



Observing Application

Date: Aug 5, 2007
 Proposal ID: VLA/07C-237
Legacy ID: AQ17
 PI: Keping Qiu
 Type: Rapid Response
 Exploratory Time
 Category: Galactic
 Total time: 1.0 hour

Resolving an Ionized Jet in a $10^5 L_{\text{sun}}$ Outflow-disk System in IRAS 18360-0537

Abstract:

We propose for the VLA exploratory time to follow up a recent SMA discovery of an outflow-disk system associated with a $10^5 L_{\text{sun}}$ high-mass young stellar object IRAS 18360-0537. The SMA data clearly resolved a flattened disk with a Keplerian like rotation along the position perpendicular to a bipolar CO outflow. The 1.3 cm emission, which is constructed from the line-free channels in NH₃(3,3) from our previous VLA observation, shows an extension along the CO outflow axis. The goal of the proposed VLA observation, with 30 minutes both in the current A and following B configurations, is to resolve the cm emission which may arise from the ionized emission in a jet at sufficient resolution and sensitivity.

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Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Single Pointing(s), *

Resources:

Resource name	Tele. Conf.	Frontend & Backend	Set up
I18360_A	VLA A	X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum	Bandwidth: 50 MHz Rest frequencies: 8435.1,8485.1 MHz
I18360_B	VLA B	K Band 1.3 cm 18000 - 26500 MHz VLA Correlator - Single Channel Continuum	Bandwidth: 50 MHz Rest frequencies: 22485.1,22435.1 MHz

Sources:

Source name	RA / RA Range	DEC / DEC Range	System	Velocity/z	Group name
IRAS 18360-0537	18:38:40.7 00:00:00.0	-5:35:04 00:00:00	J2000	102.3 km/s	

Sessions:

Session Name	Session Time	Repeat	Separation	LST Minimum	LST Maximum	Elevation Minimum
I18360_A	0.5 hour	1	0 day	15:30:00	21:30:00	0
I18360_B	0.5 hour	1	0 day	15:30:00	21:30:00	0

Session Constraints:

Session Name	Constraint	Comments
I18360_A		
I18360_B		

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
I18360_A	IRAS 18360-0537/	I18360_A	0.5 hour	0.07mJy/bm
I18360_B	IRAS 18360-0537/	I18360_B	0.5 hour	0.14mJy/bm

Total Time per Configuration:

Configuration	Total Time
A	0.5
B	0.5