NSF Division of Astronomical Sciences -- Update

Craig Foltz and Eileen Friel

AAAC

April 30, 2009

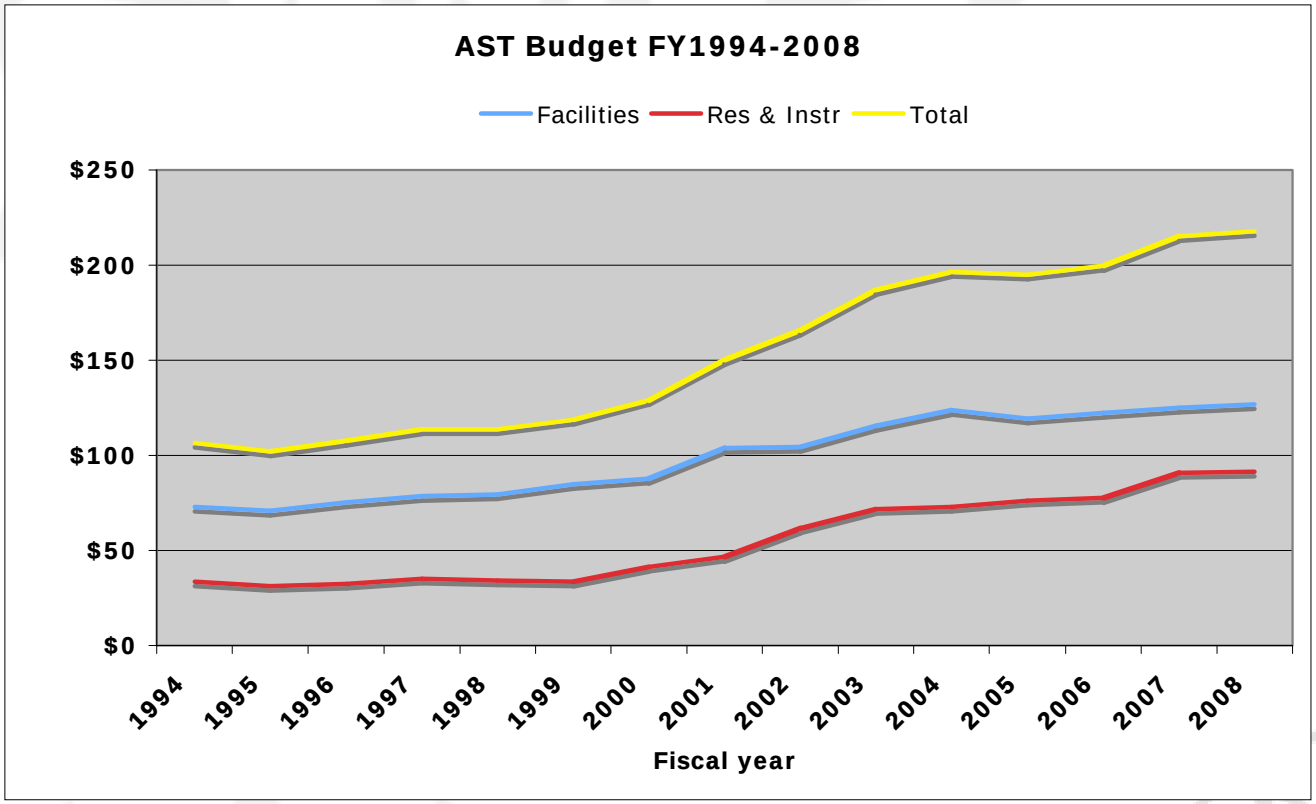
Outline

- Personnel News
- FY 2009 and ARRA Budgets
- NAIC Management Competition
- ALMA Update
- ATST Update
- Grants Program Update
- Q&A

News from AST and MPS

- Staff Changes -- Jeff Pier and Don Terndrup arrived. Search for two rotators completed. Permanent program officer search re-started.
- Search for new Division Director ongoing. Position has been re-posted. Closing date: June 15.
- Cliff Gabriel is the current Acting MPS Deputy Assistant Director. Search for a permanent replacement nearly complete.
- Tony Chan, MPS Assistant Director will assume Presidency of Hong Kong University of Science and Technology.

