

Observing with NRAO Telescopes

A short but practical guide



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Atacama Large Millimeter/submillimeter Array
Expanded Very Large Array
Robert C. Byrd Green Bank Telescope
Very Long Baseline Array



New Capabilities offered in early 2012

- Green Bank Telescope (GBT)
 - 0.3-90 GHz
 - Second-generation of instruments in shared-risk observing
 - C band receiver (4-8 GHz)
 - Ku band receiver (10-18 GHz)
 - W band receiver (68-92 GHz, 4 mm)*
 - **VE**rsatile **GBT** **A**stronomical **S**pectrometer (VEGAS)
- Very Long Baseline Array (VLBA)
 - 0.3-90 GHz
 - 2 Gbit/s wideband recording is default
 - New C-band receivers (4-8 GHz)
 - *GBT 4mm available as part of High Sensitivity Array (HSA)



New Capabilities offered in early 2012

- Expanded Very Large Array (EVLA)
 - 1-50 GHz
 - Regular observers will have up to 2 GHz of bandwidth and will have new receivers in nearly all 27 antennas (24 have Ku and X)
 - Resident observers (RSRO) will have access up to 8 GHz of bandwidth plus increased WIDAR correlator flexibility



New Capabilities offered in early 2012

- Atacama Large Millimeter Array (ALMA) – Cycle 1
 - 84-720 GHz (in four bands, same as Cycle 0)
 - 32 12-m antennas, at least six 7-m antennas
 - Baselines from 0.15-1 km
 - Single field and mosaicing modes available
 - Additional correlator flexibility (averaging, independent tuning, etc)



Proposal and Project Types for EVLA, GBT and VLBA

- Regular and Large Proposals → Key Science Projects
- Director Discretionary Time
- Joint programs with *Fermi* and *Chandra*
- PhD Dissertation projects
- High risk, high return projects
- Filler projects
- ALMA preparatory projects

For more details on EVLA, VLBA and GBT capabilities see the *Call For Proposals* in the NRAO eNews Jan. 2012



Proposal Submission and Evaluation

Semester	Proposal Deadline	Observing Period
2012B	1 February	~1Aug. – 30 Jan.
2013A	1 August	~1 Feb. – 31 July
ALMA C1	1 st half of 2012	10 months, 1500 hrs

- Electronic submission via NRAO and ALMA Web portal
- Community-lead TAC Process
 - Current ALMA Chair = Neal Evans (U.Texas)
 - Current EVLA, GBT, VLBA Chair = Mark Reid (CfA)
- Telescopes are dynamically scheduled (with some exceptions)

For more telescope-specific information see

ALMA Special Session: Wed. 10am Room 17B

ALMA Splinter Session: Wed. at 5:30 pm Room 8

EVLA, GBT, VLBA Splinter Session: Thurs. 12 at 9:30 am Room 8



User Support and Training

- Unified operations to maximize science impact
 - Four telescopes, One Observatory
 - Expertise spread throughout Observatory
- NRAO *Helpdesk* is first line of help for...
 - Proposal preparation and submission
 - Observing preparation and submission
 - Data archive, post-processing and analysis
- NRAO also provides...
 - Face-to-face visitor support and Resident shared-risk programs
 - Community days, data reduction workshops, scientific workshops, and summer schools
 - Financial support of PhD projects, Summer student, graduate student and postdoctoral programs



New User? How do you get started

- Attend the AAS Splinter sessions for ALMA, EVLA, VLBA and GBT
- NRAO Science Website: <https://science.nrao.edu>
- NRAO Helpdesk

The screenshot shows the NRAO Science Website interface. At the top, there is a header with the NRAO logo and the tagline "Enabling forefront research into the Universe at radio wavelengths". Navigation tabs include Home, About NRAO, Science, Facilities, Observing, and Opportunities. A search bar is located in the top right corner. The main content area features a "NRAO Science Website" section with a large image of radio telescopes and a "NRAO Call for Proposals: Semester 2012B" announcement. To the right, there are sections for "More News" and "NRAO Events".

NRAO Call for Proposals: Semester 2012B

The NRAO is pleased to announce the [Call for Proposals](#) for Semester 2012B. The call solicits proposals for the Expanded Very Large Array, the Green Bank Telescope, and/or the Very Long Baseline Array. The call will close 1 Feb 2012 at 17h EST (22h UTC).

NRAO Events at the AAS-Austin Meeting

- [NRAO Town Hall Jan 10, 2012](#) | 6:30-8:30 pm
- [ALMA Special Session Jan 11, 2012](#) | 10-11:30 am
- [Proposing to Use NRAO Telescopes Jan 11 - 12, 2012](#)

ALMA Science Verification Data Available

The ALMA science team continues to make observations for Science Verification using new capabilities and an ever-increasing antenna array. [Additional Science Verification datasets](#) are now available to the

