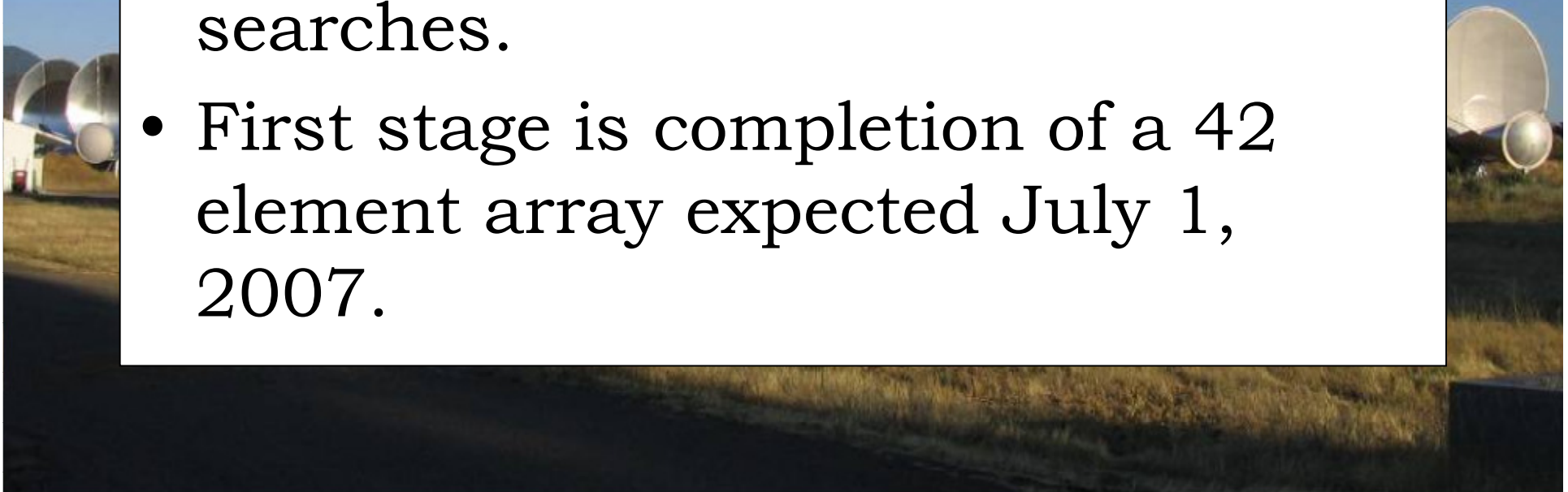


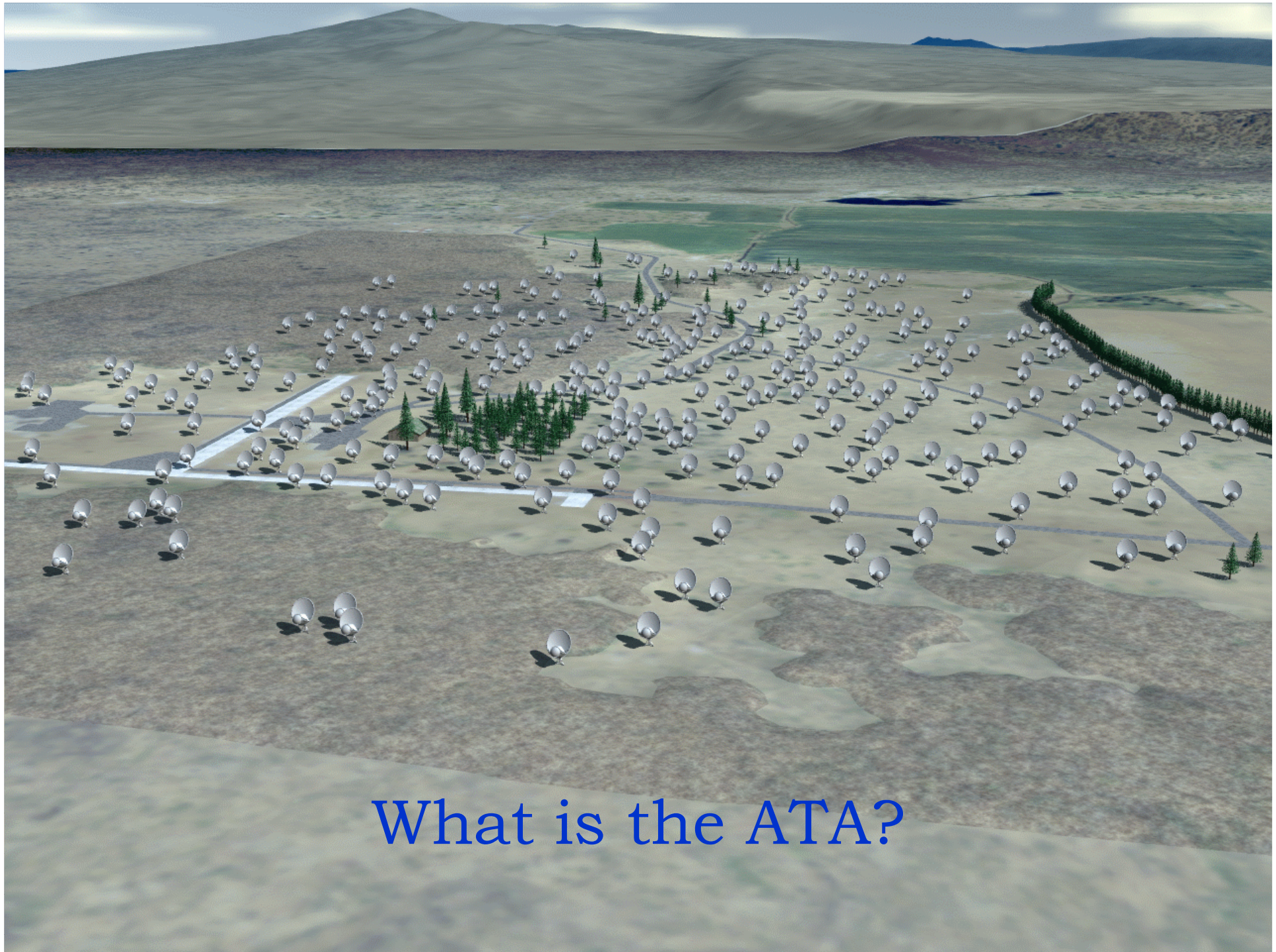
The Allen Telescope Array



What is the ATA?

