



ngVLA Way Forward

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ngVLA

Prime Directive: Low operating costs....

Large Project: 250 antennas * \$X = \$Y

But: Astronomers can't add....

Engineers can't subtract....

Managers/admins only multiply.... L

Known unknowns

- Configuration (+ Environmental/permitting...)
- Data transmission
- Science operations model (Calibration + imaging integrated? Science ready data products?) x5 power consumption
- How steep costs curves are in various places (e.g. 50 GHz bw)
- Feed selection

- **Antennas** design/materials // reasonable step
- **Feeds/receivers** implementation // details, reas. step
- **Correlators** multiple (similar) options // doable

Unknown unknowns

- Technical? (everything a plausible step beyond SOA?)
- Non-tech: Intellectual policy, industrial engagement?
- Phased Array Feeds? (Science: FOV ® Tech: System design)
- Two-diameters? (flux recovery...)

- Big Project Issues
 - Funding?
 - Partners?
 - ?

- Science Community Support? Few-yr process underway
- Gains from other community initiatives (SKA + others...)?

- ?

Moving forward .. Project stuff

- Science case - SUM,AND then SQUEEZE slightly...
(timescale ~3-4 months)
- Identify corresponding requirements and desirements (Level 0 down...), begin system requirements documentation
(0-6 months?)
- System Design process – strawman design
- Boring: Consortium development, political advocacy, dev funding..
- NRAO: RFPs for small design studies (technical/scientific) – ideas welcome

***Big questions: Prototype antenna? Prototype system?
Components of MTBF/MTTR/Ops model?***

SKA

- Important incredible project – wish them well, help when we can
- Acknowledge: ngVLA incredible advantages wrt SKA
- Ack: primary ngVLA disadvantage wrt to SKA \$\$\$\$
- Technology transfer likely?
- ngVLA NOT in competition with SKA ... complement
- (ALMA Band 1/2 – NOT in competition)
- The SKA is not Open Skies.... Our strategy must address.

- Next meeting – late August? Topics? Location?
 - Baseline science requirements // technical specs
 - (data for a small number of big questions)
 - Configuration?
 - Draft Conops
 - Development consortium + funding ?????
- Speakers – emails talks (pdf) to tbeasley@nrao.edu or Sandy
- Safe trip home
- Many thanks to Sandy/Caltech hosting this first meeting



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