

Strawman Specifications for the Next-Generation Very Large Array

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Preliminary science goals for the ngVLA have been developed by the ngVLA Science Working Groups. The U.S. Radio Futures Conferences and American Astronomical Society break-out sessions have also provided an opportunity to discuss the relative merits of each scientific use case and their impact on system design.

Some of these use cases drive the design in different directions, and there are significant gaps in the science requirements that still require elaboration, such as the possible need for short baselines (less than two times the antenna diameter) or total power measurements.

However, the development of a strawman set of system requirements that provides general observing capabilities suitable to many of these scientific uses cases will help refine the system definition and science case. Development of these strawman specifications will also help assess the technical feasibility of key sub-systems, and allow us to iterate towards an achievable and coherent design.

Preliminary goals for the ngVLA are to increase both the system sensitivity and angular resolution of the VLA tenfold, with frequency coverage spanning 1 to 50 GHz and 70 to 115 GHz. Strawman specifications and required work towards an initial set of system requirements will be presented. The trade space between the requirements will also be discussed.