- A consortium between the RAL at UC Berkeley and the SETI Institute to build an inexpensive, state-of-the-art 350 element array to do front line radio astronomy and SETI searches.
- First stage is completion of a 42 element array expected July 1, 2007.

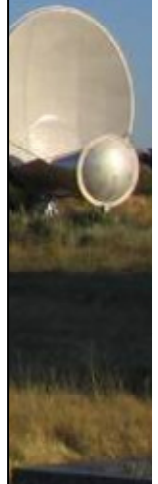




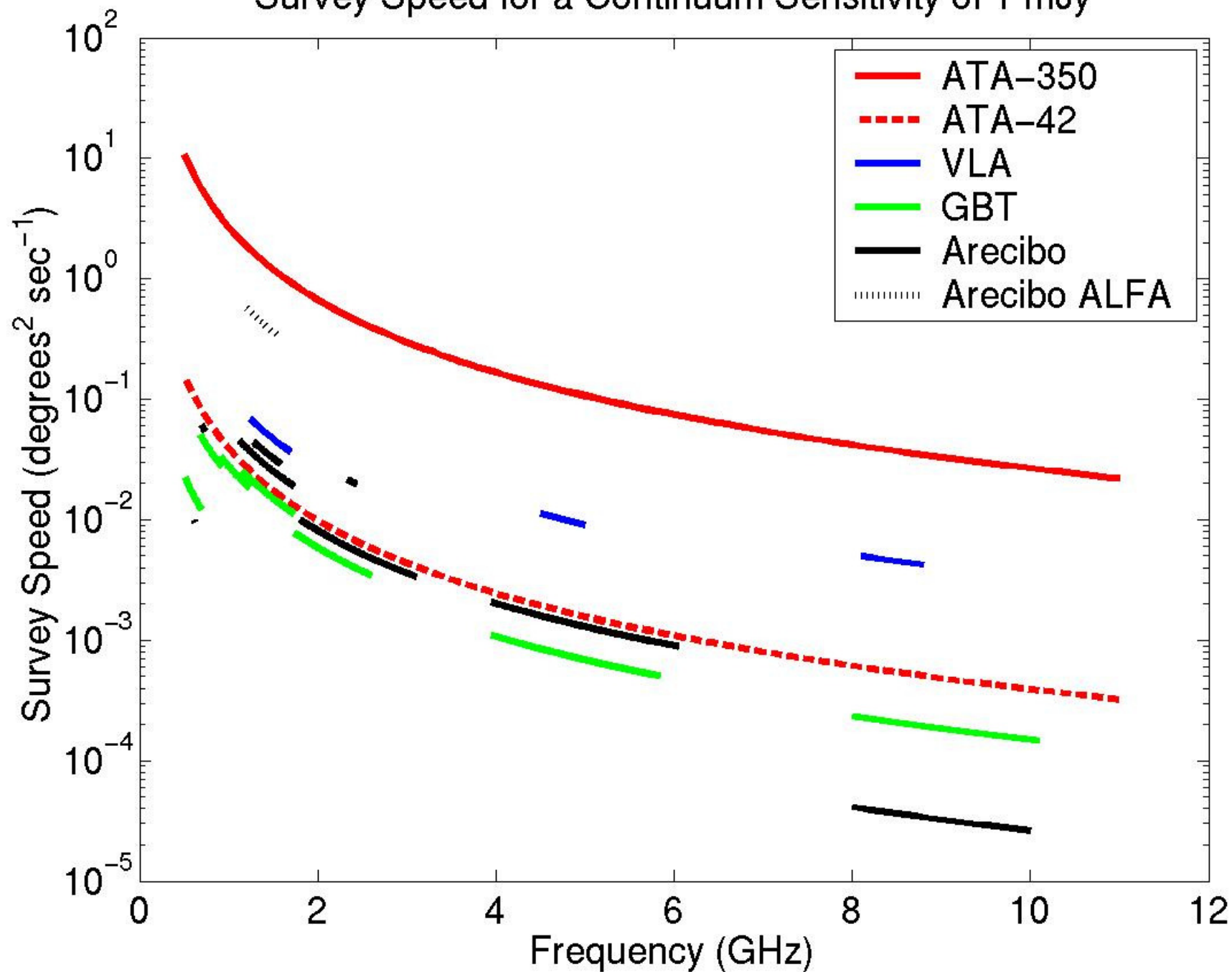
What is the ATA?

What is the ATA?

- Capable of doing radio astronomy and SETI searches simultaneously (amplify sky signal directly).
- Primarily a survey telescope.
 - Transient surveys
 - Extragalactic 21 cm surveys
 - Deep radiocontinuum surveys
 - Many others
- Wide field of view (2.5° at 21 cm)
- 4 tunable IFs anywhere in the 500 MHz - 11.2 GHz bandpass.
- Ultimately have 32 beams/IF tuning for SETI, pulsar surveys, etc.

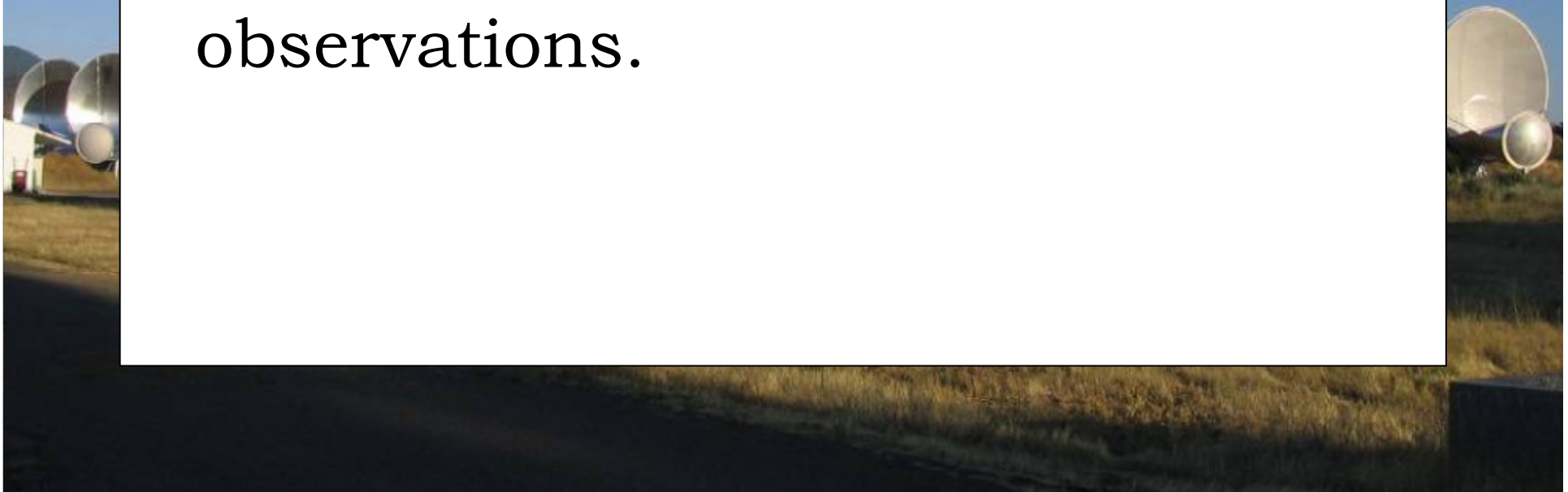


Survey Speed for a Continuum Sensitivity of 1 mJy



Goals for ATA-42 for July 1, 2007

- To be able to produce astronomical images correlating 42 antennas.
- To produce 3 beams using all 42 antennas and two polarizations for SETI, pulsar and other point source observations.



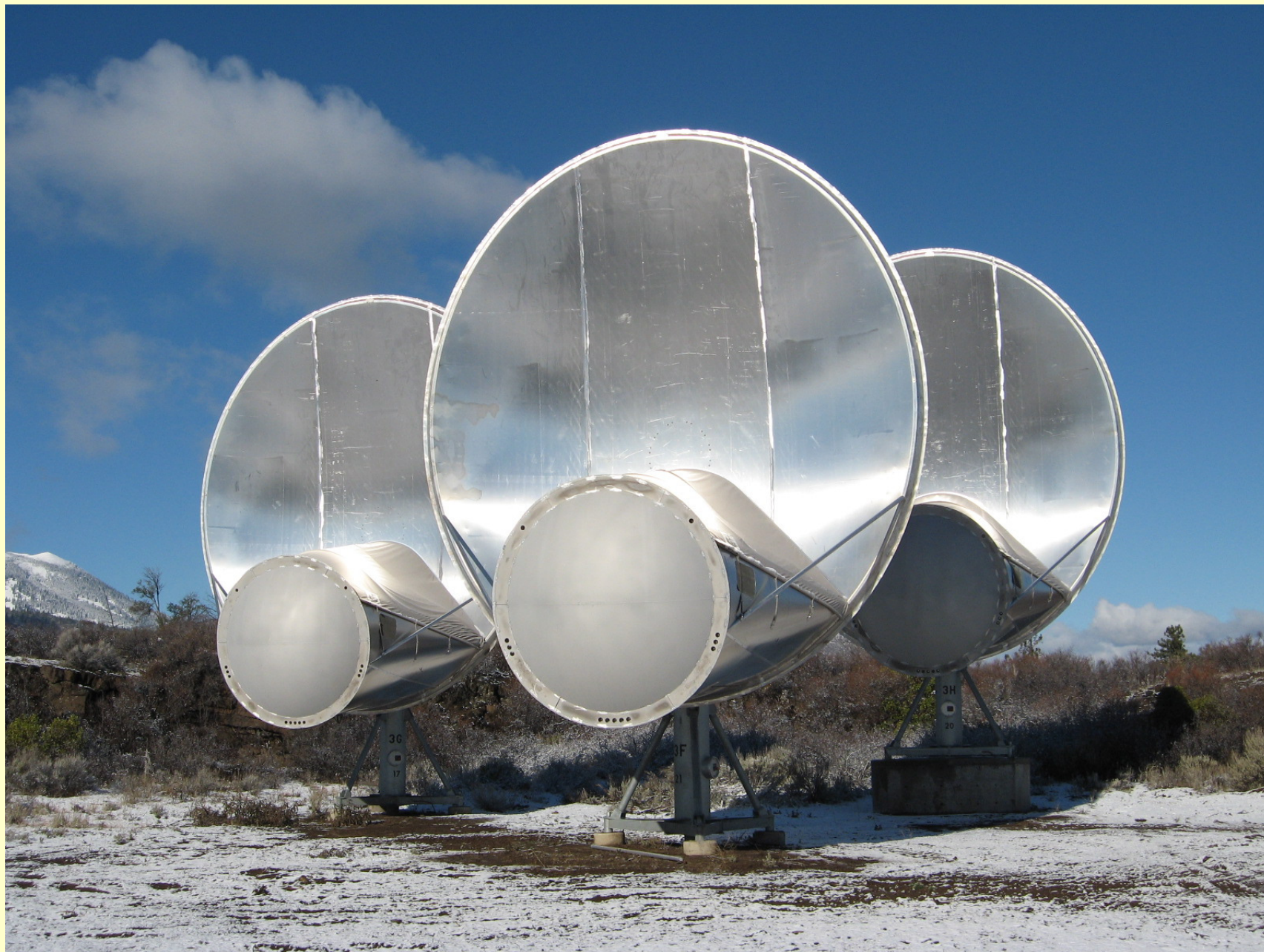
Status

As of this week

- Project moving along well, expect to be on time for having 42 antenna array by July 1, 2007.
- All 42 antennas have been emplaced with power and cooling air.
- 37 antennas communicating and drivable and drivable under computer control (as of June 6, 2007).
- 33 antennas have feeds and 20 have pointing and baseline solutions.
- Feeds have new ion pumps and controllers and next batch of 6 to go up next week.
- 2 FX-8 and an FX-4 correlator are in place.
- FX-32 dual-polarization correlator being debugged in the lab and will go to site next week.
- 16 element beamformer being tested in the lab.

Status

- 48 element dual polarization correlator to combine both polarizations for all antennas.
- Continue to build up beamformer to 32 beams for all antennas.
- For the first six months, continue to debug the telescope. Limited outside use, except by experts. Process is expected to continue until the end of this calendar year.
- Routine use of the ATA by scientists outside SI and UCB will begin ~Jan 1, 2008 assuming that we get financial support from the NSF to do so. Call for proposals will go out in early fall 2007.
- Path to unfinished electronics is now clear.



