13941 - IDENTIFY THE SIGNATURE OF NEUTRON STAR MERGERS THROUGH RAPID CHANDRA/HUBBLE OBSERVATIONS OF A SHORT GRB

Cycle: 22, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) GRBTARGET	WFC3/IR WFC3/UVIS	2	04-Dec-2015 21:00:46.0	yes

2 Total Orbits Used

ABSTRACT

The afterglow of some short GRBs displays a late-time rebrightening, visible a few days after the gamma-ray burst. Recent HST observations provided tantalizing evidence that such a late-time bump could be explained as the emergence of the underlying kilonova emission. This would represent the incontrovertible signature of a neutron star merger, and the first direct link between short GRBs and their progenitors. Here we ask for a rapid (few days) and deep Chandra/HST follow-up observation of a short duration GRB in order to detect the expected kilonova bump, and to constrain the origin of the observed emission. Multi-band observations, and in particular X-rays, are critical to pin down the nature of the observed rebrightening, and to distinguish it from the standard afterglow emission.

OBSERVING DESCRIPTION

We request two orbits with the WFC3/UVIS F606W filter and WFC/IR 106W filter. Filters were chosen to match an earlier observation of the same target.

Visit

Proposal 13941, Visit 01, implementation Sat Dec 05 02:00:48 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: BEFORE 31-DEC-2015:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1)
(6)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	GRBTARGET	RA: 12 32 4.9850 (188.0207708d) Dec: -10 56 0.21 (-10.93339d) Equinox: J2000		V=30	Reference Frame: ICRS

Comments: Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) GRBTARGET	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=STEP100	GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-1 in Visit 01 (1)	799.232938 Secs (2397.699 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
2		(1) GRBTARGET	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 6, Exps 2-2 in Visit 01 (6)	400 Secs (2520 Secs) *[==>630.0 Secs (Pattern 1)]* *[==>630.0 Secs (Pattern 2)]* *[==>630.0 Secs (Pattern 3)]* *[==>630.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure