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The Next-Generation Very Large Array (ngVLA)[1]

JOAN WROBEL[2], National Radio Astronomy Observatory

The ngVLA is a versatile interferometric array envisaged to operate as a facility of the U.S. National Science Foundation (NSF), starting in the 2030s. It will deliver an order of magnitude improvement in both sensitivity and angular resolution compared to existing and planned facilities at frequencies spanning 1.2 - 116 GHz. The ngVLA will tackle a vast range of key, outstanding questions in modern astrophysics by simultaneously delivering the capability to: unveil the formation of Solar System analogs on terrestrial scales; probe the initial conditions for planetary systems and life with astrochemistry; chart the assembly, structure, and evolution of galaxies from the first billion years to the present; use pulsars in the Galactic Center as fundamental tests of gravity; and understand the formation and evolution of stellar and supermassive black holes in the era of multi-messenger astronomy. Being highly synergistic with its contemporary facilities in space, on the ground, or underground, the ngVLA will maximize the scientific returns on additional investments made by funding agencies in the U.S. and abroad.

[1]The National Radio Astronomy Observatory is a facility of the NSF operated under cooperative agreement by Associated Universities, Inc. The ngVLA is a design and development project of the NSF operated under cooperative agreement by Associated Universities, Inc.

[2]Membership waived. Meeting registration fee paper mailed to APS.