The Hat Creek Staff (mostly)



ATA-42 being commissioned



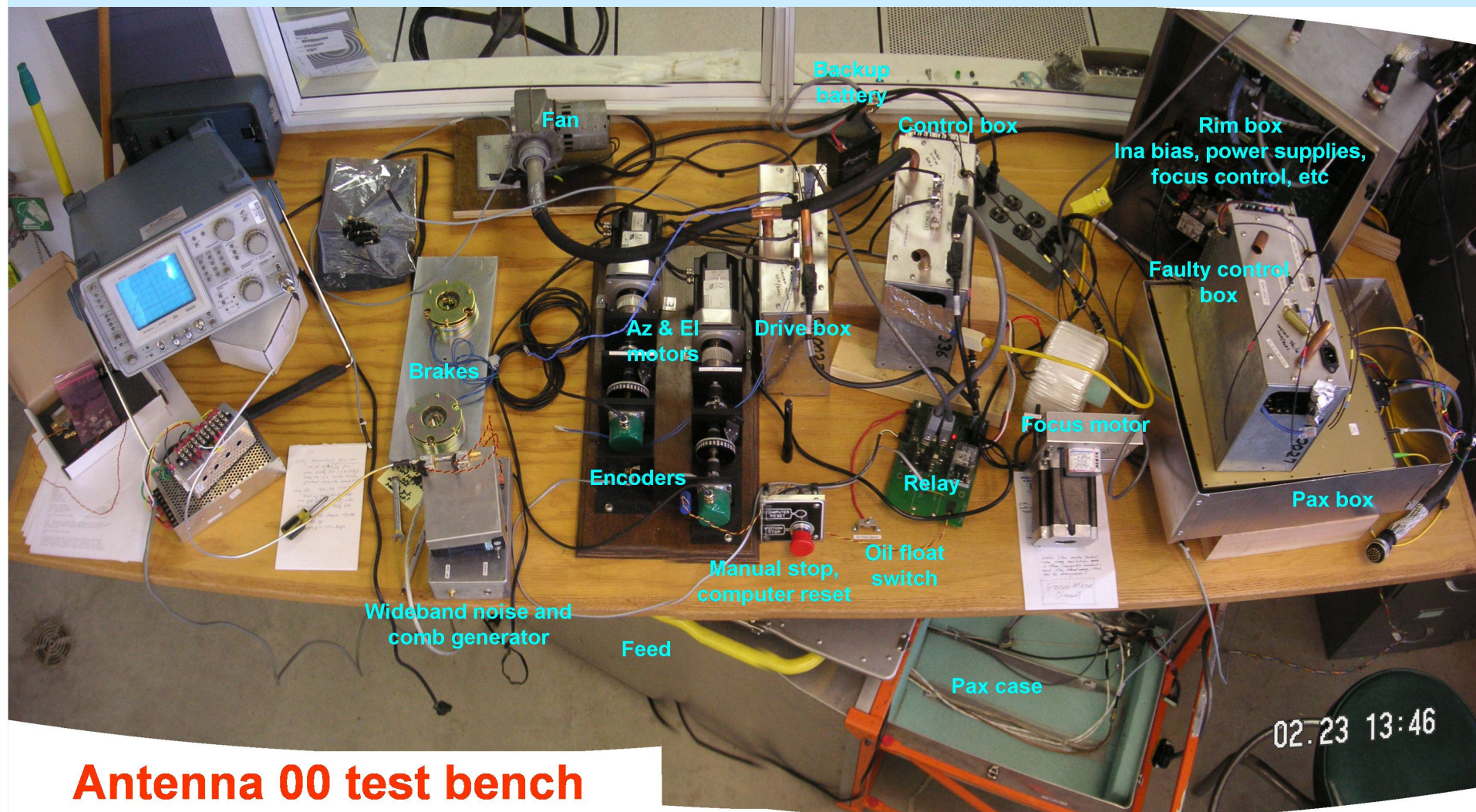
All 42 Antennas





