

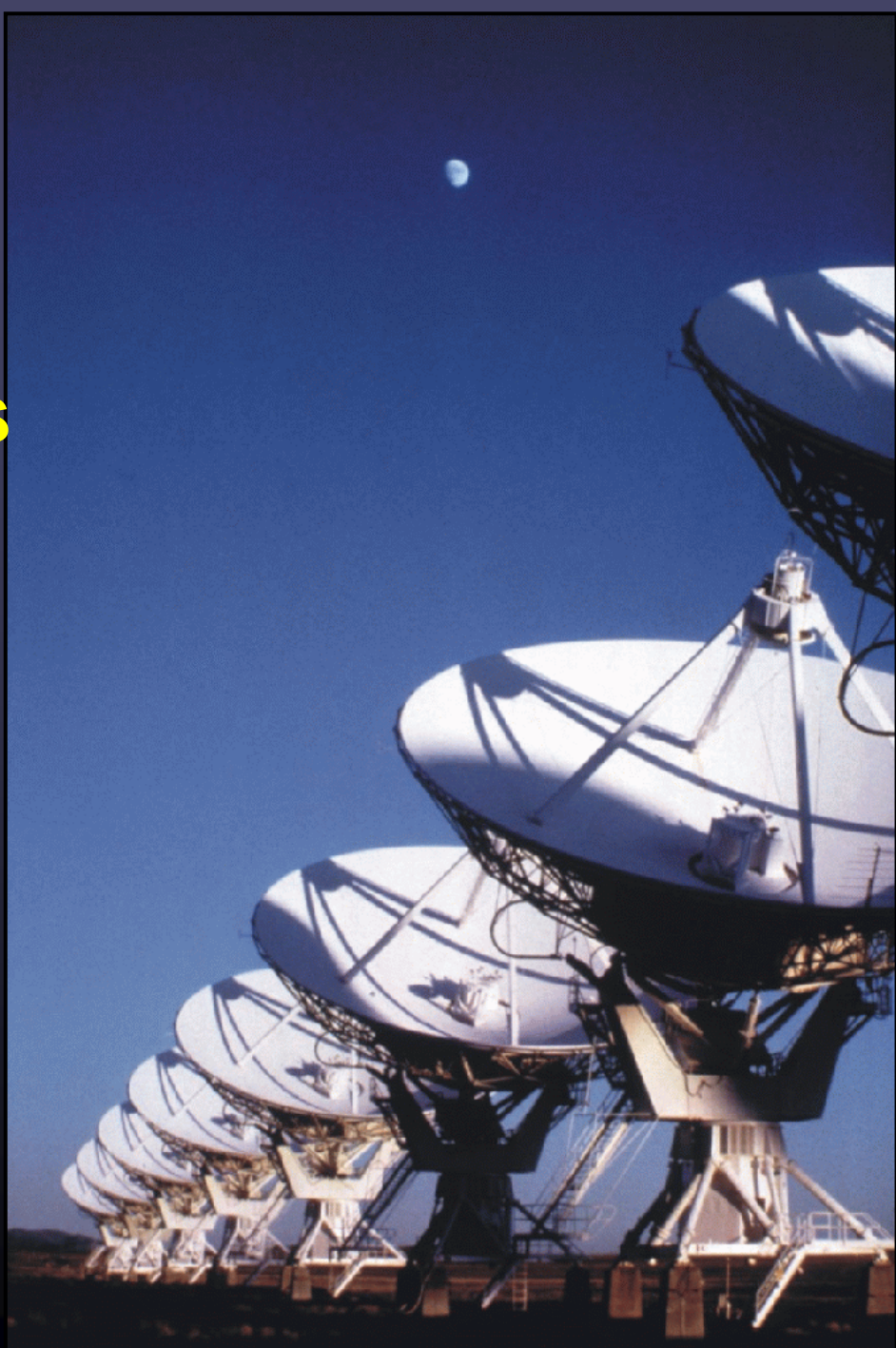
# EVLA Basic Operations

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Operations Concept  
Staffing and Cost Plans

*SAGE meeting*

*Socorro, May 22-23, 2007*



# EVLA Operations Concept

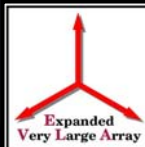
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- Enhanced data delivery and science support desired for all astronomers, but depends on available funding
  - See following Chandler talk on Array Science Center
- Day-to-day infrastructure maintenance relatively unchanged
  - Robust maintenance of aging infrastructure (buildings, antennas, railroad) is required
- Economies of scale by sharing personnel with VLBA and possibly with ALMA
- Detailed staffing requirements in EVLA/VLBA Ops Plan, Version 5
  - Compared to 2000, staffing shifts from maintenance to science support



# Routine Operations Requirements

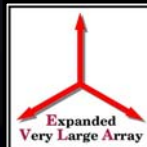
- Operate both EVLA and VLBA, with associated gains in cost efficiency
- Maintain EVLA capability until 2030
- Retain all 7 configurations (A,B,C,D + hybrids)
- 95% reliability in scheduled antenna-hours
- 70% of hours in year for peer-reviewed science
- 1-50 GHz and 327 MHz bands available year-round
- Primary dynamic scheduling, with fixed observations also possible
- Array Science Center requirements/drivers in Chandler talk



# Annual Ops/Infrastructure Costs

Function	Cost (2005)	Cost (2012)
M&S, Facilities, Travel	\$3.2M	\$3.9M
EVLA Power	\$0.6M	\$1.6M
AOC Power	\$0.3M	\$0.5M
VLBA Power	\$0.4M	\$0.7M
Added VLA-AOC Bandwidth	\$0.0M	\$0.1M
TOTAL	\$4.5M	\$6.8M

- All costs in dollars of year (FY05\$ for 2005, FY12\$ for 2012 costs)
  - Assumes 3.5% inflation per year
  - Additional power requirements of EVLA (WIDAR, cryogenics)
  - 7% annual cost increase per kilowatt-hr
- FY05 cost included pro-rated share of long-term infrastructure augmentations



# Operations Personnel Requirements--FTEs <sup>5</sup>

Division	2000	2007	2008	2009	2010	2011	2012
Assistant Director's Office	5	3	4	4	4	4	4
Business Services	9.5	9.5	10	10	10	10	10
Array Operations	26	22	22	22	21	20	19
Electronics	73	64	66	68	69	69	69
Engineering Services	52	42	42	43	43	44	44
Computing Infrastructure	9.5	10	10	10	10	10	10
Ops S/W (EVLA Comp)	9	10	10	11	15	16	18
ASC (core/full)	29	27+1	31/33	33/35	35/44	39/62	39/62
TOTAL (core/full ASC)	213	188.5	195/ 197	201/ 203	207/ 216	212/ 235	213/ 236

- 2012 needs, including Core ASC, equal to 2000
  - Personnel shift from maintenance to science support
- No guarantee of funding to support this plan

