Abstracts

Modes and Their Stability of a Symmetric Two-Element Coupled Negative Conductance Oscillator Driven Spatial Power Combining Array

Z. Ding and K. Chang. "Modes and Their Stability of a Symmetric Two-Element Coupled Negative Conductance Oscillator Driven Spatial Power Combining Array." 1996 Transactions on Microwave Theory and Techniques 44.10 (Oct. 1996, Part I [T-MTT]): 1628-1636.

The modes and their stability of a symmetric two-element coupled negative conductance oscillator driven spatial power combining array were addressed theoretically. It was shown that the symmetric two-element spatial power combining array can produce two stable operation modes, one in-phase, the other 180° -out-of-phase. The theory explains all previously published experimental phenomena. Experiments done at C-band with a symmetric two-element coupled Gunn oscillator driven spatial power combining array demonstrated the validity of the theory to a certain extent. The theory can be generalized to study the modes and their stability of any coupled oscillator driven spatial power combining arrays.

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