Abstracts

Imaging Polarimeter Arrays for Near-Millimeter Waves

P.P. Tong, D.P. Neikirk, P.E. Young, W.A. Peebles, N.C. Luhmann, Jr. and D.B. Rutledge. "Imaging Polarimeter Arrays for Near-Millimeter Waves." 1984 Transactions on Microwave Theory and Techniques 32.5 (May 1984 [T-MTT]): 507-512.

An integrated-circuit antenna array has been developed that images both polarization and intensity. The array consists of a row of antennas that lean alternately left and right, creating two interlaced sub-arrays that respond to different polarizations. The arrays and the bismuth bolometer detectors are made by a photoresist shadowing technique that requires only one photolithographic mask. The array has measured polarization at a wavelength of 800 µm with an absolute accuracy of 0.8° and a relative precision of 7 arc min, and has demonstrated nearly diffraction-Iimited resolutiort of a 20° step in polarization.

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