# GBT Proposal Specifics

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NRAO

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

GBT

# Great, Good or Poor

- 300-500 proposals reviewed every deadline
- Few (~10) are obviously great
- Few (~10-20) are obviously poor
- All others are good and about equal
    - We are all intelligent, good writers, etc.
- How do you make your proposal standout?
    - Follow the suggestion in Chris Salter's and this presentation

GBT

# NRAO Proposal Calls

- August 1 and February 1 deadlines

- August deadline observing February-July

- February deadline observing August-January

- Full call on NRAO science web page
    - https://science.nrao.edu/observing/call-for-proposals/2016A

- GBT Proposer's Guide at
    - https://science.nrao.edu/facilities/gbt/proposing/GBTpg.pdf

# Hidden Gems

- Joint proposals with
  - Hubble
  - Fermi
  - Chandra
  - Swift
- Filler time proposals

# NRAO Tips

- Panel Based system
  - Eight different panels
  - Broad community representation on panels
  - Non experts on panels

- Avoid jargon
- Expect unfamiliarity with techniques
- Provide historical context for research if ongoing project
- Describe relevant prior observations and proposals
- Justify required sensitivity

# GBT Tips

- If in doubt contact us
- Technical justification – unlimited space
    - What you are using
    - How you are using it
    - How long you need it
    - How you determined those values
- Include Overhead times
    - Pointing/focus every 0.5-2 hours
    - AutoOOF every 1-2 hours (above 30 GHz)
    - Interscan latencies
        - Slew times
        - 20-30 seconds to start scan

# Common Mistakes

- Mapping
  - Sensitivity Calculator gives <u>time per beam</u>
  - Time per pixel is "time per beam / pixels per beam"
- Confusion Limit
  - Once you hit it you are done (unless you have knowledge of emission at higher resolution)
- RFI

  - Check for known emissions
  - Have a plan
- Use the GBT sensitivity calculator
  - https://dss.gb.nrao.edu/calculator-ui/war/Calculator_ui.html
- Use the GBT mapping calculator
  - http://www.gb.nrao.edu/~rmaddale/GBT/GBTMappingCalculator.html

# Sessions

- Only include receivers and backends that must be observed at one time

- Typical telescope period is 3-6 hours long
    - Scheduled using average RA and Dec of sources
    - Group sources accordingly

- Sources in a sessions should be:
    - Within a 2-3 hour RA range
    - Use $\lambda=\delta$ as a divider (avoid long slews)
    - Time visible should be the same to within 1-2 hours

- Don't restrict observable LST range too much
    - More flexibility = better chance to be scheduled

# Summary

- If in doubt contact us
  - See section 10.3 of the GBT Proposer's Guide
  - https://science.nrao.edu/facilities/gbt/proposing/GBTpg.pdf