

Proposal Writing

Joan Wrobel

*Eleventh Synthesis Imaging Workshop
Socorro, June 10-17, 2008*



Outline

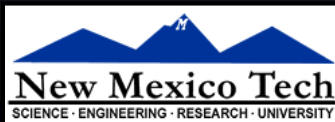
2

- 20 minutes: Lecture
 - Generic
 - VLA and VLBA
- 10 minutes: Q & A
- 90 minutes: Practical
 - Small groups write proposals

NRAO VLA



NRAO VLBA

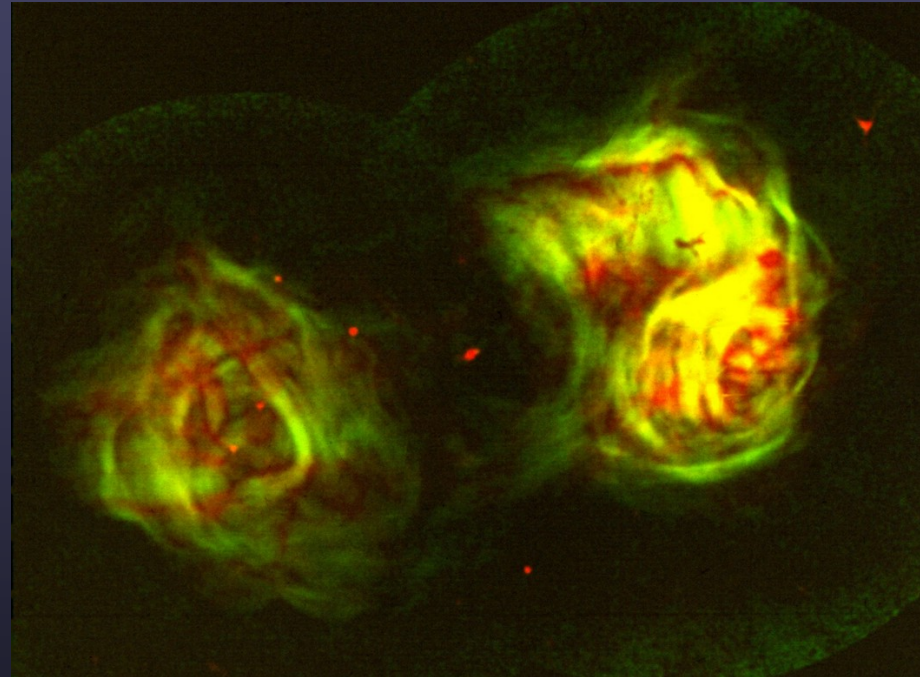


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- Start with ...
 - Scientific idea
 - Target list
- Specify required ...
 - Angular resolution
 - Largest angular scale
 - Observing frequency
 - Observing bandwidth
 - Stokes parameters
- Select trial array

Radio Galaxy Fornax A



VLA 1.4 GHz 1.0d x 0.7d R. Ekers

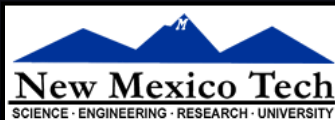
Generic: Evaluate Trial Array

- Special needs
 - Redshifted HI?
 - Redshifted CO?
- Geometry
 - Target above elevation limit?
 - Snapshot or full u-v coverage?
- Interferometer sensitivity
 - Signal-to-noise to self-cal target?
- Image sensitivity
 - Enough signal-to-noise on target?
 - Dynamic-range limited?

Supernova Remnant Crab Nebula



VLA 5 GHz 7' x 5' M. Bietenholz

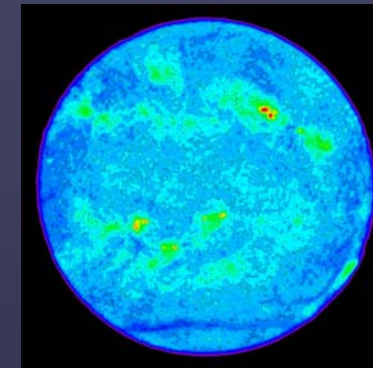


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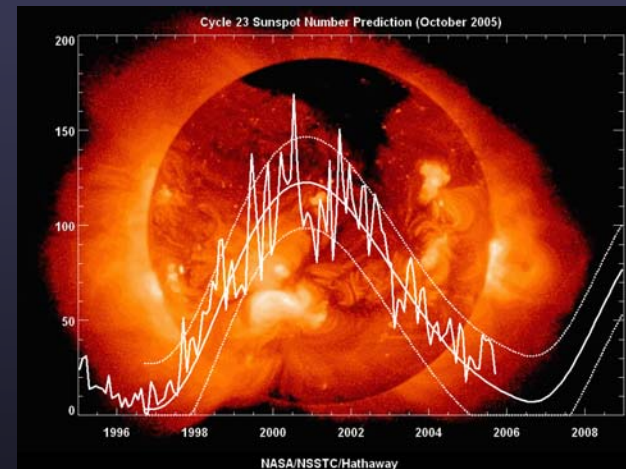
Generic: Evaluate Trial Array

