Abstracts

A Dual Mode Tuning Circuit for Microwave Transistor Oscillators

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A two-port circuit adjusting both even and odd mode fields, with orthogonal mode adjustment, can be used as an embedding circuit for a microwave transistor oscillator. The circuit, analyzed in TEM line, may also be realized in any other form of transmission line geometry, including two coexistent modes in a cavity. The resulting oscillator is stable, has low FM noise, and is readily tunable. Analyses of the tuning circuit and oscillator are presented, along with some experimental results and a discussion of methods using other than TEM transmission lines to produce the even and odd modes.

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