Overview

• ngVLA Key Science Goals
• Science Working Group Structure
• Some feedback from the New Eyes on the Universe Meeting
Key Science goals versus Science Working Groups

• Key Science Goals are a few projects that drive the technical requirements for the ngVLA
• Science Working Groups mostly map to the KSGs, but cover a much broader range of phenomena that help motivate ngVLA
• KSGs are already largely set in stone, but many more use cases can be proposed via the SWGs
  • There is still plenty of time to get involved if you have new ideas (or old ideas that haven’t been written up)!
KSG 1: Unveiling the Formation of Solar System Analogs on Terrestrial Scales
KSG 2: Probing the Initial Conditions for Planetary Systems and Life with Astrochemistry
KSG3: Charting the Assembly, Structure and Evolution of Galaxies from
KSG 5: Formation and evolution of stellar and supermassive black holes in the multimessenger era.
Science Working groups

SWG 1: Stars, planetary systems and their origins
   Brenda Matthews (NRC-Victoria), David Wilner (Harvard-Smithsonian)
SWG 2: Astrochemistry and the molecular origin of life
   Brett McGuire (MIT), Jennifer Bergener (Chicago)
SWG 3: Galaxies and galaxy evolution
   Fabian Walter (MPIA), Rachel Somerville (Flatiron/Rutgers)
SWG 4: Pulsars, cosmology and fundamental physics
   Megan DeCesar (NRL/GMU), Alexander van der Horst (GWU)
SWG 5: Exploring the Dynamic Universe
   Rachel Osten (STScI), Alessandra Corsi (Texas Tech)
New eyes on the Universe

- Meeting in Vancouver last month, aimed at bringing together the SKA and ngVLA communities. My takeaways:
  - These facilities are complementary
    - High versus low frequency
      - nonthermal and HI for SKA
      - thermal, flat spectrum synchrotron and molecules/masers for ngVLA
    - Large collecting area and long baselines for ngVLA to do precision work on individual sources; wide field for surveys for SKA
  - Community enthusiasm for both types of work is very high!
  - Many science cases benefit from both, most do not require them simultaneously
Summary

• ngVLA contributes key capabilities across almost all areas of astrophysics
• Together with the SKA, it will bring on a new era in radio astronomy
• There are still plenty of opportunities to get involved