



Observing Application

Date : Feb, 18 2009
Proposal ID : VLA/09A-189
Legacy ID : AS986
PI : Allison Smith
Type : Rapid Response -
Exploratory Time
Category : Galactic
Total Time : 1.0

Broad Recombination Line Objects in K3-50C

Abstract:

We propose line and continuum observations at 7mm of a subgroup of sources in the massive star-forming region K3-50. K3-50 consists of four separate sources (K3-50A-D) with a variety of morphologies. The bipolar source A, previously classified as a BRLO by Jaffe & Martin-Pintado (1999), is also known to be undergoing a high-velocity bipolar outflow (De Pree et al 1994). Observations of broad recombination line objects (BRLOs) and bipolar outflow sources suggest that accretion disks may be a factor in high mass star formation. Sources B and D are more diffuse, while the compact K3-50C source actually consist of multiple sub-sources, which have not been studied but could potentially be classified as BRLOs. We will use this Q-band data to supplement existing X and U band archival VLA data to determine whether the C sources have broad spectral lines and rising spectral indices which would allow us to classify them as BRLOs.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup
K3-50C	B	Q Band 0.7 cm 40000 - 50000 MHz VLA Correlator - Spectral Line	Rest frequencies: 43314.9, 43364.9 MHz Bandwidth: 25 MHz Spectral resolution: 781.25 kHz IF Mode: 1 No. of Channels: 32

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
K3-50 C1	20:01:54.4 00:00:00.0	+33:34:14 00:00:00	J2000	Velocity : -28.0	K3-50 C

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
K3-50C	1.00	1	0 day	17:00:00	24:00:00	25 degrees

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
K3-50C	K3-50 C1	K3-50C	1.0 hour	0.27 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no