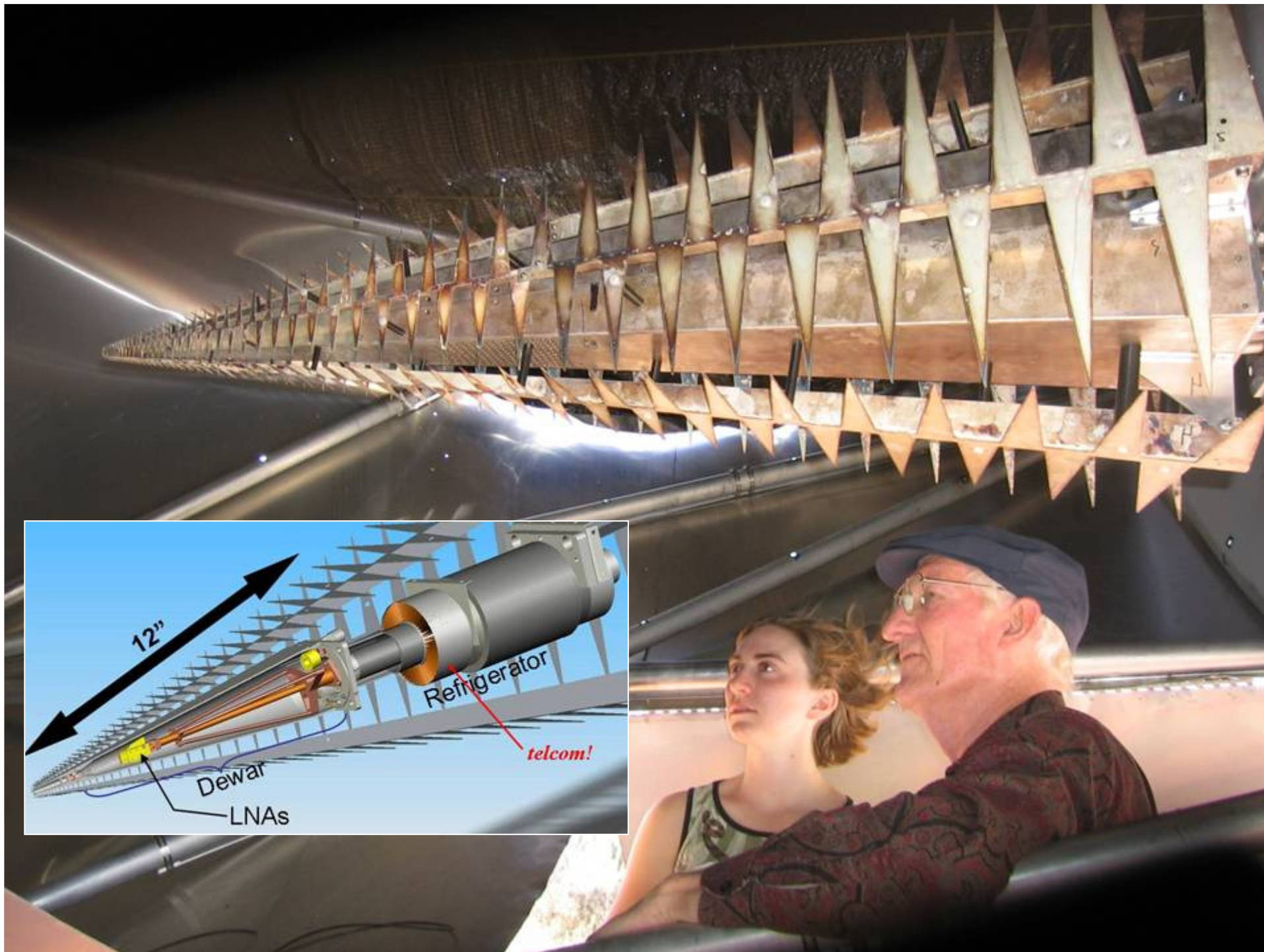






Antenna 00 test bench





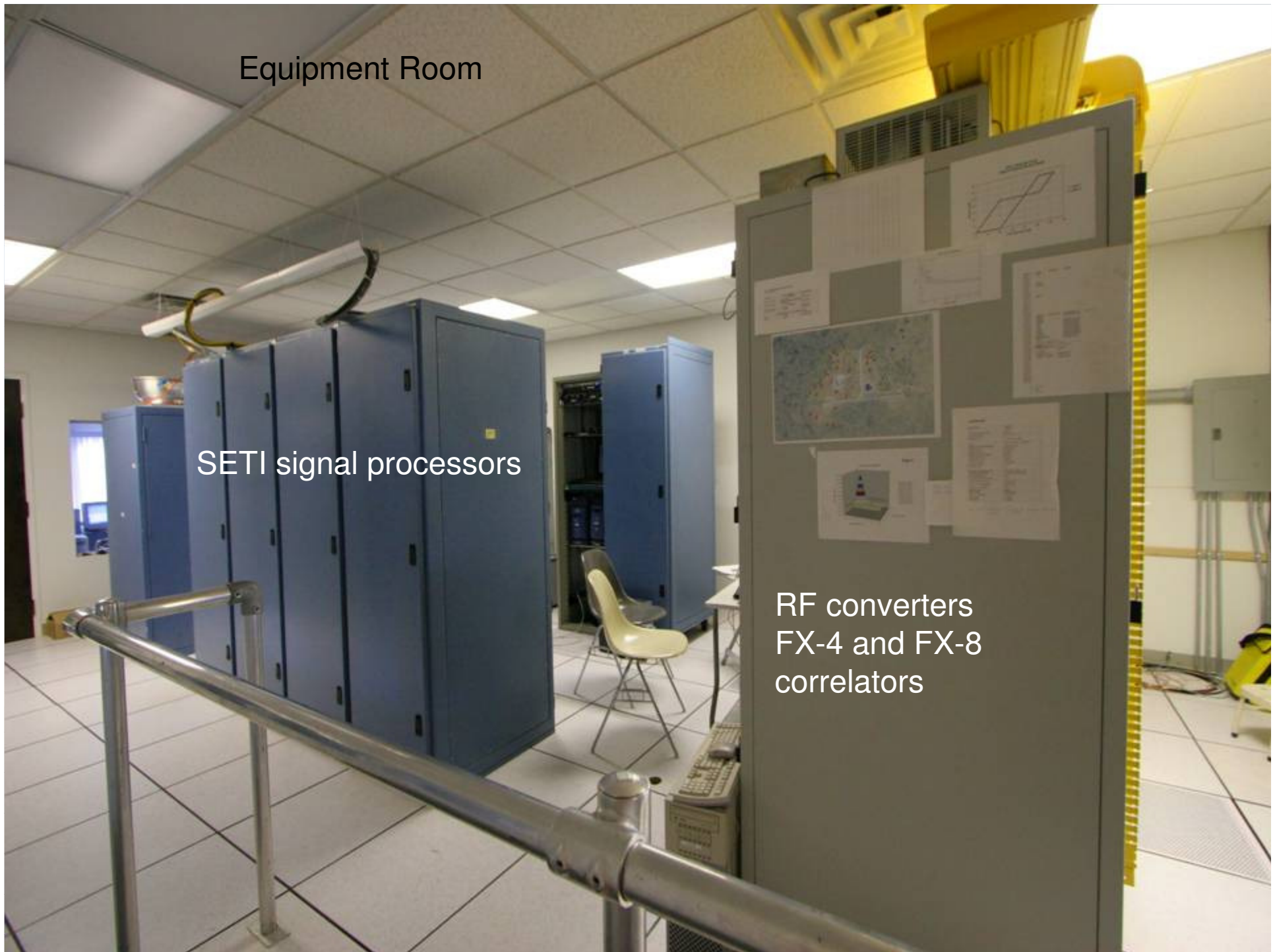
Control Building

