Abstracts

Mode Stability of Radiation-Coupled Interinjection-Locked Oscillators for Integrated Phased Arrays (Short Papers)

K.D. Stephan and S.-L. Young. "Mode Stability of Radiation-Coupled Interinjection-Locked Oscillators for Integrated Phased Arrays (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.5 (May 1988 [T-MTT] (Special Issue Commemorating the Centennial of Heinrich Hertz)): 921-924.

An array of coupled oscillators can synthesize the microwave phase relationships needed for phased arrays by means of a technique known as interinjection locking. The mode required must be stable, and a general approach for evaluating mode stability and predicting frequency and phase relationships is applied to an experimental two-element 10 GHz array. Radiation coupling between the two oscillators leads to coherent operation, and the simple theory developed successfully predicts the system's behavior over a wide range of interoscillator distances.

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