- Enough field of view?
 - Primary beam attenuation
 - Bandwidth smearing
 - Time-average smearing
 - Non-coplanar baselines
- Optimal timeframes?
 - Time of day
 - Season
 - Year ~ sunspot number
- If trial array ...
 - Fails, pick another
 - Passes, write and submit observing proposal



Sun

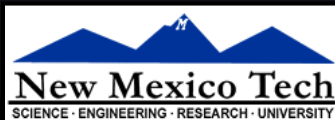
VLA 5 GHz
43' x 43'
S. White



Sun

TRACE
X-rays

Now

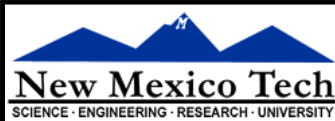


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VLA/VLBA Proposals

- Get news www.vla.nrao.edu/astro, www.vlba.nrao.edu/astro
- Add cover information via Proposal Submission Tool (PST)
 - my.nrao.edu
- Add scientific justification, technical justification
 - 200 or more NRAO hours => Large => 10 pages
www.nrao.edu/administration/directors_office/largeprop.shtml
 - Regular => 4 pages: be clear, specific, concise
 - Science: give motivation, state goals (eg)
 - Technical: give observing strategies, consult archives (eg)
- Staff co-author optional
 - www.aoc.nrao.edu/epo/ad/aoc-research.shtml
- Submit via PST

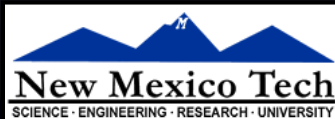


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VLA/VLBA Proposal Handling

- Received for deadlines 1 Feb, 1 Jun, 1 Oct
 - For trimesters T2, T3, T1
 - For VLA configurations in www.nrao.edu/news/newsletters
- Classified by scientific categories
- Sent to category's referees
- Referees return ratings, comments
- Ratings, comments sent to Proposal Selection Committee (PSC)
 - R. Becker, A. Brown, M. Elvis, S. Kurtz, N. Vogt, R. Zavala
 - B. Clark, M. Claussen, R. Dickman, J. Ulvestad, J. Wrobel
- Proposal Selection Committee meets early Apr, Aug, Dec
- Results emailed to proposers by 1 May, 1 Sep, 1 Jan
- Details at www.aoc.nrao.edu/epo/ad/scheduling.shtml



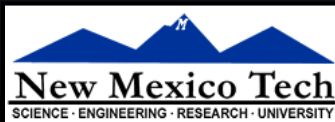
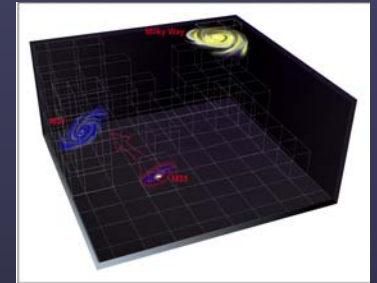
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VLA/VLBA Proposals & Students

- Consider submitting a deadline early, improve, re-submit
- Proposed observations for your thesis ?
 - Answer via PST
 - If yes
 - Add Plan of Dissertation via PST or user profile
 - Update your graduation year via user profile
- Eligible for funding ?
 - wiki.gb.nrao.edu/bin/view/Observing/NRAOstudentsupportprogram
 - Apply via PST
- Donate thesis copies to NRAO www.nrao.edu/library

VLBA 22 GHz A. Brunthaler



Other Proposal Types & Routes

- VLA/VLBA rapid response science
 - Exploratory: quick follow-up of recent discovery (eg)
 - Target of opportunity: unpredicted phenomenon (eg)
 - www.vla.nrao.edu/astro/prop/rapid/
- Joint proposal routes
 - Chandra/VLA/VLBA cxc.harvard.edu/proposer/
 - Spitzer/VLA ssc.spitzer.caltech.edu/propkit/
 - GLAST/VLA/VLBA glast.gsfc.nasa.gov/sss/proposals

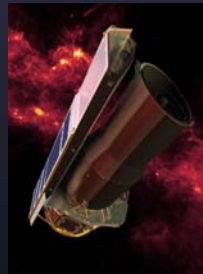
Star V838 Mon HST



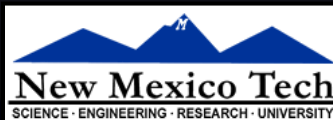
Chandra



Spitzer



GLAST



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Proposal Writing: Practical

- Small groups write VLA or VLBA proposals
- Groups get
 - Access to test my.nrao.edu
 - Scientific justification file
 - Printed real proposal
- Group completes new proposal, compares with real one

NRAO VLA



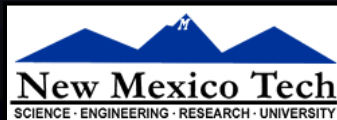
NRAO VLBA



VLA Continuum
 Speare 4
 60 students
 Joan Wrobel
 Tracy Clarke

VLA Line
 Speare 116
 45 students
 Gustaaf van Moorsel
 Crystal Brogran

VLBA
 Library 208
 45 students
 Mark Claussen
 Vivek Dhawan



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