AST Budget History



FY 2006	$200M
FY 2007	$215M
FY 2008	$218M
FY 2009 PRC	$250M

Budget

- FY 2010 Budget material is embargoed.
- FY 2009 and ARRA budget information is not yet public information pending approval of operations plans by Congress. We will provide an update at the meeting, if possible.

Impact of 6-month Continuing Resolution in FY 2009

- Inability to predict full-year budgets early in the fiscal year, coupled with the nature of severance packages led to reductions in force at National Observatories.

ARRA Funding Priorities

- Increase the success rate for individual investigator awards to >30%.
- Increase the number of awards for CAREER, postdoctoral fellows, and graduate research fellows.
- Infrastructure and deferred maintenance at national observatories.
- New MRI and ARI solicitations are the only new programs specifically for ARRA funding.
- Arden Bement: “Keep it simple.”

National Astronomy and Ionosphere Center (NAIC)

Dana Lehr, Program Manager

NAIC Management and Operation

- Consistent with the National Science Board *Resolution on Competition and Recompetition of NSF Awards* (NSB-08-12), NSF will compete the next cooperative agreement for the management and operation of NAIC through an open, merit-based review process.
- Expected to lead to the award of a single, five-year cooperative agreement for the management and operation of NAIC following the expiration of the current cooperative agreement in 2010.
- Recommendations of the 2006 AST Senior Review are being factored into planning.

Dear Colleague Letter

- More information regarding the competition may be found in publication NSF 09-014:

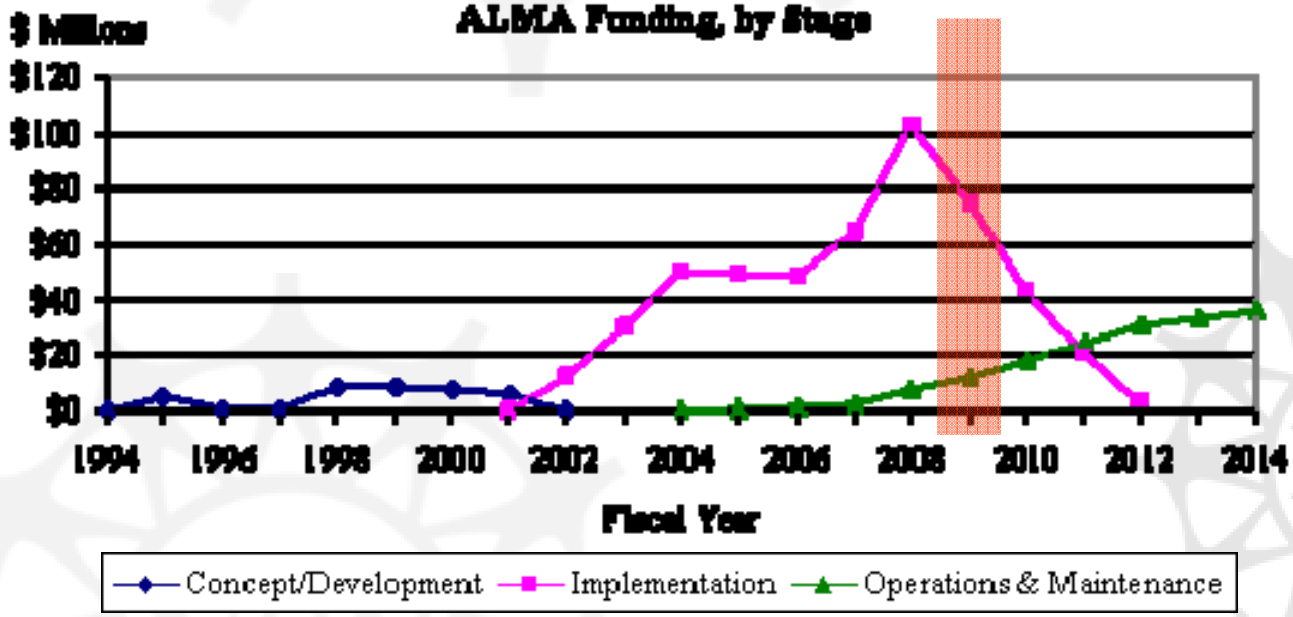
  www.nsf.gov/pubs/2009/nsf09014/nsf09014.pdf

- NSF expects to issue a detailed program solicitation in mid-2009, with full proposals due six months following publication.