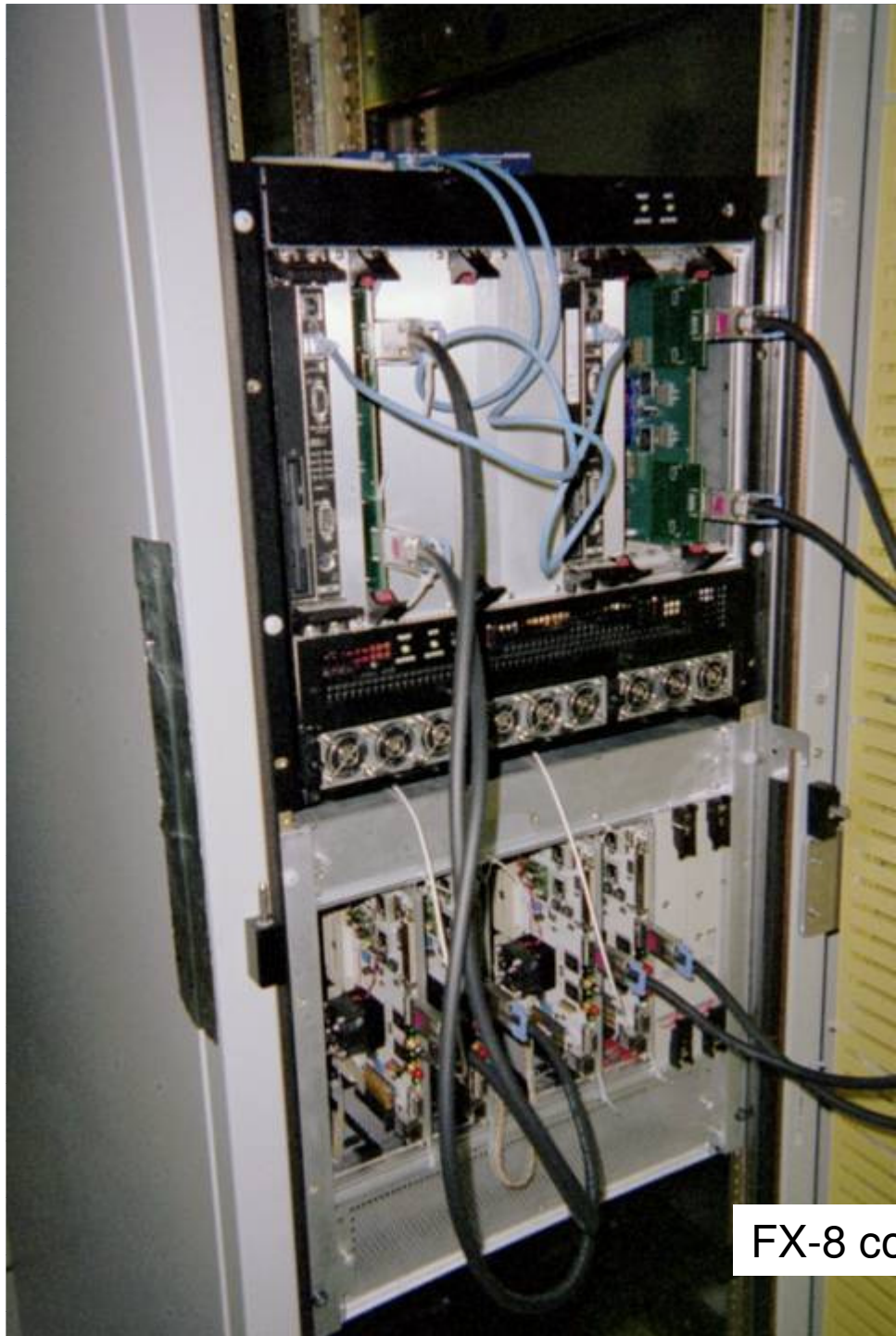


Equipment Room

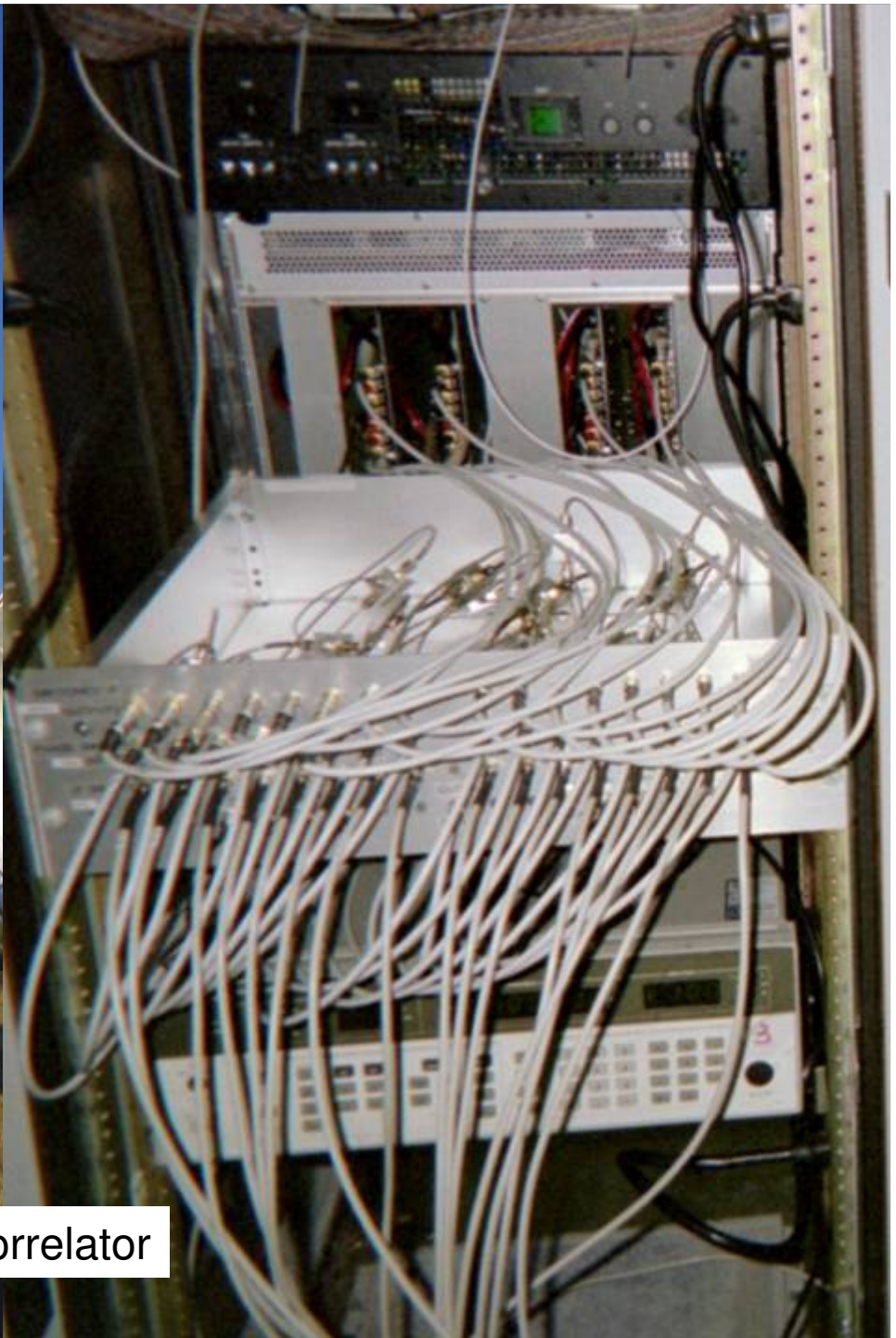
SETI signal processors

RF converters
