



Observing Application

Date: Apr 9, 2007
 Proposal ID: VLA/07B-263
Legacy ID: AB1258
 PI: Andreas Brunthaler
 Type: Rapid Response
 Exploratory Time
 Category: Galactic
 Total time: 7.5 hour

Accurate Positions of Galactic Methanol Masers

Abstract:

We are carrying out a large project to study the spiral structure and kinematics of the Milky Way. We will accomplish this by determining distances, via trigonometric parallax, and proper motions of methanol masers associated with star-forming regions. Here we request 7.5 hours of VLA time to determine absolute positions of 38 additional 6.7 GHz methanol masers accurate to better than 1 arcsec. These positions are an absolutely necessary prerequisite for successful VLBI observations.

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Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy, *

Resources:

Resource name	Tele. Conf.	Frontend & Backend	Set up
Methanol	VLA A	C Band 6 cm 4200 - 7700 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 1.5625 MHz Number of channels: 512 Spectral resolution: 3.052 kHz Rest frequencies: 6668.5192 MHz

Sources:

Source name	RA / RA Range	DEC / DEC Range	System	Velocity/z	Group name
10.47+0.03	18 08 00:00:00.0	-19 51 50 00:00:00	J2000	75.0 km/s	Group1
11.90-0.14	18 12 00:00:00.0	-18 41 38 00:00:00	J2000	42.9 km/s	Group1
12.03-0.03	18 12 00:00:00.0	-18 31 57 00:00:00	J2000	108.6 km/s	Group1
12.68-0.18	18 13 00:00:00.0	-18 01 35 00:00:00	J2000	57.0 km/s	Group1
12.89+0.49	18 11 00:00:00.0	-17 31 29 00:00:00	J2000	39.3 km/s	Group1
12.91-0.26	18 14 00:00:00.0	-17 52 06 00:00:00	J2000	39.8 km/s	Group1
15.03-0.68	18 20 00:00:00.0	-16 11 39 00:00:00	J2000	21.3 km/s	Group1
18232-1154	18 26 00:00:00.0	-11 52 34 00:00:00	J2000	3.9 km/s	Group1
24.33+0.14	18 35 00:00:00.0	-07 34 58 00:00:00	J2000	110.3 km/s	Group1
25.71+0.04	18 38 00:00:00.0	-06 24 32 00:00:00	J2000	95.6 km/s	Group1
27.36-0.16	18 41 00:00:00.0	-05 01 47 00:00:00	J2000	99.8 km/s	Group1
28.15+0.00	18 42 00:00:00.0	-04 15 26 00:00:00	J2000	101.3 km/s	Group1
29.86-0.05	18 45 00:00:00.0	-02 45 12 00:00:00	J2000	100.3 km/s	Group1
29.95-0.02	18 46 00:00:00.0	-02 39 24 00:00:00	J2000	96.8 km/s	Group1
30.20-0.17	18 47 00:00:00.0	-02 30 38 00:00:00	J2000	110.2 km/s	Group1
30.78+0.23	18 46 00:00:00.0	-01 48 31 00:00:00	J2000	49.1 km/s	Group1
30.79+0.20	18 46 00:00:00.0	-01 48 46 00:00:00	J2000	87.8 km/s	Group1
31.28+0.06	18 48 00:00:00.0	-01 26 36 00:00:00	J2000	110.3 km/s	Group1
32.74-0.08	18 51 00:00:00.0	-00 12 13 00:00:00	J2000	30.5 km/s	Group1
33.64-0.21	18 53 00:00:00.0	+00 31 58 00:00:00	J2000	58.6 km/s	Group1
37.43+1.50	18 54 00:00:00.0	+04 41 09 00:00:00	J2000	41 km/s	Group1
49.55-0.25	19 23 00:00:00.0	+14 37 52 00:00:00	J2000	66. km/s	Group1

49.57-0.38	19 23 00:00:00.0	+14 34 54 00:00:00	J2000	62. km/s	Group1
59.84+0.66	19 40 00:00:00.0	+24 04 39 00:00:00	J2000	39. km/s	Group1
70.12+1.72	20 00 00:00:00.0	+33 28 20 00:00:00	J2000	-26. km/s	Group1
73.04+1.80	20 08 00:00:00.0	+35 58 47 00:00:00	J2000	7. km/s	Group1
75.76+0.34	20 21 00:00:00.0	+37 25 37 00:00:00	J2000	1. km/s	Group1
78.10+3.64	20 14 00:00:00.0	+41 13 33 00:00:00	J2000	-5. km/s	Group1
79.75+0.99	20 30 00:00:00.0	+41 02 26 00:00:00	J2000	-3. km/s	Group1
81.87+0.78	20 38 00:00:00.0	+42 37 36 00:00:00	J2000	13. km/s	Group1
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Sessions:

Session Name	Session Time	Repeat	Separation	LST Minimum	LST Maximum	Elevation Minimum
Group 2	1.5 hours	1	0 day	03:30:00	07:00:00	0
Group 1	6.0 hours	1	0 day	15:30:00	23:30:00	0

Session Constraints:

Session Name	Constraint	Comments
Group 2		
Group 1		

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
Group 2	174.19-0.09/Group2	Methanol	0.3 hour	40mJy/bm
Group 2	173.49+2.42/Group 2	Methanol	0.3 hour	40mJy/bm
Group 2	173.69+2.87/Group 2	Methanol	0.3 hour	40mJy/bm
Group 2	183.34+0.59/Group 2	Methanol	0.3 hour	40mJy/bm
Group 2	136.84+1.12/Group 2	Methanol	0.3 hour	40mJy/bm
Group 1	10.47+0.03/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	11.90-0.14/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	12.03-0.03/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	12.68-0.18/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	12.89+0.49/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	12.91-0.26/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	15.03-0.68/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	18232-1154/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	24.33+0.14/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	25.71+0.04/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	27.36-0.16/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	28.15+0.00/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	29.86-0.05/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	29.95-0.02/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	30.20-0.17/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	30.78+0.23/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	30.79+0.20/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	31.28+0.06/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	32.74-0.08/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	33.64-0.21/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	37.43+1.50/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	49.55-0.25/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	49.57-0.38/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	59.84+0.66/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	70.12+1.72/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	73.04+1.80/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	75.76+0.34/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	78.10+3.64/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	79.75+0.99/Group1	Methanol	0.18181819 hour	40mJy/bm
Group 1	81.87+0.78/Group1	Methanol	0.18181819 hour	40mJy/bm
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Total Time per Configuration:

Configuration	Total Time
A	7.5

Present for observation: no Staff support: None