Abstracts

Material Characterization and Ultimate Performance Calculations of Compensated n-Type Silicon Bolometer Detectors at Liquid-Helium Temperatures

C.J. Summers and S. Zwerdling. "Material Characterization and Ultimate Performance Calculations of Compensated n-Type Silicon Bolometer Detectors at Liquid-Helium Temperatures." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part I [T-MTT] (Special Issue on the Proceedings of the First International Conference on Submillimeter Waves and Their Applications)): 1009-1013.

The dependence of the resistivity and far infrared (FIR) absorptance on donor concentration, compensation, and temperature in compensated n-type Si is reported. The effect of environment, time constant, and spectral passband on the noise equivalent power (NEP) of the compensated Si bolometer is examined and compared with similar calculations for the compensated Ge bolometer.

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