



11112 - The Collisional Ring Galaxy NGC922

Cycle: 16, 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) NGC922	WFPC2	?	?	yes
02	(1) NGC922	WFPC2	?	?	yes

ABSTRACT

We request WFPC2 images of the newly recognized collisional ring galaxy NGC922 which will become the nearest such system observed by HST. These will be used to get a clear understanding of the geometry of the interaction and the induced star formation in this system. Quantitive modeling of the colors of the star clusters and stellar populations will be used to constrain the star formation history of the system. They will also be used to test the "infant mortality" scenario for star cluster evolution. The derived population ages will test predictions of how star formation evolves in the

various components (ring, core, spokes) of collisional rings, and will improve our own simulations of this system. These will be used to determine the final fate of the stars formed in the present burst - some will end up in a central bar or bulge while others will become part of a thickened disk. By analogy this will tell us how similar collisions enrich stellar populations in the early universe. This is especially relevant since the number density of collisional rings increases rapidly with redshift.

OBSERVING DESCRIPTION

We will observe NGC922 in F300W (3 orbits), F439W, (2 orbits), F547M (2orbits) and F814W (2 orbits). The observations will be split between two mosaic positions offset by 40" in order to observe the entire 104" diameter ring with WF2 and WF3. Three exposures will be taken at each mosaic position, with each exposure being shifted by a small dither offset. Both the mosaic and dither offsets are achieved through POS-TARG commands. The position of NGC922 has been adjusted from that given in the phase I proposal in order to conform better with the geometric center of the ring. This allows the pos-targ commands to be robust to the roll-angle that is employed. The observations are split into two visits which are constrained to have the same orient. Ideally they should be scheduled back to back.

Proposal 11112 - Visit 01 - The Collisional Ring Galaxy NGC922

Visit	Proposal 11112, Visit 01, implementation										Mon May 21 19:10:46 GMT 2007
	Diagnostic Status: No Diagnostics										
	Scientific Instruments: WFPC2										
	Special Requirements: (none)										
	Comments: All F300W and F439W observations will be taken in this visit.										
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	NGC922	RA: 02 25 3.7400 (36.2655833d)		Radial Velocity: 3083.0 km/sec		V=12.12+/-0.13		Reference Frame: ICRS		
		Alt Name1: HIPASSJ0224-24S1	Dec: -24 47 24.80 (-24.79022d)				R = 11.94 +/- 0.05 ABmag				
			Equinox: J2000								
	Comments: Distance = 43 Mpc from the radial velocity using the Mould (2000, ApJ, 529, 786) multi-attractor model.										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG 22,20		1100.0 Secs		
									[==>]		[1]
	2		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG 22.498,2 3.984		1100.0 Secs		
									[==>]		[1]
	3		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG 22.996,2 7.968		1100.0 Secs		
									[==>]		[2]
	4		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG -22,20		1100.0 Secs		
									[==>]		[2]
	5		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG -22.498, 23.984		1100.0 Secs		
									[==>]		[3]
	6		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F300W	CR-SPLIT=NO	POS TARG -22.996, 27.968		1100.0 Secs		
									[==>]		[3]
	7		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG 22,20		600.0 Secs		
									[==>]		[4]
	8		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG 22.498,2 3.984		600.0 Secs		
									[==>]		[4]
	9		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG 22.996,2 7.968		600.0 Secs		
									[==>]		[4]
	10		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG -22,20		600.0 Secs		
									[==>]		[5]
	11		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG -22.498, 23.984		600.0 Secs		
									[==>]		[5]
	12		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F439W	CR-SPLIT=NO	POS TARG -22.996, 27.968		600.0 Secs		
									[==>]		[5]

Proposal 11112 - Visit 02 - The Collisional Ring Galaxy NGC922

Visit	Proposal 11112, Visit 02, implementation										Mon May 21 19:10:47 GMT 2007
	Diagnostic Status: Error										
	Scientific Instruments: WFPC2										
	Special Requirements: SAME ORIENT AS 01										
	Comments: All F547M, and F814W observations are obtained in this visit.										
Diagnostics	(Visit 02) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS										
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	NGC922	RA: 02 25 3.7400 (36.2655833d)		Radial Velocity: 3083.0 km/sec		V=12.12+/-0.13		Reference Frame: ICRS		
		Alt Name1: HIPASSJ0224-24S1	Dec: -24 47 24.80 (-24.79022d)				R = 11.94 +/- 0.05 ABmag				
			Equinox: J2000								
	Comments: Distance = 43 Mpc from the radial velocity using the Mould (2000, ApJ, 529, 786) multi-attractor model.										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG 22,20		600.0 Secs		
									[==>]		[1]
	2		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG 22.498,2 3.984		600.0 Secs		
									[==>]		[1]
	3		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG 22.996,2 7.968		600.0 Secs		
									[==>]		[1]
	4		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG -22,20		600.0 Secs		
									[==>]		[2]
	5		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG -22.498, 23.984		600.0 Secs		
								[==>]		[2]	
6		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F814W	CR-SPLIT=NO	POS TARG -22.996, 27.968		600.0 Secs			
								[==>]		[2]	
7		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG -22,20		600.0 Secs			
								[==>]		[3]	
8		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG -22.498, 23.984		600.0 Secs			
								[==>]		[3]	

Proposal 11112 - Visit 02 - The Collisional Ring Galaxy NGC922

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	9		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG -22.996, 27.968		600.0 Secs [==>]	[3]
	10		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG 22,20		600.0 Secs [==>]	[4]
	11		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG 22.498,2 3.984		600.0 Secs [==>]	[4]
	12		(1) NGC922	WFPC2, IMAGE, WF3-FIX	F547M	CR-SPLIT=NO	POS TARG 22.996,2 7.968		600.0 Secs [==>]	[4]
Orbit Structure	Orbit 1 Server Version: 20070325									

