Abstracts

Improvements in the Millimeter-Wave Subsystem for Josephson Junction Array Voltage Standard Systems

H. Yoshida, Y. Sakamoto, U. Klein and T. Endo. "Improvements in the Millimeter-Wave Subsystem for Josephson Junction Array Voltage Standard Systems." 1993 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2353-2358.

Improvements in the millimeter-wave subsystem have been accomplished to provide higher millimeter-wave power to a Josephson junction array chip. The 94-GHz oscillator output power has been increased to 90 mW by incorporating an InP Gunn diode. The frequency stability of the InP Gunn oscillator is maintained at 10/sup -10/ of the center frequency. A low-loss dielectric waveguide has been installed in liquid helium to reduce the insertion losses of the millimeter waves to 3 dB/2.5 m. The improved millimeter-wave system has been confirmed to operate well in a Josephson junction array voltage standard system for voltage calibration at the 1-V level with the specified accuracy.

❑ Return to main document.