



Observing Application

Date : May, 08 2009
 Proposal ID : VLA/09A-199
 Legacy ID : AC966
 PI : Poonam Chandra
 Type : Rapid Response - Target of Opportunity
 Category : Extragalactic
 Total Time : 16.0

Continued Observations of the Highest Redshift Gamma-Ray Burst

Abstract:

We propose to continue monitoring the afterglow of the high redshift ($z=8.2$) gamma-ray burst GRB 090423 which was discovered at the VLA as part of our GRB program AK706. Continued radio monitoring of this GRB should allow us to derive important physical parameters of the explosion and its environs (energy, geometry, and density) that cannot be obtained any other way. With this information in hand we may be able provide some clues to whether the progenitor star that gave rise to GRB 090423 was a Pop III star or a normal Pop II star.

Authors:

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Related proposals:

AK 706, AK 681, AK 634

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Single Pointing(s), Triggered Transient

VLA Resources

| Name | Conf. | Frontend & Backend | Setup |
|-----------|-------|--|---|
| GRB-XBand | B | X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum | Rest frequencies: 8435.1, 8485.1 MHz Bandwidth: 50 MHz |

Sources:

| Name | RA / RA Range | Dec / Dec Range | Epoch | Velocity / z | Group |
|------|---------------|-----------------|-------|--------------|-------|
|------|---------------|-----------------|-------|--------------|-------|

| Name | RA / RA Range | Dec / Dec Range | Epoch | Velocity / z | Group |
|-----------|--------------------------|-----------------------|-------|----------------|-------|
| GRB090423 | 09:55:33.3 00:00:00.0 | +18:08:57 00:00:00 | J2000 | Redshift : 8.2 | HighZ |

Sessions:

| Name | Session Time (hours) | Repeat | Separation | LST minimum | LST maximum | Elevation Minimum |
|--------|----------------------|--------|------------|-------------|-------------|-------------------|
| Sess-1 | 2.00 | 8 | 2 day | 05:00:00 | 13:00:00 | 0 |

Session Constraints:

| Name | Constraints | Comments |
|--------|-------------|---|
| Sess-1 | | We need to observe the GRB for 2 hours every second night. We request for 2 hours suitable dynamic blocks within the next 14-35 days starting from early next week onwards (or as early as possible). |

Session Source/Resource Pairs:

| Session Name | Source | Resource | Time | Figure of Merit | Subarray |
|--------------|-----------|-----------|----------|-----------------|----------|
| Sess-1 | GRB090423 | GRB-XBand | 2.0 hour | 0.019 mJy/bm | |

Present for observation: no

Staff support: None

Plan of Dissertation: no