FX-4 and FX-8
correlators





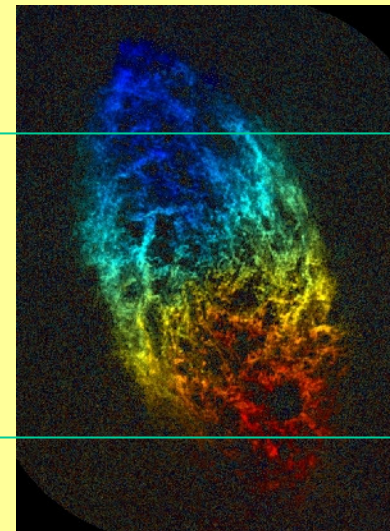
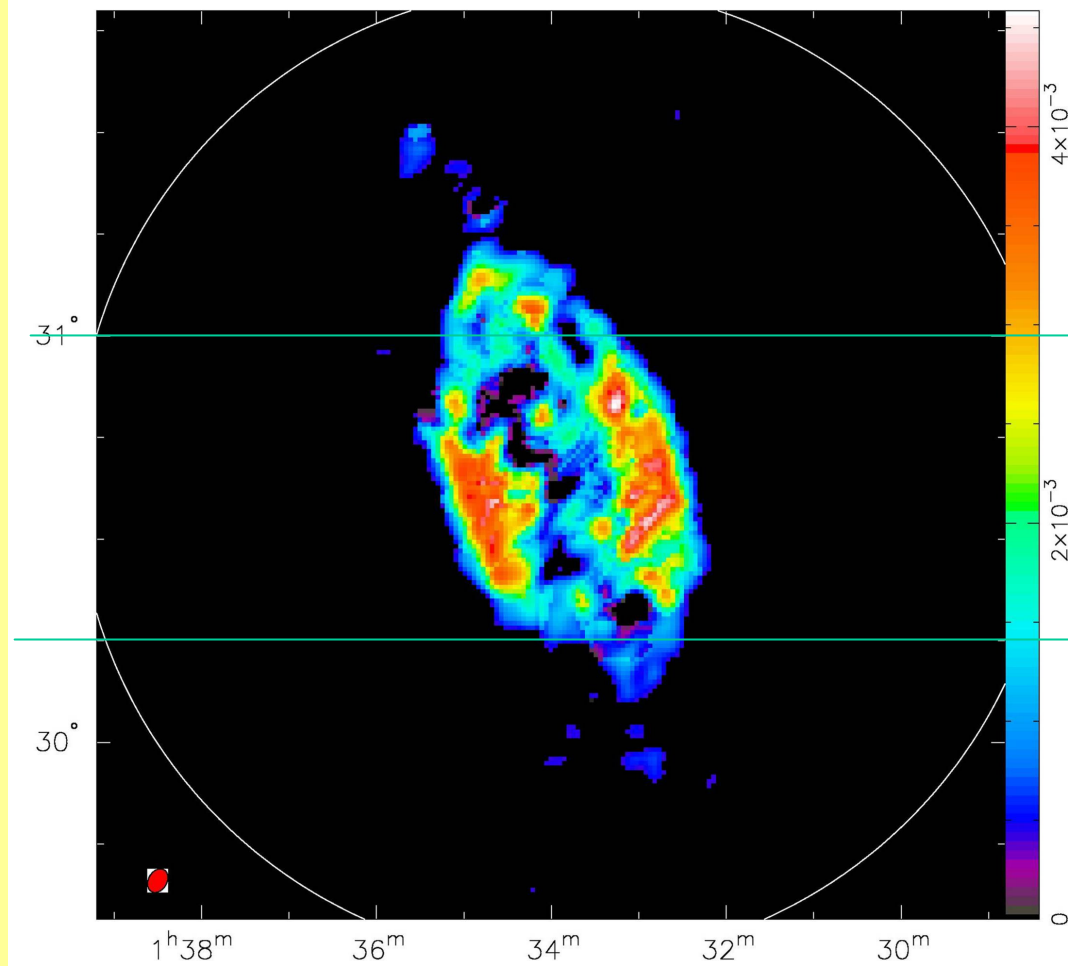
FX-8 correlator

