



Observing Application

Date: Apr 9, 2007
 Proposal ID: VLA/07B-264
Legacy ID: AM914
 PI: Karl Menten
 Type: Rapid Response
 Exploratory Time
 Category: Extragalactic
 Total time: 10.0 hour

Searching for the 6.7 GHz Methanol line toward Arp 220

Abstract:

We propose to search for absorption in the 6.7 GHz methanol line toward the radio continuum emission of the archetypical UltraLuminous InfraRed Galaxy Arp 220. Detection of this line in ULIRGs would add another important tool for studying these remarkable objects. In recent years, methanol has been established as an important density and temperature probe of interstellar matter. Our observations will provide a first step to exploit this molecule to determine the physical conditions in Arp 220's starburst core.

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Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy, *

Resources:

Resource name	Tele. Conf.	Frontend & Backend	Set up
Methanol - D	VLA D	C Band 6 cm 4500 - 5000 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 50 MHz Number of channels: 16 Spectral resolution: 3125.0 kHz Rest frequencies: 6668. MHz
Methanol - A	VLA A	C Band 6 cm 4500 - 5000 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 50 MHz Number of channels: 16 Spectral resolution: 3125.0 kHz Rest frequencies: 6668.5192 MHz
OH - D	VLA D	C Band 6 cm 4500 - 5000 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 50 MHz Number of channels: 16 Spectral resolution: 3125.0 kHz Rest frequencies: 6030 MHz
OH - A	VLA A	C Band 6 cm 4500 - 5000 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 50 MHz Number of channels: 16 Spectral resolution: 3125.0 kHz Rest frequencies: 6030 MHz

Sources:

Source name	RA / RA Range	DEC / DEC Range	System	Velocity/z	Group name
Arp 220	15:34:57.2 00:00:00.0	+23:30:09.5 00:00:00	J2000	z = +.018116	

Sessions:

Session Name	Session Time	Repeat	Separation	LST Minimum	LST Maximum	Elevation Minimum
Methanol - A	5.0 hours	1	0 day	12:30:00	18:30:00	0
Methanol - D	5.0 hours	1	0 day	12:30:00	18:30:00	0

Session Constraints:

Session Name	Constraint	Comments
Methanol - A		
Methanol - D		

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
Methanol - A	Arp 220/	Methanol - A	4.0 hour	0.5mJy/bm
Methanol - A	Arp 220/	OH - A	1.0 hour	0.5mJy/bm
Methanol - D	Arp 220/	Methanol - D	4.0 hour	0.5mJy/bm
Methanol - D	Arp 220/	OH - D	1.0 hour	0.5mJy/bm

Total Time per Configuration:

Configuration	Total Time
D	5.0
A	5.0

Present for observation: no Staff support: None