



12118 - PTF10fqs: A Luminous Red Nova in the Spiral Messier 99

Cycle: 17, Proposal Category: GO/DD

(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>
04	(4) PTF10FQS	WFC3/UVIS	1	07-Jun-2010 21:53:39.0	yes

1 Total Orbits Used

ABSTRACT

The Palomar Transient Factory (PTF) has discovered a rare type of transient in the luminosity "gap" between novae and supernovae. Located in a spiral arm of Messier 99, PTF10fqs is very red (effective temperature 3500 K) and slowly evolving. The spectrum is dominated by intermediate-width H-alpha (680 km/s) and calcium lines. The explosion signature is similar to M85 OT2006-1, SN 2008S and NGC 300-OT2008. The origin of these events is shrouded in mystery and controversy (and in some cases, in dust). Here, we propose a single-orbit observation to derive a precise astrometric position of this transient while it is still bright. This would allow us to firmly tie this HST observation with future searches of any remnant and serve as legacy observation for this rare and interesting source.

OBSERVING DESCRIPTION

We request a single orbit with 6x358s exposures -- two exposures in each of the F390W, F606W, and F814W filters of WFC3. The pointings will be dithered in order to cover the chip gap.

We specify an ORIENT range that assures that the target will not lie near the chip gap nor the chip edges.

Proposal 12118 (STScI Edit Number: 0, Created: Monday, June 7, 2010 8:53:44 PM EST) - Overview

Tue Jun 08 01:53:45 GMT 2010

Visit	Proposal 12118, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 108D TO 108 D; BEFORE 15-JUL-2010:00:00:00 Comments: <i>ORIENT range assures that the target will not lie near the WFC3 chip gap or too close to the chip edge.</i> <i>BEFORE date assures that observation will be made while the optical transient is still bright. However, the earliest possible observation is the most desirable.</i>										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=2.400 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true			(1-3)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(4)	PTF10FQS	RA: 12 18 56.2000 (184.7341667d)				V=20	Reference Frame: ICRS			
Alt Name1: M99-OT-2010 Dec: +14 26 7.00 (14.43528d) Equinox: J2000 Comments: <i>The target is at 12:18:50.082 +14:26:39.75. However, there are no guide stars available at that pointing, so we are pointing east and south of the target in order to obtain a single guide star.</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(4) PTF10FQS	(4) PTF10FQS	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	GS ACQ SCENARI O ONEB1B3	Pattern 1, Exps 1-3 (1)	370 Secs		
									[==>374.0 Secs (Pattern 1)]		[1]
									[==>374.0 Secs (Pattern 2)]		
	2	(4) PTF10FQS	(4) PTF10FQS	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	CR-SPLIT=NO		Pattern 1, Exps 1-3 (1)	370 Secs		
								[==>374.0 Secs (Pattern 1)]		[1]	
								[==>374.0 Secs (Pattern 2)]			
	3	(4) PTF10FQS	(4) PTF10FQS	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	CR-SPLIT=NO		Pattern 1, Exps 1-3 (1)	370 Secs		
								[==>374.0 Secs (Pattern 1)]		[1]	
								[==>374.0 Secs (Pattern 2)]			

