



Observing Application

Date : Mar, 10 2008
Proposal ID : VLA/08A-236
Legacy ID : AS945
PI : Christopher Stockdale
Type : Rapid Response - Target
of Opportunity
Category : Extragalactic
Total Time : 21.0

SN 2008ax: The Earliest IIP Radio Supernova

Abstract:

We propose to observe the type-IIP Supernova (SN) 2008ax in NGC 4490 with the VLA. On 2008 March 7, we detected radio emission (at X and K bands) from with a measured position in good agreement with the measured optical position (CBET 1286). Reobservation on 2008 March 10 and 11 indicates that the flux density of the radio source has risen at both bands indicating almost certain detection of radio emission from SN 2008ax. The inverted radio spectrum implies that the radio emission has likely been caught on the rise. Because of the unusual underluminous nature of SN 2008ax (CBET 1285) and its resemblance in some characteristics to the peculiar Type II SN 1987A (CBET 1285 and 1290), the object warrants further study in all wavelength bands. No Type IIP SN has even been observed at this early of an epoch and it is very luminous as compared to other IIP SNe (e.g. SNe 2004et and 2002hh). Continued VLA observations are essential to understanding this class of SNe. Within our collaboration SWIFT X-ray observations are in progress and VLBI observations have been requested.

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Related proposals:

AW710

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

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

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
SN 2008ax	12:30:40.0 00:00:00.0	+41:38:15 00:00:00	J2000	Redshift : 0.002	sn2008ax

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Daily monitoring	1.00	3	1 day	07:30:00	17:00:00	10
Every other Day	1.00	6	2 day	07:30:00	17:00:00	10
Weekly	1.00	6	7 day	07:30:00	17:00:00	10
Bi-weekly-C	1.00	2	14 day	07:30:00	17:00:00	10
Bi-weekly-D	1.00	4	14 day	07:30:00	17:00:00	10

Session Constraints:

Name	Constraints	Comments
Daily monitoring		First phase of observations
Every other Day		Second phase of observations
Weekly		Third phase of observations
Bi-weekly-C		Fourth phase of observations