# Abstracts

## Mathematical Representation of Microwave Oscillator Characteristics by Use of the Rieke Diagram (Short Papers)

*K. Fukumoto, M. Nakajima and J.-I. Ikenoue. "Mathematical Representation of Microwave Oscillator Characteristics by Use of the Rieke Diagram (Short Papers)." 1983 Transactions on Microwave Theory and Techniques 31.11 (Nov. 1983 [T-MTT]): 954-959.*

This paper shows that the characteristics of oscillators can be phenomenologically expressed by a polynomial function of frequency and amplitude, provided the output signal is nearly sinusoidal, especially at microwave frequency. A method is presented of determining the coefficients of the polynomial from several points on the Rieke diagram, with two examples being shown. The characteristics of oscillators can consequently be represented by several parameters, as in the case of electron tubes and transistors, so that the design of an oscillator circuit may become easier with the aid of an electronic computer.

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