Abstracts

In-Line Signal Circuit for Broad-Band Parametric Amplifiers

S. Egami. "In-Line Signal Circuit for Broad-Band Parametric Amplifiers." 1975 Transactions on Microwave Theory and Techniques 23.3 (Mar. 1975 [T-MTT]): 282-287.

A new double-tuned parametric amplifier signal-circuit configuration and a method for its experimental optimization is described. A new in-line signal circuit, which is adapted from a quarter-wave-coupled bandpass filter, is intended for use at higher microwave and millimeter-wave parametric amplifiers (paramps). It is shown that, using this signal circuit, a broader flat-gain response can be obtained as compared with the conventional double-tuned signal circuit with broad-banding stub placed multihalf-wavelength apart from the diode. To suppress the spurious response, a semilumped approximation is applied in the design. Finally, a "cold and hot" test method to optimize the double-tuned signal circuit is introduced.

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