

Proposing for VLA and VLBA Time



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



Outline

- Proposal writing
 - **Generic**
 - Science goal
 - Requirements
 - Other considerations
 - **VLA and VLBA (and GBT)**
 - NRAO call for proposals
 - VLA configurations and VL(B)A dynamic scheduling
 - Proposal Submission Tool (PST)
 - Regular proposal submission process
 - Other Proposal Types and Routes

NRAO VLA



NRAO VLBA



Generic: science goal

- Start with a scientific idea and target list
- Draft a scientific justification: what and why
 - Write to astrophysically-literate but non-expert reviewers
 - Give science context and motivation
 - Pose specific science questions
 - State specific science goals
 - Describe target selection criteria
 - Say how the proposed observations will ...
 - Answer the science questions
 - Achieve the science goals
 - Be quantitative !



Generic: requirements

- Draft a technical justification: how
 - Angular resolution (longest projected baseline required)
 - Largest angular scale (shortest projected baseline required)
 - (redshifted) Observing frequency, Stokes parameters (polarization)
 - Spectral resolution and bandwidth coverage, e.g., line-of-sight velocity
 - Elevation limits and snapshot or full *uv*-coverage
 - Sensitivity: use (online) sensitivity calculators!
 - In the image (dynamic range and signal to noise ratio on target)
 - On a baseline (for calibration, self-calibration)
 - Be quantitative !
 - Flexibility, or what are the possible trade-offs?
- Check the archives for existing data



Generic: other considerations

- Enough field of view?
 - Primary beam attenuation; single field or mosaic?
 - Time and bandwidth smearing affect sources at the edge of the field
- Nearby calibrators?
 - Need to find better ones, are there other lists to be used?
- Optimal timeframes?
 - Time of day (night versus day observing, maintenance/RFI)
 - Season (summer, winter)
 - Is the required configuration observing mode offered for this cycle?
 - Solar activity, planet positions, other..
- Data reduction plan for large data sets
- Cover sheets:
 - Consult collaborators, abstract, student support



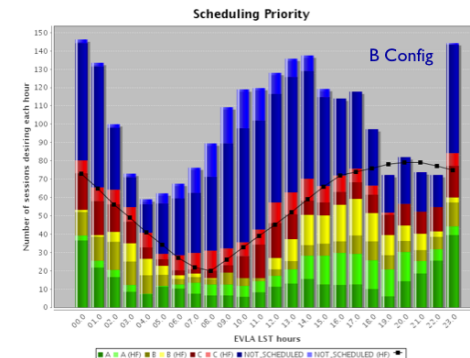
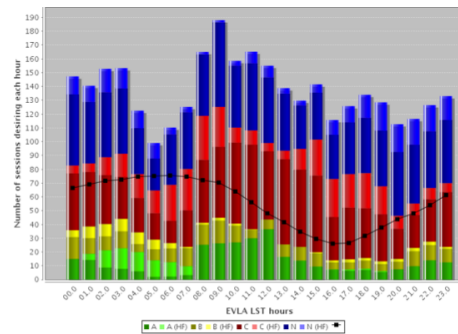
VL(B)A (and GBT): Call for Proposals

- See NRAO Call for Proposals at <https://science.nrao.edu/enews>
 - Proposal deadlines at 5pm Eastern Time on
 - 1st of February, for observing during about July through December
 - 1st of August, for observing during about January through June
 - Call for proposals issued about 3-4 weeks before each deadline
 - Occasional out-of-cycle calls for special opportunities
 - **Everyone** can apply for NRAO time (“open skies” policy)
 - If you are interested in applying for time
 - **Read the call for proposals!**
 - It contains the latest updates; things *do* change
 - Planned capabilities offered
 - Special opportunities offered
 - Start as early as possible; you are competing for time



VLA Configuration and dynamic scheduling

- Upcoming VLA configurations at <https://science.nrao.edu/facilities/evla/proposing/configpropdeadlines>
 - This 1st of August: D, DnC, C (smaller configurations, up to 1 or 3 km)
 - I2A and I2B:
 - I3A daytime:
late LST (R.A.)
- Both VLA and VLBA use dynamic scheduling
 - Range of starting times
 - Calibration and overhead included in your scheduling blocks
 - **Include calibration and overhead** in the observing time request
 - Depending on the science this can be anywhere from 20 to >50%



Proposal Submission Tool (PST)

- Prepare a PDF file using any editor to include
 - The scientific and technical justification (i.e., **what, why and how**)
 - The combined PDF file should meet the requirements:
 - Content, minimum font size, maximum number of pages
 - Up to 4 pages for a regular proposal (total, including figures, etc.)
 - Up to 10 pages for a large proposal (~200 or more NRAO hours)
- Access the NRAO PST at <https://my.nrao.edu>
 - Register and invite co-authors to register (required!)
 - Select VLA, VLBA, GBT (and further select any joint combination)
 - Fill out the cover sheets and abstract, and attach the PDF file
- Numbers (etc.) in cover and justification text should **match!**
- Inclusion of a NRAO staff co-author is optional but may be useful
- Single submission, no updated submissions without canceling first!



VLA/VLBA Proposals and Students

- Consider submitting a deadline early
 - Use referee feedback to prepare, re-submit improved proposal
- Are the proposed observations for a thesis ?
 - If yes, amend your user profile at <https://my.nrao.edu>
 - Add a “Plan of Dissertation”: ~ timeline + NRAO resources
 - Update graduation year
- Is the student eligible for funding ?
 - <https://science.nrao.edu/opportunities/student-programs/sos>
 - US universities and colleges and for Regular or Large proposals
 - Apply via NRAO PST at the submission stage (extra work: start early!)
- Donate thesis copies to NRAO
 - <http://www.nrao.edu/library>



Regular proposal submission process

- Received for deadlines 1st Feb, 1st Aug for semesters (year)B, (year+1)A
- Classified by scientific categories
- Sent to category's scientific review panel and NRAO technical reviewers
- Referees return ratings and comments
- Ratings and comments sent to Proposal Selection Committee (PSC)
 - 5-10 representatives of the community
 - 3-5 representatives of NRAO
- PSC meets around early April and October
- PSC results emailed to proposers around 1st June and 1st December
- Approved projects will appear in the Observation Preparation Tool
- Details at <https://science.nrao.edu/observing/proposal-types/timeallocation>



Other Proposal Types and Routes

- VLA/VLBA Director's Discretionary Time (a.k.a. rapid response science)
 - Exploratory or filler: e.g., quick follow-up of recent discovery
 - Target of opportunity: e.g., unpredicted phenomenon
 - <https://science.nrao.edu/observing/proposal-types/directorsdiscretionarytime>
 - **NOT** for a missed deadline
- Joint proposal routes, not through PST
 - Chandra/VLA/VLBA
 - <http://cxc.harvard.edu>
 - Fermi/VLA/VLBA
 - <http://fermi.gsfc.nasa.gov/ssc>



Chandra



Fermi



Most useful web pages for help

- General NRAO

<https://science.nrao.edu>

- Specific NRAO instrument

<https://science.nrao.edu/facilities>

- Helpdesk

<https://help.nrao.edu>

- (Google, etc)

