

An aerial photograph of the SKA radio telescope array in a desert landscape. The image shows a vast field of white, spherical radio telescope dishes scattered across a reddish-brown, arid terrain. The dishes are arranged in a grid-like pattern, extending towards a hazy horizon. The sky is clear and blue. The overall scene is a wide, open landscape with sparse vegetation.

*A Few Thoughts  
about the SKA Project*



# Challenges

- ◆ Keep the world-wide astronomy communities **engaged**
- ◆ Keep the astronomy community **persuaded**
- ◆ Keep the project, help the precursors, and core teams in member states adequately **funded**
- ◆ **Coherent** roadmap for critical science preparation and technology development

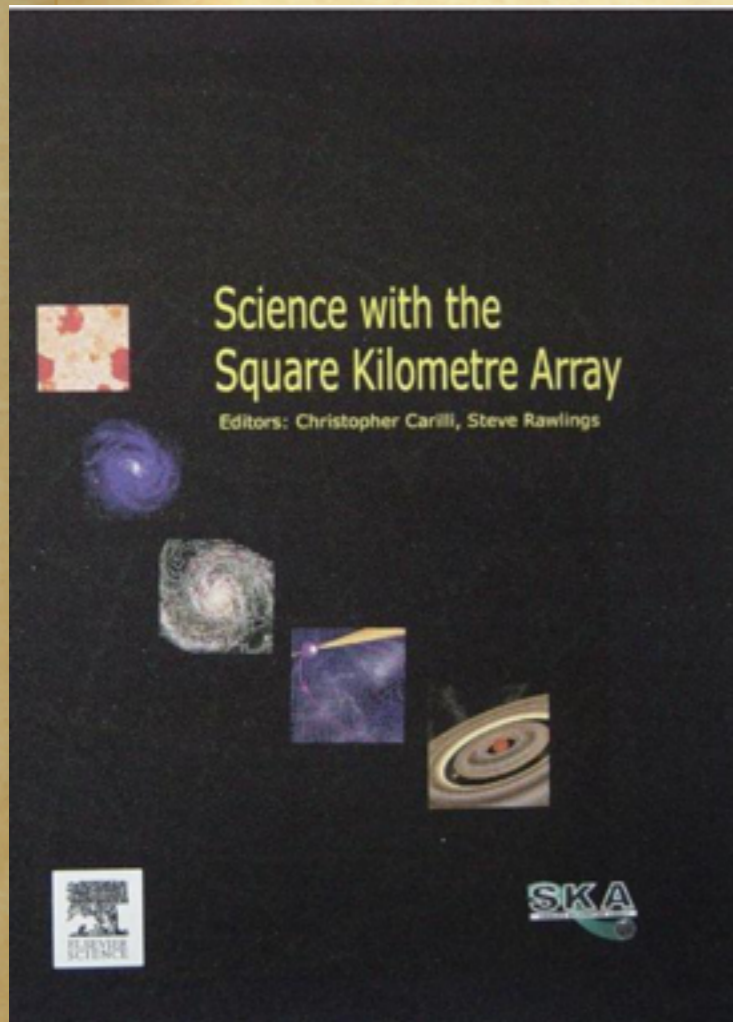


# Engagement I

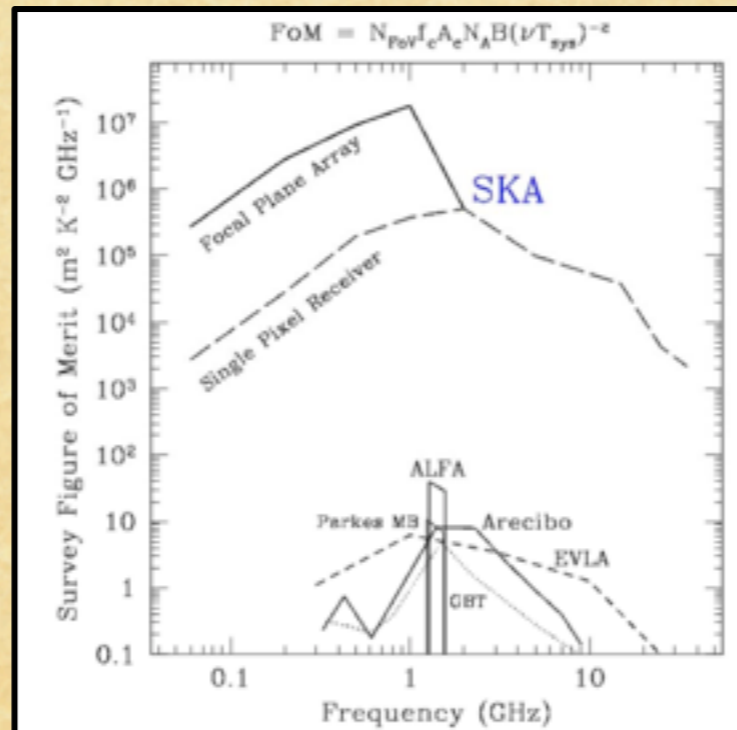
Update the science cases in lights of

- Technology developments
- New instruments
- Evolving science interests

Question: How to treat SKA1 in context?



Eds. C. Carilli & S Rawlings  
 With Lazio, Kramer, Gaensler  
 and more ...  
 Memo#100, DRM, memo # 125  
 by Garret et al.



