



Observing Application

Date : Feb, 13 2012
Proposal ID : VLA/12A-452
Legacy ID : AS1183
PI : Christopher Salter
Type : Director's Discretionary
Time - Target of
Opportunity
Category : Energetic Transients and
Pulsars
Total Time : 1.5

A Remarkable Spectral Line/Continuum Outburst in NGC660

Abstract:

Arecibo observations have detected a radio continuum and spectral-line outburst in the nearby peculiar galaxy, NGC 660. A new continuum component with GHz Peaked Spectrum (GPS) emission and a peak flux density of about 0.5 Jy at 5 GHz has emerged between 2010.9 and 2012.0. This continuum outburst has been mimicked by the parallel development of excited-OH maser emission/absorption in the 4660-, 4750- and 4765-MHz transitions. H₂CO absorption is also detected against the new continuum component. The likely nature of this event, is either a SN explosion, or an outburst in the galactic nucleus of NGC 660. Here we request 1.5 hour of EVLA Director's Discretionary Time to obtain a sub-arcsecond position for the new continuum component, as well as obtaining its polarization and spectral index. The refined position will permit HSA C- and X-band observations to determine the nature of the outburst, and to investigate the relation of the OH maser emission to the continuum source. A good position determination for this transient source will also permit infra-red, optical, etc. follow-up.

Authors:

Name	Institution	Email	Status
Robert Minchin	National Astronomy and Ionosphere Center	rminchin@naic.edu	
Christopher Salter	National Astronomy and Ionosphere Center	csalter@naic.edu	
Emmanuel Momjian	National Radio Astronomy Observatory	emomjian@nrao.edu	
Tapasi Ghosh	National Astronomy and Ionosphere Center	tghosh@naic.edu	

Principal Investigator: Christopher Salter
Contact: Emmanuel Momjian
Telephone: 575-835-7452
Email: emomjian@nrao.edu

Related proposals:

VLBA/12B-337

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Astrometry

VLA Resources

Name	Conf.	Frontend & Backend	Setup
x-band	C	X Band 3.6 cm 8000 - 12000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 8500.0,11500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz

Sources:

Name	Position		Velocity		Group
NGC 660	Coordinate System	Equatorial	Convention	Redshift	NGC660
	Equinox	J2000			
	Right Ascension	01:43:02.4	Ref. Frame	Barycentric	
		00:00:00.0			
	Declination	+13:38:42.0	Redshift	0.003	
		00:00:00.0			

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
run1	1.50	1	0 day	0:00:00	07:00:00	10

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
run1	NGC 660	x-band	1.5 hour	0.007 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no