

Abstracts

Millimeter-Wave Generation Experiment Utilizing Ferrites

W.P. Ayres. "Millimeter-Wave Generation Experiment Utilizing Ferrites." 1959 Transactions on Microwave Theory and Techniques 7.1 (Jan. 1959 [T-MTT]): 62-65.

It is estimated that at least 50 watts of peak power at 2-mm wavelength has been generated from 4-mm excitation by harmonic generation in ferrites. This experiment is similar to the frequency doubling previously reported from 9 to 18 kmc, except for some differences in optimum geometry and material. A wide range of ferrites has been used, as well as garnets and permanent magnet type materials. In carrying out this experiment it has been necessary to develop components such as a 4-mm high-power isolator, a calorimeter for measurement of the 4-mm and 2-mm power, and numerous 2-mm waveguide components.

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