# Observing Application

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|---|---|
| Date : | May, 16 2012 |
| Proposal ID : | VLA/12A-478 |
| Legacy ID : | AW832 |
| PI : | Jennifer Weston |
| Type : | Director's Discretionary Time - Target of Opportunity |
| Category : | Energetic Transients and Pulsars |
| Total Time : | 4.0 |

**Are Symbiotic-Star Outflows Really Jets?**

## Abstract:

We aim to determine whether the bipolar outflows ejected from symbiotic stars are fundamentally the same kind of structures that are found in X-ray binaries, protostars, and young stellar objects (YSOs). In early March, the symbiotic star Hen 3-1341 (V2523 Oph) was observed to be undergoing a bright optical outburst, with the spectroscopic signatures of a collimated, symmetric, bipolar outflow. We request a series of four, one hour sessions of JVLA time in C band to determine when Hen 3-1341 becomes radio bright and to watch the rise and fall of the radio emission, a total time of four hours over the course of four months. Because we expect any jet in Hen 3-1341 to rise in radio on a timescale of months, we require the first epoch of radio observations within the next month. If the presence of radio emission is confirmed by these observations, then we will propose to image and monitor the developing radio jet with e-MERLIN; these exploratory JVLA observations have the sensitivity to determine whether radio imaging will be feasible, and will thereby allow us to plan future observations.

## Authors:


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## Related proposals:

## Joint:

Not a Joint Proposal

## Observing type(s):

Continuum, Monitoring

## VLA Resources

| Name | Conf. | Frontend & Backend | Setup |
|---|---|---|---|

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|---|---|---|---|
| EVLA | B | C Band 6 cm 4000-8000 MHz<br>WIDAR OSRO, Full Polarization | Rest frequencies: 4500.0,7500.0 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 |

## Sources:

| Name | Position | | Velocity | | Group |
|---|---|---|---|---|---|
| Hen3-1341 | **Coordinate System** | Equatorial | **Convention** | Radio | Sym |
| | **Equinox** | J2000 | | | |
| | **Right Ascension** | 17:08:36.58 | **Ref. Frame** | LSRK | |
| | | 00:00:00.0 | | | |
| | **Declination** | -17:26:30.5 | **Velocity** | 0.00 | |
| | | 00:00:00.0 | | | |

## Sessions:

| Name | Session Time (hours) | Repeat | Separation | LST minimum | LST maximum | Elevation Minimum |
|---|---|---|---|---|---|---|
| 1 | 1.00 | 4 | 30 day | 00:00:00 | 00:00:00 | 17 |

## Session Constraints:

| Name | Constraints | Comments |
|---|---|---|
| | | |

## Session Source/Resource Pairs:

| Session Name | Source | Resource | Time | Figure of Merit | Subarray |
|---|---|---|---|---|---|
| 1 | Hen3-1341 | EVLA | 1.0 hour | 0.007 mJy/bm | |

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