Abstracts

A Cavity-Type Parametric Circuit as a Phase-Distortionless Limiter

F.A. Olson and G. Wade. "A Cavity-Type Parametric Circuit as a Phase-Distortionless Limiter." 1961 Transactions on Microwave Theory and Techniques 9.2 (Mar. 1961 [T-MTT]): 153-157.

This paper is a study of the properties of a diode parametric frequency converter (negative-conductance type) when used to perform microwave limiting. Unlike the parametric amplifier, the output power of a converter cannot exceed a certain level, regardless of the amplitude of the input signal. Thus, the ability to limit is a fundamental property of regenerative parametric frequency converters. An experimental limiter circuit, consisting of two stages of parametric frequency conversion, provided an output which was constant to within ± 1 db over a range of input of 50 db, and had 10db small-signal gain. The phase variation was less than seven degrees over the entire range of input power.

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