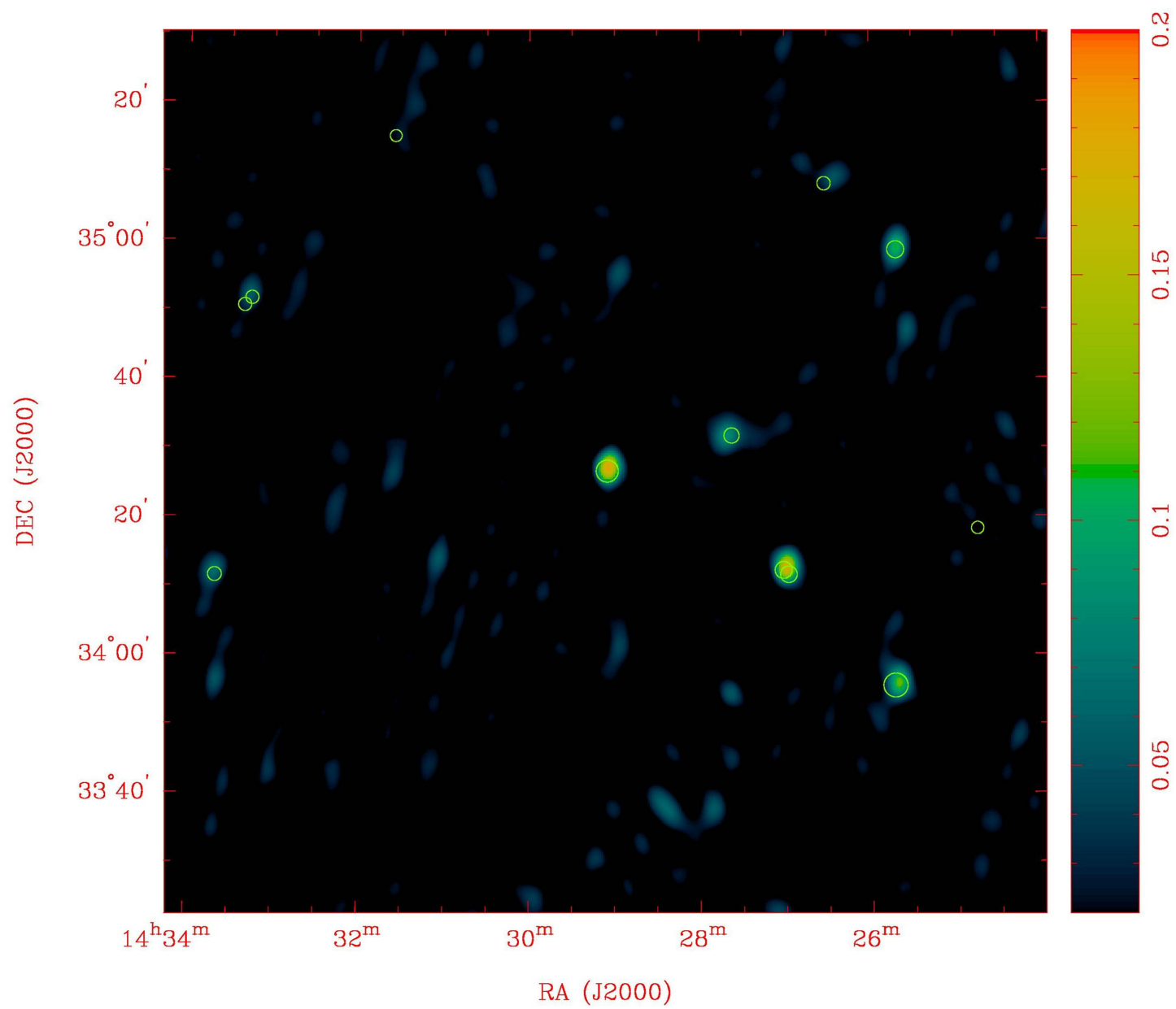


M33

M33 continuum-subtracted HI

Jan 2007

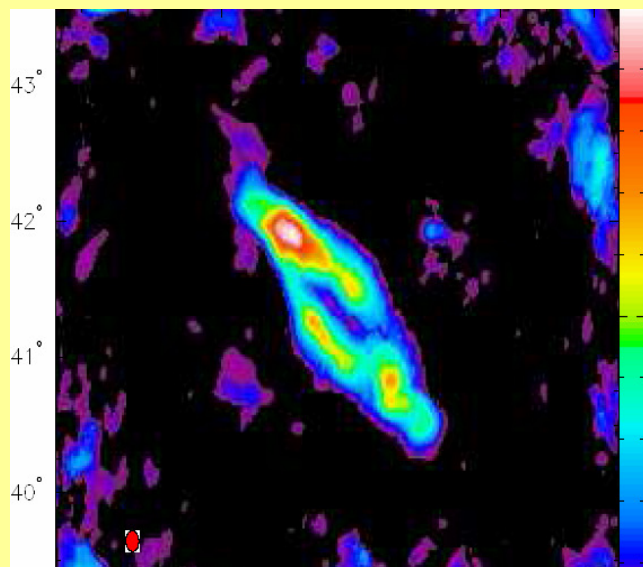






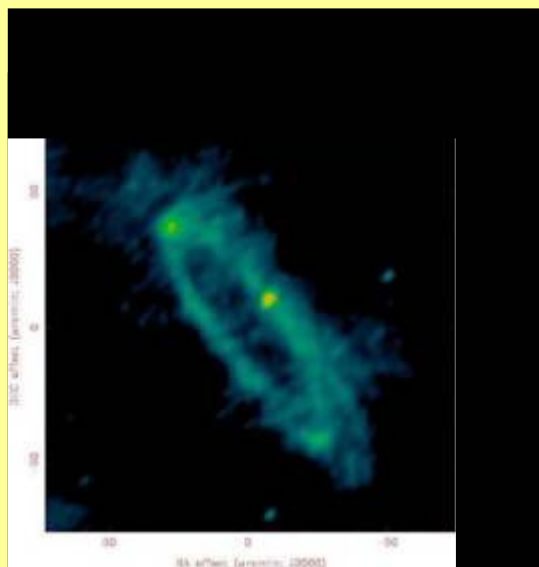
M31 - Andromeda

Familiar optical image



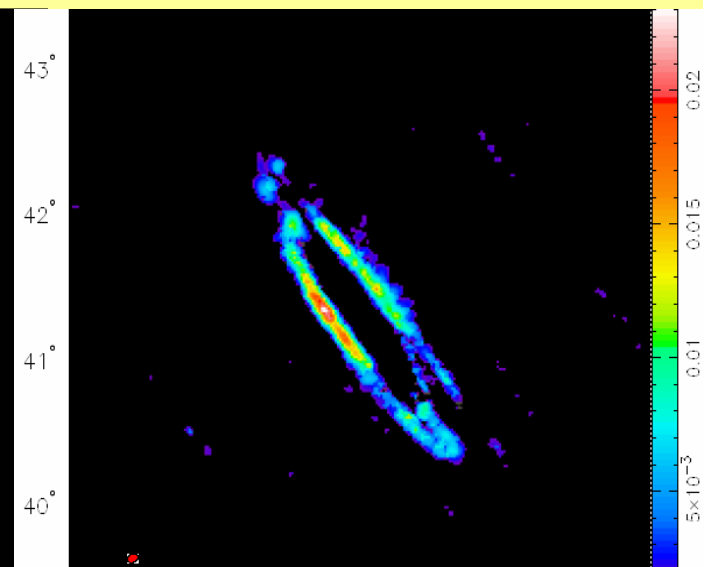
ATA-4

Map made in June 2005
using 4 antennas and FX4
correlator prototype.
Includes continuum data.



ATA-7

Map made in Sept. 2006
using 7 antennas and two
FX4 correlator prototypes.
Includes continuum data.



ATA-20

Map made in Jan. 2007
using 7 antennas at a time,
two FX4 correlator prototypes.
Includes only H I channels.

ATA FiGSS

Five GHz Sky Survey

- 5 GHz Counterpart to Sloan Digital Sky Survey
 - 10,000 Square degrees
 - Overlap with Major Existing Surveys
- 5 GHz Counterpart to
- Highest Frequency Deep, Large Radio Survey
 - Factor of ~10 more sensitive than best existing
 - 2 Smaller, deeper fields
 - Overlap with PanStarrs survey
- 6 calendar months to complete with ATA-42
- Extendable in area, sensitivity and frequency