

Abstracts

IF Conversion Gain of Glow Discharge Lamps X-Band Mixers for High LO Power Levels

N.S. Kopeika, Y. Makover and S. Schonbach. "IF Conversion Gain of Glow Discharge Lamps X-Band Mixers for High LO Power Levels." 1979 Transactions on Microwave Theory and Techniques 27.3 (Mar. 1979 [T-MTT]): 227-232.

Inexpensive glow discharge indicator lamps mounted in a waveguide mount are investigated as mixers at relatively high X-band local oscillator (LO) power levels. The IF conversion efficiency was found to drop off for LO power levels greater than about 30-40 mW, although no damage occurs to the lamps at higher power levels. Because of the small lamp size relative to waveguide cross section, sensitivity is much less than in the free space configuration. For many reasons the use of such devices as mixers should be much more promising at millimeter-wave frequencies than at microwave frequencies.

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