



Observing Application

Date : Apr, 23 2008
Proposal ID : VLA/08A-240
Legacy ID : AS949
PI : Christopher Stockdale
Type : Rapid Response - Target
of Opportunity
Category : Extragalactic
Total Time : 10.0

Radio Monitoring of the Type IIb SN 2008bo

Abstract:

We propose a 2.0 week observing program to monitor the evolution of Supernova (SN) 2008bo, a recently-discovered, circumpolar type IIb SN. Its host galaxy, NGC 6643, is an SAc galaxy that has a NED derived distance ranging from 19-26 Mpc. Members of our collaboration are currently engaged in optical, UV, and X-ray observations with Swift. This program complements some of the science goals of our Target of Opportunity Rapid Response program (AW710) to: (1) Determine the physics of core-collapse SNe through the study of the mass-loss rate, absorption mechanisms, and density distribution of the stellar wind established pre-SN circumstellar envelopes. These require observations at early times since the multi-frequency radio light curve transitions from optically thick to optically thin are an important probe of the physical conditions of the circumstellar medium; and, (2) Improve our understanding of the subgroupings (II-L, -P, -n, -b) which characterize the range of, presumably mass related, differences between SN progenitor systems.

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Related proposals:

AW710 AS947

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
sn 2008bo	C	K Band 1.3 cm 18000 - 26500 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 22485.1,22435.1 MHz Bandwidth: 50 MHz
sn 2008bo	C	X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 8435.1,8485.1 MHz Bandwidth: 50 MHz
sn 2008bo	C	C Band 6 cm 4200-7700 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 4885.1,4835.1 MHz Bandwidth: 50 MHz

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
sN 2008bo	18:19:54.0 00:00:00.0	+74:34:21 00:00:00	J2000	Velocity : 1484	SN2008bo

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Every other Day	2.00	2	2 day	00:00:00	24:00:00	10
Semi weekly	2.00	3	4 day	00:00:00	24:00:00	10

Session Constraints:

Name	Constraints	Comments
Every other Day	The source is circumpolar, no constraints.	
Semi weekly		

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
Every other Day	sN 2008bo	sn 2008bo	1.0 hour	0.04 mJy/bm
Every other Day	sN 2008bo	sn 2008bo	0.5 hour	0.04 mJy/bm
Every other Day	sN 2008bo	sn 2008bo	0.5 hour	0.04 mJy/bm
Semi weekly	sN 2008bo	sn 2008bo	1.0 hour	0.04 mJy/bm
Semi weekly	sN 2008bo	sn 2008bo	0.5 hour	0.04 mJy/bm
Semi weekly	sN 2008bo	sn 2008bo	0.5 hour	0.04 mJy/bm

Present for observation: no Staff support: None Plan of Dissertation: no