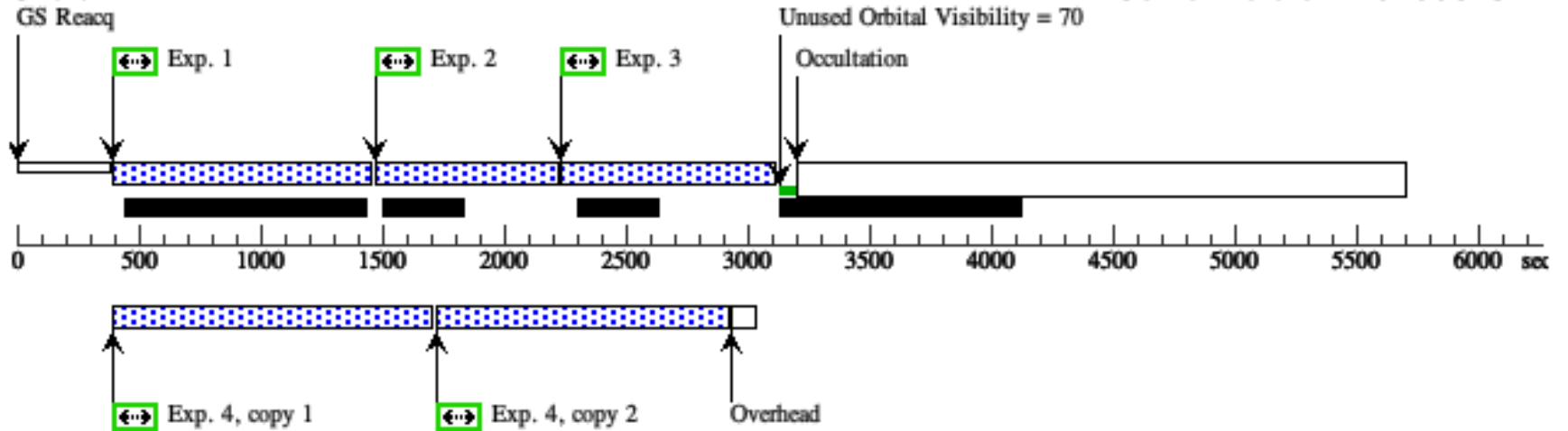
Orbit 3

Server Version: 20200619



Orbit 4

Server Version: 20200619



Proposal 16435 - WFC3 + ACS parallel (02) - Imaging of Arp 143

Fri Oct 30 19:00:32 GMT 2020

Visit	Proposal 16435, WFC3 + ACS parallel (02), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: ORIENT 102D TO 108 D; BEFORE 05-MAR-2021:00:00:00									
	(Primary Exposure 1 (Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in WFC3 + ACS parallel (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=35 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	NGC-2444-WFC3	RA: 07 46 53.5849 (116.7232704d) Dec: +39 01 39.54 (39.02765d) Equinox: J2000	Epoch of Position: 2015.5	V=12.9 B=13.1	Reference Frame: SIMBAD				
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY Description=[INTERACTING GALAXY, TIDAL TAIL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) NGC-2444-WFC3	WFC3/UVIS, ACCUM, UVIS-CENTER	F665N	FLASH=17		Pattern 2, Exps 1-2 in WFC3 + ACS parallel (02) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in WFC3 + ACS parallel (02)	800 Secs X 3 (4800 Secs) [==>(Pattern 1, Copy 1)] [==>(Pattern 1, Copy 2)] [==>(Pattern 1, Copy 3)] [==>(Pattern 2, Copy 1)] [==>(Pattern 2, Copy 2)] [==>(Pattern 2, Copy 3)]	[1]
			3							[2]
	2		ANY	ACS/WFC, ACCUM, WFCENTER	F606W				Pattern 2, Exps 1-2 in WFC3 + ACS parallel (02) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in WFC3 + ACS parallel (02)	1200 Secs (2400 Secs) [==>(Pattern 1)] [==>(Pattern 2)]
										[2]