ALMA Project Status

Phil Puxley, Program Director

- Overall construction cost performance is good (cost variance of ~0%) but remains slightly behind schedule (schedule variance of -5%)
- Contingency is currently healthy; ~50% of uncommitted budget



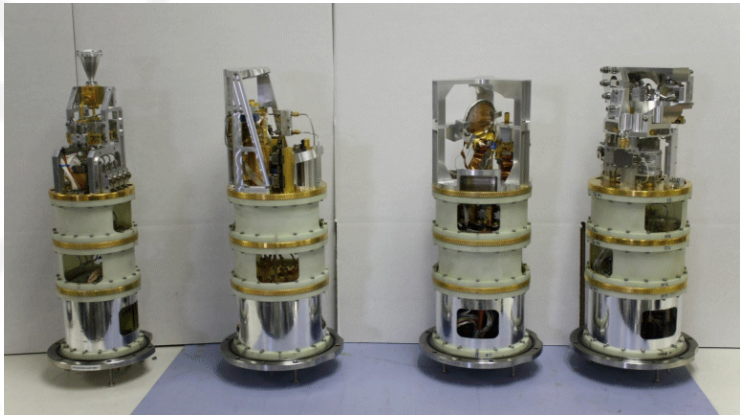
ALMA Recent Accomplishments

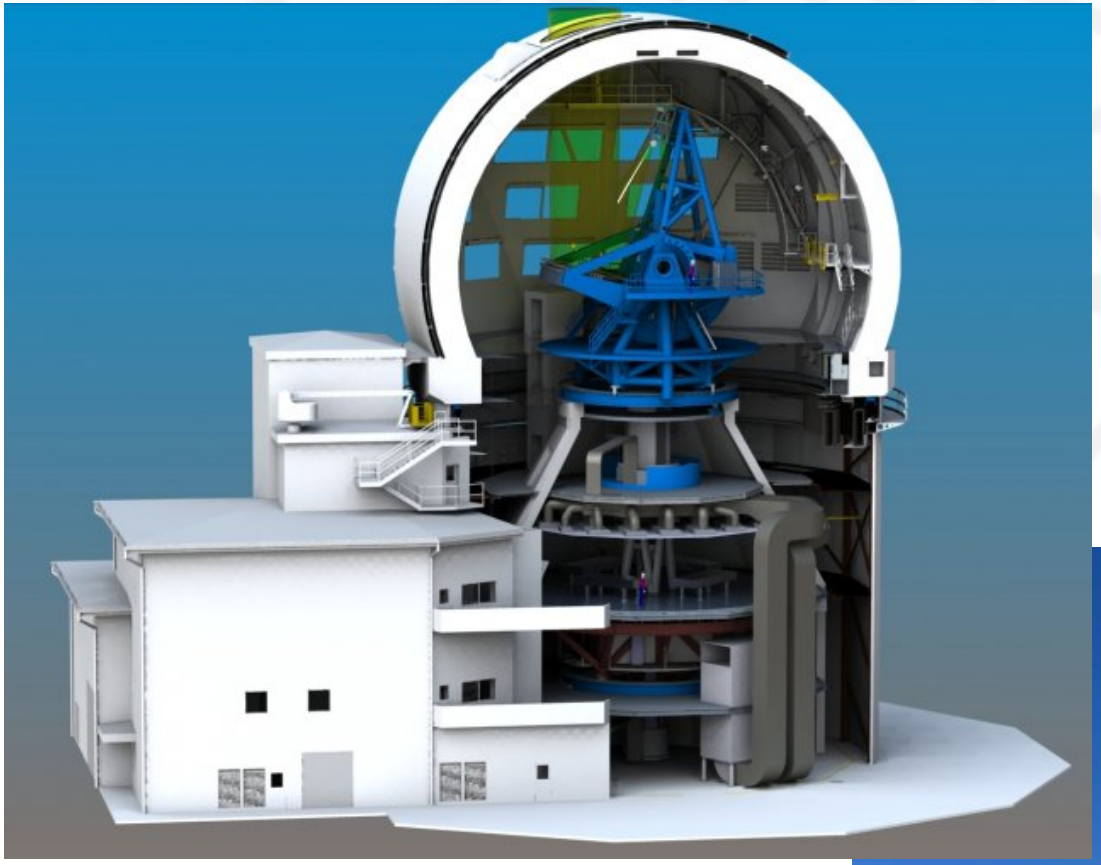
- Performance of Vertex antennas is excellent: e.g. all-sky pointing 1.3”, dish surface accuracy ~11um, fast-switching precision v. good
- First two antennas accepted (one each from Japan and North America)
  - Acceptance review of second NA / Vertex antenna next week
- 10th Vertex antenna has been shipped
  - Vertex antenna deliveries to Chile at pace of 1 every 2 months
  - Parts for first European antenna have arrived in Chile
  - 14 antennas now in Chile