Cordes

Survey Speed	Diameter	FoV <sup>2</sup> (sq. deg)	N dishes	A <sub>eff</sub> /T <sub>sys</sub>	N beams	ME
3x10 <sup>9</sup> m <sup>4</sup> K <sup>2</sup> deg <sup>2</sup>	10 m	20	2,516	3,873	13	425
	12 m	20	1,752	3,884	18	400
	15 m	20	1,119	3,876	28	375
	20 m	20	633	3,898	49	400
	25 m	20	389	3,743	77	450
	30 m	20	278	3,852	110	500
10 <sup>9</sup> m <sup>4</sup> K <sup>2</sup> deg <sup>2</sup>	35 m	20	206	3,885	150	550
	10 m	20	4,593	7,070	13	975
	12 m	20	3,193	7,078	18	850
	15 m	20	2,039	7,062	28	775
	20 m	20	1,139	7,013	49	775
	25 m	20	741	7,129	77	850
	30 m	20	516	7,149	110	925
35 m	20	371	6,996	150	975	

Table 12 from Schilizzi et al.



# Engagement II

## WP+ Call for Key Programs or Teams

- ◆ Site and Host countries
- ◆ Other Member states
- ◆ Potential member states
- ◆ Individual Groups



# Persuasion

“Dual Site” is Feasible and does have advantages.

- ◆ SKA1 will fully utilize precursors while still enable breakthrough
- ◆ AIP is essential for both SKA1 and SKA2
- ◆ Realize the potential advantages identified by both SSAC and SOWG

Attract the right talent



# Funding

## A global view of the funding

- ◆ ASKAP Shortfall: Mark II development and operational budget
- ◆ MeerKat incorporation?
- ◆ US science and technology Development?
- ◆ How to build up SKA Astronomy in China?
- ◆ What SKAO can do in improving the position of other consortiums and potential member states, such as the East Asia SKA Consortiums

Multi-facet collaboration : through ideas, labor, money ...



# Coherence I

Identify critical needs, both inside and outside of the work packages.

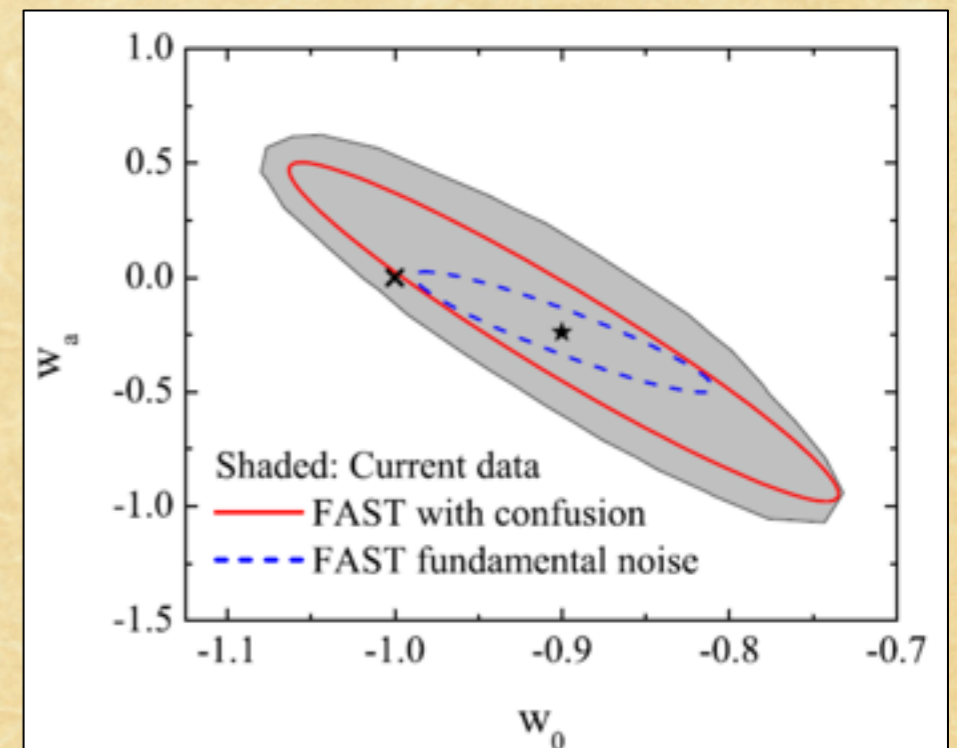
- ◆ Power consumption
- ◆ Interface speed, data storage, processing requirements
- ◆ Decision point and timing notes regarding phased array



# Coherence II

## Potential game changing results and science preparation requirements

- ♦ Building upon  $S^3$ , foster collaborative efforts between Oxford, Caltech, NAOC, etc.
- ♦ What is the binary pulsar population, how many pulsar-blackhole system out there, can we predict?
- ♦ Don't give up spectral line and what is the real limit in intensity mapping



Yue et al. 2013, in prep



# Theme

Starting with SKA1, SKA should become the radio component of the world's “Origins”, “Fundamental physics”, and “Discovery” science instruments.  
(adopted from Memo 125, Garret et al.)

Unified priorities between science and technology

Unified planning between member states

Unified communication and funding strategy