



National Radio Astronomy Observatory

22 May 2008 – US SKA Consortium Meeting, DC



# The Role of NRAO in SKA

Fred Lo

# Role of NRAO

- National Observatories exist for the benefit of the astronomy community
- NRAO mission is to enable forefront science
  - In partnership with community, design, construct and operate large scale facilities

# Relationship with community, in particular universities

- US radio astronomy efforts in the universities, especially in terms of URO's, declining steadily
    - Currently fewer than a handful compared to >10 in the 70's
  - NRAO is not sustainable without active and vibrant university efforts in radio astronomy
  - In the last few years, NRAO has further strengthened its efforts to collaborate with universities
    - Collaborative efforts with universities on experiments and instruments:
      - LWA, PAPER, FASR, ATA, Lunar Radio Astronomy,
      - Digital BE, Z-spectrometer, MUSTANG, GUPPI, K-band array receiver, FPA (with BYU),...
    - Jansky fellows posted at universities
    - Student observing stipends, internships,...
- ⇒ NRAO is more than simply offering telescope time!

# NRAO and SKA

- There may exist a perception that the NRAO as an organization has not paid sufficient attention to SKA, despite
  - Participation by many NRAO staff members in many working groups over many years
- Reality is that NRAO is simultaneously constructing two major facilities, ALMA and EVLA, since 2002
  - NRAO needed to gear up technically and managerially, and develop international working relationship (especially challenging in ALMA)
- Now, NRAO is in good shape for handling all aspects of ALMA and EVLA, and important to point out
  - ⇒ the NRAO efforts on ALMA and EVLA, while not explicitly part of the SKA process, are in fact very much relevant to the SKA
  - ⇒ EVLA, though not called an SKA demonstrator and often overlooked by the SKA community still, is very much a powerful SKA demonstrator, AND soon available for addressing many scientific and technical issues confronting SKA (not just paper studies).
  - ⇒ NRAO experience in the international project ALMA is very important for a project like SKA

# Specific NRAO SKA activities

- Jim Ulvestad is representing NRAO in the SKA consortia, plus the long term involvement of Ken Kellermann (who is the new Chair of SSEC overseeing the SPDO Director, Richard Schilizzi)
  - Plus many staff members in various WG's
  - Formal SKA Working Group within NRAO (headed by Ulvestad) formed last year
- As ALMA and EVLA are entering the production phase
  - NRAO is beginning to be able to devote more attention on the SKA
  - Participation in US TDP, even though not funded by TDP; FPA work with BYU,...
- Recent Staff Retreat to discuss SKA and related future plans in radio astronomy for the Decadal Review
  - Next, NRAO will work closely with the community to prepare for the Decadal Review white papers

## In Summary,

- The scientific vision of the SKA is clear and compelling, but
- The real challenge is its implementation, from many perspectives: scientific and technical specifications, competition for funding and coordination among the international partners,...

My clear message is the NRAO is committed to work with the astronomical community in the US and internationally to make SKA a reality