Lore

ALMA Recent Accomplishments

- All receiver cartridges are in production phase
  - Pre-production units (8 of each of 4 wavebands) have passed acceptance testing
- 3 integrated receivers have been delivered to Chile
  - First two units (from East Asia and from NRAO) have passed acceptance tests and been installed in antennas
  - Enables 3-element interferometry at mid- and high-sites in 2009





Status of The Advanced Technology Solar Telescope

Craig Foltz, Program Director

The Telescope

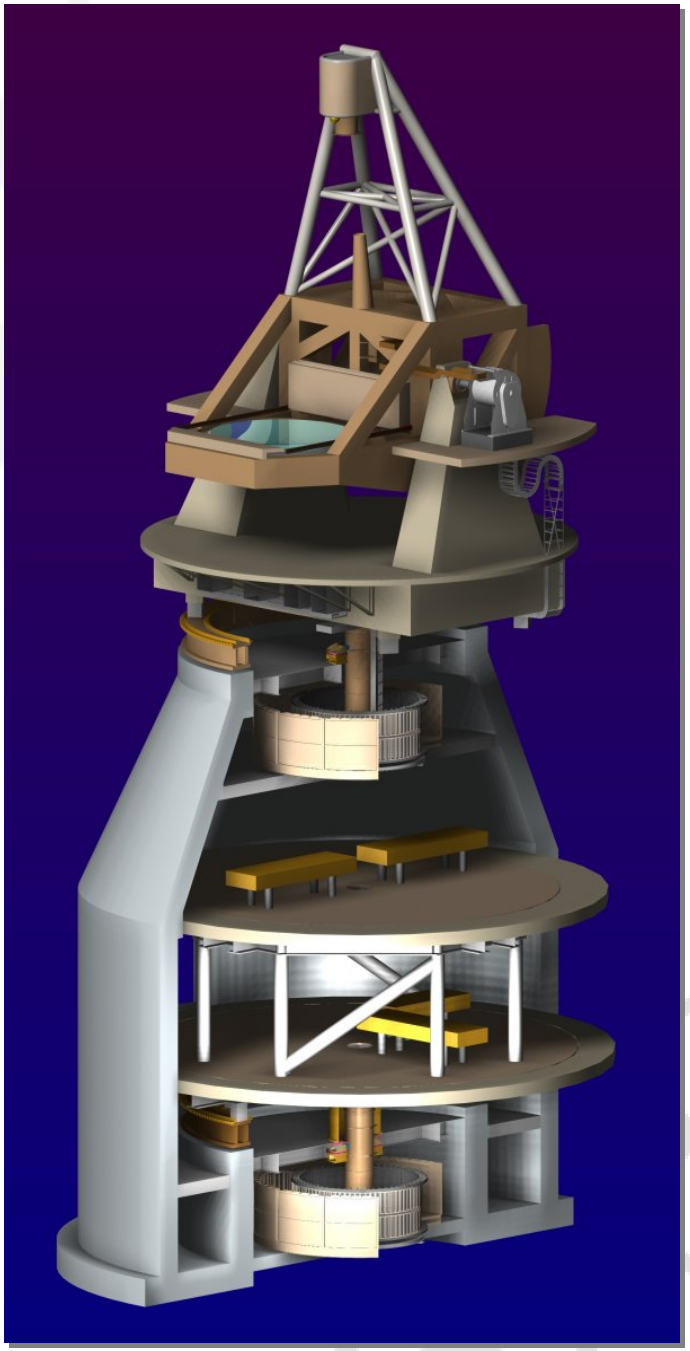
Improvements over current state of the art:

