



11807 - Hubble WFPC2 imaging of NGC 2074 in the Large Magellanic Cloud

Cycle: 16, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Mario Livio (PI)	Space Telescope Science Institute	mlivio@stsci.edu
Mr. Zolt Levay (CoI)	Space Telescope Science Institute	levay@stsci.edu
Mr. Max Mutchler (CoI) (Contact)	Space Telescope Science Institute	mutchler@stsci.edu
Ms. Lisa Frattare (CoI)	Space Telescope Science Institute	frattare@stsci.edu
Ms. Denise Taylor (CoI)	Space Telescope Science Institute	dctaylor@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	(28) NGC-2074	WFPC2	3	03-Jul-2008 22:52:27.0	yes

3 Total Orbits Used

ABSTRACT

We propose HST WFPC2 observations of the diffuse nebula NGC 2074 (which is possibly a SNR) in the LMC.

We will exploit the spatial resolution provided by HST to image circumstellar ejecta of hot stars, where ground-based imaging is difficult, and cannot provide meaningful spatial information. The distribution of the ionized gas and dust will allow us to determine the morphology of the circumstellar nebulae. In addition, the image promises to be quite spectacular, endowing it with great outreach potential.

OBSERVING DESCRIPTION

We will image this nebula with narrowband emission-line filters [O III], H-alpha, and [S II] (F502N, F656N, and F673N). We also include short V-band (F606W) exposures to get good signal for the stars in the field. A small 3-point line dither pattern will allow us to reject detector artifacts and cosmic rays from the images. The ORIENT was carefully chosen for a particular part of the nebula, so we do not allow much of a range, but it is scheduleable in the desired timeframe.

ADDITIONAL COMMENTS

We now know that the Hubble Space Telescope will start its 100,000th orbit on 11-Aug-2008, at 07:42:05 EDT (2008.224:11:42:05 UT).

This historic event provides us with a unique outreach opportunity prior to SM4. Since it is impossible to execute and immediately release an image of observations taken precisely on the 100,000th orbit, and since observations on this single orbit would preclude us from having a 3-color image, we propose a plan that will allow us to celebrate this important milestone. The idea is to take a 3-orbit observation of a particularly attractive target (that has not been previously observed). We plan to take the observation about twelve hours earlier than the 100,000th orbit (around 19:42 EDT on August 10), and to have the image processed and ready for the TV morning shows. OPO will alert the TV networks that this will be coming. OPO will release the image in the form of a "news nugget", and this will be accompanied by a series of activities that will be designed for the web (e.g. a countdown on HubbleSite), and by a special Kids News piece, by OPO's formal education group. The materials created for this release will also be used in the context of our International Year of Astronomy activities.

After an extensive search for an appropriate target, we have chosen NGC 2074 in the LMC, the brightest patch near the superbubble and OB association N158. It shows obvious bright emission with interesting dark columns at a scale that is very appropriate for the size of the WFPC2 field of view. There is every reason to believe that this observation will provide us with a spectacular image.

Due to the need for a quick turnaround in processing and preparing these images for a high-profile press release, we request that TDRSS dumps be scheduled as soon as possible after this visit, so that the data will arrive in the archive as soon as possible.

Proposal 11807 - Visit 01 - Hubble WFPC2 imaging of NGC 2074 in the Large Magellanic Cloud

Fri Jul 04 02:52:32 GMT 2008

Visit	Proposal 11807, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: GYRO MODE 2G; ORIENT 233D TO 237 D										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(1)		Pattern Type=WFPC2-LINE Purpose=DITHER Number Of Points=3 Point Spacing=0.3535 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45.0 Angle Between Sides= Center Pattern=false							(1-4)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(28)	NGC-2074	RA: 05 39 2.4408 (84.7601700d) Dec: -69 29 38.01 (-69.49389d) Equinox: J2000					V=10.0	Reference Frame: ICRS		
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(28) NGC-2074	WFPC2, IMAGE, WF2-FIX	F606W	CR-SPLIT=NO			Pattern 1-4 (1)	60 Secs		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
	2	(28) NGC-2074	WFPC2, IMAGE, WF2-FIX	F673N	CR-SPLIT=NO			Pattern 1-4 (1)	800 Secs		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
	3	(28) NGC-2074	WFPC2, IMAGE, WF2-FIX	F502N	CR-SPLIT=NO			Pattern 1-4 (1)	600 Secs		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		[2]
									[==>(Pattern 3)]		[3]
4	(28) NGC-2074	WFPC2, IMAGE, WF2-FIX	F656N	CR-SPLIT=NO			Pattern 1-4 (1)	500 Secs			
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]		[2]	
								[==>(Pattern 3)]		[3]	



