



14183 - The intermediate-age cluster GLIMPSE-C01

Cycle: 23, 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) GLIMPSE-C01	WFC3/IR WFC3/UVIS	1	27-Aug-2015 21:15:30.0	yes

1 Total Orbits Used

ABSTRACT

We propose multi-band HST observations of the most massive intermediate-age star cluster in the Galaxy GLIMPSE-C01. Considering the cluster's age, an unusually large number of X-ray sources has been detected in a previous Chandra program. In addition, extended X-ray emission was detected around GLIMPSE-C01 to spatially coincide with IR emission, indicating an ongoing interaction between the cluster and its environment. There is little information about the X-ray source population in intermediate age clusters. We will investigate the X-ray source population in GLIMPSE-C01 using our multiwavelength classification method to determine the nature of the X-ray sources in the cluster. This will enable us to study the X-ray binary evolution and history of the sources in GLIMPSE-C01. We request only one HST orbit to achieve this goal.

OBSERVING DESCRIPTION

We propose 1 HST orbit to study GLIMPSE-C01 - massive intermediate-age star cluster with half-light radius of 36". We will use the high dynamic range of WFC3/IR to study both the brightest as well as the faintest stars in GLIMPSE-C01. We will use both WFC3/UVIS and WFC3/IR to observe in four filters covering the range from 850 to 1600 Angstrom. All 3 exposures with WFC3/IR will use WFC3-IR-DITHER-LINE dither pattern with the pointing on the geometric center of the detector (Aperture = IR-FIX). The F127M exposure will be executed in mode NSAMP=15, SAMSEQ=STEP25 for total of 548.47 s (2x 274.235 s). The other two IR exposures, F139M and F153M, will be executed in mode NSAMP=11, SAMSEQ=STEP50 for total of 595.465 s (2x 299.232 s). The WFC3/UVIS exposure will use WFC3-UVIS-DITHER-LINE dither pattern. The two sub-exposures are split into 190 s and 350 s. We do not use CR-SPLITS to avoid the loss of observation time due to buffer dump. The Aperture will be set to UVIS1-FIX so that the star cluster falls on the geometric center of CCD1 and therefore the chip gap is avoided to prevent the loss of any significant to the program objects of falling onto the gap.

The choice of dither patterns and the read sequences (for the IR detector) is dictated by the tradeoff between minimizing time loss due to the data dumps and reading the detector as fast as possible while constraining everything to be within a single orbit.

Proposal 14183 - GLIMPSE (01) - The intermediate-age cluster GLIMPSE-C01

Fri Aug 28 01:15:32 GMT 2015

Visit	Proposal 14183, GLIMPSE (01), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: (none)									
	Diagnosics (GLIMPSE (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (F814W (01.004)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=1.2 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(4)						
(2)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1), (2), (3)							
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	GLIMPSE-C01	RA: 18 48 49.7000 (282.2070833d) Dec: -01 29 50.00 (-1.49722d) Equinox: J2000		V=21+/-1	Reference Frame: ICRS				
<i>Comments: Extended=NO</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F127M	(1) GLIMPSE-C01	WFC3/IR, MULTIACCUM, IR-FIX	F127M	NSAMP=15; SAMP-SEQ=STEP2 5		Pattern 2, Exps 1-1 i n GLIMPSE (01) (2)	274.234861 Secs (548.47 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	F139M	(1) GLIMPSE-C01	WFC3/IR, MULTIACCUM, IR-FIX	F139M	NSAMP=11; SAMP-SEQ=STEP5 0		Pattern 2, Exps 2-2 i n GLIMPSE (01) (2)	299.232481 Secs (598.465 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[1]
	3	F153M	(1) GLIMPSE-C01	WFC3/IR, MULTIACCUM, IR-FIX	F153M	NSAMP=11; SAMP-SEQ=STEP5 0		Pattern 2, Exps 3-3 i n GLIMPSE (01) (2)	299.232481 Secs (598.465 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[1]
	4	F814W	(1) GLIMPSE-C01	WFC3/UVIS, ACCUM, UVIS1-FIX	F814W	CR-SPLIT=NO; FLASH=8	POS TARG 0,-16.27 545972231495	Pattern 1, Exps 4-4 i n GLIMPSE (01) (1)	540 Secs (540 Secs) [=>190 Secs (Pattern 1)] [=>350 Secs (Pattern 2)]	[1]

