

V129a The Next Generation Very Large Array - Fall 2022

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We present an overview, status, and the future plan of the Next Generation Very Large Array (ngVLA), including the recent scientific and technical activities of the ngVLA study group, which is coordinated by NAOJ in close collaboration with members of the Japanese science community. In the past, the study group has organized meetings and workshops for the purposes of promoting ngVLA science in Japan and synergies with other instruments, and it is ready to accelerate its activities with the community members in close coordination with the Science Working Group organized by the NRAO. Technical studies in the area of the antenna, front end, and time/frequency distribution have also seen some significant progress. Armed with the solid outcome for ngVLA in the Astro2020 decadal survey, the study group is actively investigating the possible future contributions toward offering a significant fraction of ngVLA observing time to the Japanese community.

The ngVLA will consist of three arrays – the Main Array with 214 18-m antennas (baselines up to 1000 km) placed around the current JVLA site, the Short Baseline Array with 19 antennas of 6-meter diameter and four antennas of 18-meter diameter operating as single-dish telescopes, and the Long Baseline Array which will consist 30 18-meter antennas with the longest baseline of 8860 km. All antennas will be equipped with receivers covering frequencies from 1.2 to 116 GHz.