



Next-generation Very Large Array – Long Baseline Design & Performance

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The next-generation Very Large Array (ngVLA) project at the National Radio Astronomy Observatory (NRAO) is designing a radio telescope that will be capable of addressing many critical scientific interests in 21st-century astronomy and astrophysics^[1]. The ngVLA will combine Very Large Array (VLA) and Very Long Baseline Array (VLBA) capabilities into a single powerful instrument, and flexible subarraying will provide significantly-enhanced Very Long Baseline Interferometry (VLBI) performance. Multiple 18-m diameter antennas situated at existing VLBA sites and several new locations, combined with high-bandwidth real-time digital connections and state-of-the-art receiver technology, are planned. The ngVLA Long Baseline Array (ngVLA-LONG) will revolutionize VLBI astronomy, including astrometric, geodetic and near-Earth studies. An overview of ngVLA-LONG science, technology and implementation will be provided in this talk.

References

[1] ngVLA.nrao.edu