- Resolution – ~7X improvement
- Light grasp – 10X improvement (*solar physics is actually photon starved for coronal studies)*

Technical Specifications:

- 4-m aperture, off-axis Gregorian design, all reflective, alt-az mount.
- Instruments located on a co-rotating 'coude' platform with fixed gravity vector.
- Integrated adaptive optics. MCAO an upgrade.
- Hybrid enclosure with thermal control and dust mitigation.
- Wavelength sensitivity from 0.3-28 microns (near-UV through thermal infrared).
- Field of view: 3 arcminutes (5 arcminute goal).
- Angular resolution < 0.03 arcsecond.
- Polarization accuracy < 0.01%.

ATST will be the world's flagship facility for ground-based solar physics observation and the first large US solar telescope constructed in the past 30 years.

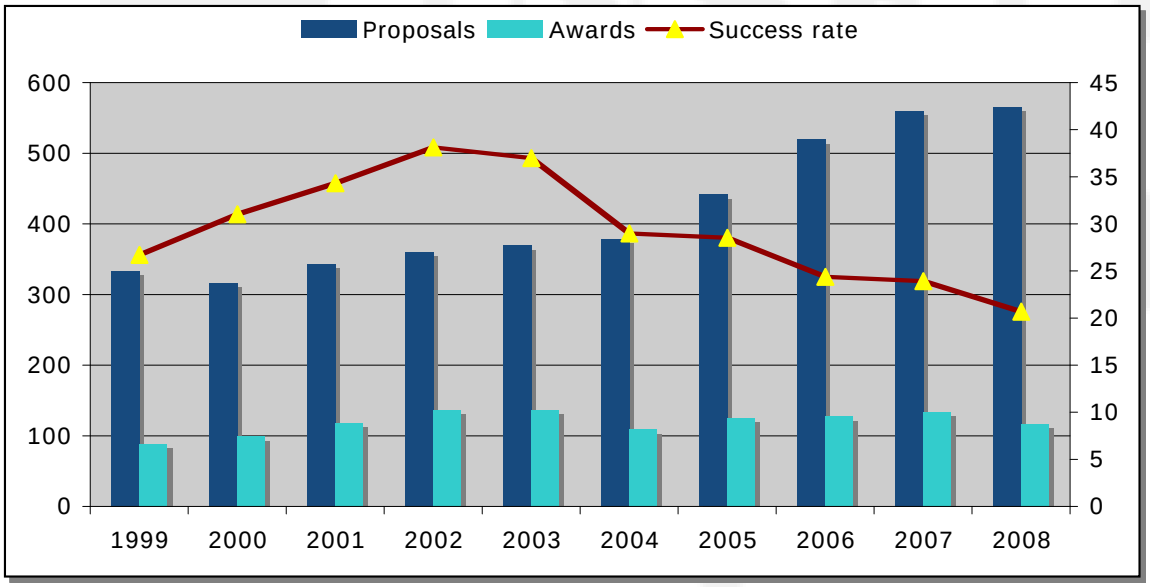


Project Status

- Design and Development funding began in 2001.
- Approved for inclusion in a future budget by the NSB in August 2007.
- Construction funding initiated in FY 2009 Omnibus at $9M (MREFC).
- Total cost $250-270M; Baseline to be established at Final Design Review in May 2009.
- Environmental and Cultural/Historic compliance nearing completion. Final EIS in August; record of decision to follow.
- Approval to spend will be requested in late summer/early fall of 2009.
- Early science in 2016.

ATST on Primary Site at Haleakala High Altitude Observatory

Astronomy & Astrophysics Grants Program



2009: about the same total number of proposals