

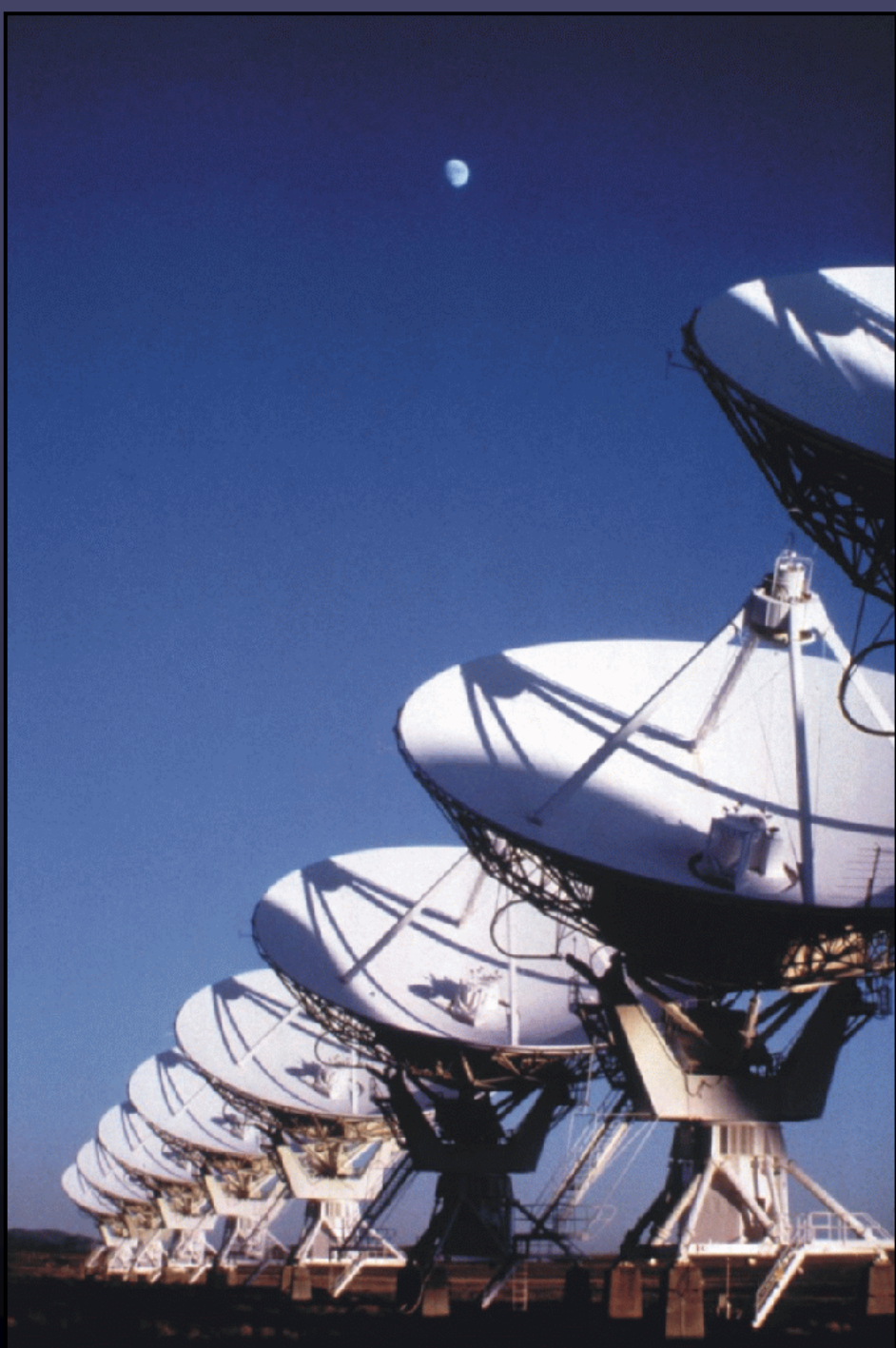


# First Light Science: Observing Strategies

Dale A. Frail

*SAGE meeting*

*Socorro, May 22-23, 2007*



# What have we learned so far?

Powerful capabilities

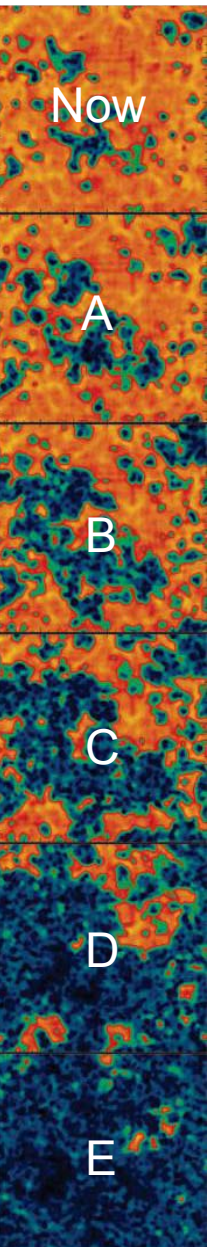
Delivered over time

Evolving opportunities

Limited staff resources



## Timescales and Opportunities



2007: Old Correlator

2008: Prototype Correlator

2009: Begin WIDAR Installation

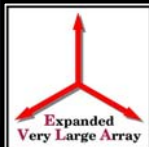
2010: WIDAR Installation Complete

2011: Shared Risk Observing

2012: Full Operations

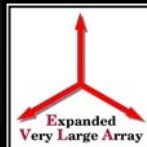
# Different First Light Observing Strategies

- There's no “science” in Commissioning
  - Continue to run the old correlator with new feeds
  - Regular, Large and Special proposal calls
  - Science = new tuning capabilities of broadband feeds
  - Access to new correlator limited to staff who will be free to bring up basic observing modes asap
  - Not a strawman.
  - e.g. ALMA Science Commissioning and Verification Plan



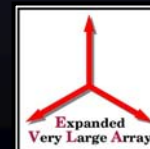
# Different First Light Observing Strategies (cont'd)

- Community Driven → Staff Executed
  - Press-worthy result
    - + e.g. Chandra (PKS 0637-752 jet and Cas A pt src)
    - + Captures media and broad community attention
    - Images seems to have highest impact
    - EVLA “first light” is not a single epoch
  - Legacy or Key Project approach
    - + e.g. Spitzer First Look Survey (FLS) and Legacy Projects
    - + Early demonstration of capabilities. Multi- $\lambda$  follow-up\
    - Exercises a limited number of observing modes
    - EVLA is not going to run out of cryogen any time soon



## Different First Light Observing Strategies (cont'd)

- Community & Staff → Driven & Executed
  - Trust the peer-review process (press, regular, key)
  - Build project teams
  - Encourage (and provide support) visitors
    - No “astro-tourists”
    - 6 month tours of duty
  - Give access to postdocs and possibly PhD students who participate in science verification
  - Driving philosophy is to build back interferometry expertise in US universities and NRAO in era of ALMA and EVLA.



## Science Commissioning and Science Verification Issues

- How do we get outside experts to come and help?
- How do we reward the “Little Red Hens”
- Do we re-focus our pre-doc and postdoc programs?
- What first light science should the project teams do?

