# Observing Application

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|---|---|
| Date : | Jul, 26 2012 |
| Proposal ID : | VLA/12A-491 |
| Legacy ID : | AM1177 |
| PI : | Carl Melis |
| Type : | Director's Discretionary Time - Exploratory Time |
| Category : | Solar System, Stars, Planetary Systems |
| Total Time : | 2.0 |

**Accurate Current Epoch Positions for two VLBI Pleiades Targets**

## Abstract:

We are in the midst of the VLBA Key Science program to determine the most accurate trigonometric parallax to the Pleiades cluster and hence resolve the "Pleiades distance controversy". Of our first year target sample, three out of five targets have repeatedly flared yielding significant (>10-sigma) detections. Two sources have not yet shown obvious flares despite thorough searches. We propose JVLA imaging of these sources to verify with sub-arcsecond precision their current epoch positions and hence enable robust searches for these sources in the VLBI data.

## Authors:


| Name | Institution | Email | Status |
|---|---|---|---|
| Carl Melis | California at San Diego, University of | cmelis@ucsd.edu | |
| Amy Mioduszewski | National Radio Astronomy Observatory | amiodusz@nrao.edu | |

Principal Investigator: Carl Melis
Contact: Carl Melis
Telephone: (858)822-3435
Email: cmelis@ucsd.edu


## Related proposals:

## Joint:

Not a Joint Proposal

## Observing type(s):

Continuum

## VLA Resources

| Name | Conf. | Frontend & Backend | Setup |
|---|---|---|---|
| X-JVLA | Any | X Band 3.6 cm 8000 - 12000 MHz<br>WIDAR OSRO, Full Polarization | Rest frequencies: 8500.0,9500.0 MHz<br>Subband Bandwidth: 128.0 MHz<br>No. of Channels: 64<br>Poln. products: 4.0<br>Channel Width: 2000.0 kHz<br>Total Bandwidth: 2,048.00 MHz |

Testing Resource Images

## Sources:

| Name | Position | | Velocity | | Group |
|---|---|---|---|---|---|
| HII625 | **Coordinate System** | Equatorial | **Convention** | Radio | Pleiads |
| | **Equinox** | J2000 | | | |
| | **Right Ascension** | 03:45:21.19 | **Ref. Frame** | LSRK | |
| | | 00:00:00.0 | | | |
| | **Declination** | +23:43:39.00 | **Velocity** | 0.00 | |
| | | 00:00:00.0 | | | |
| HII174 | **Coordinate System** | Equatorial | **Convention** | Radio | Pleiads |
| | **Equinox** | J2000 | | | |
| | **Right Ascension** | 03:43:48.33 | **Ref. Frame** | LSRK | |
| | | 00:00:00.0 | | | |
| | **Declination** | +25:00:15.7 | **Velocity** | 0.00 | |
| | | 00:00:00.0 | | | |

## Sessions:

| Name | Session Time (hours) | Repeat | Separation | LST minimum | LST maximum | Elevation Minimum |
|---|---|---|---|---|---|---|
| Pleiads | 2.00 | 1 | 0 day | 00:00:00 | 24:00:00 | 8 |

## Session Constraints:

| Name | Constraints | Comments |
|---|---|---|
| Pleiads | | 1 hour per source, rms noise is for 1 hour only with 2 GHz bandwidth and 20 antennas. |

## Session Source/Resource Pairs:

| Session Name | Source | Resource | Time | Figure of Merit | Subarray |
|---|---|---|---|---|---|
| Pleiads | HII625<br>HII174 | X-JVLA | 2.0 hour | 0.006 mJy/bm | |

Present for observation: no Staff support: None Plan of Dissertation: no