Abstracts

Broadband Isolators and Variable Attenuators for Millimeter Wavelengths

C.E. Barnes. "Broadband Isolators and Variable Attenuators for Millimeter Wavelengths." 1961 PGMTT National Symposium Digest 61.1 (1961 [MWSYM]): 5-6.

A Faraday rotator has been developed which provides rotation independent of frequency in a band greater than 20% centered at 55 kmc. The loss characteristics plotted in Fig. 1 are typical for broadband variable attenuators incorporating this rotator. The minimum and maximum loss characteristics are for fixed fields of 0 and ~30 oe, respectively. Figure 2 contrasts the performance of a broadband isolator (solid curves) utilizing this rotator with a "conventional" Faraday rotation isolator (dashed curves). The broadband isolator has a forward to reverse loss ratio >30 over a band 10 times as great as that for the "conventional" rotator and from 3 to 5 times greater than any other isolator known, to the author, to operate at these frequencies.

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