

Abstracts

Experimental confirmation of the dynamics of coupled-oscillator arrays and implications for angle-based modulation

R.J. Pogorzelski. "Experimental confirmation of the dynamics of coupled-oscillator arrays and implications for angle-based modulation." 2002 Transactions on Microwave Theory and Techniques 50.1 (Jan. 2002, Part I [T-MTT] (Mini-Special Issue on 1999 International Microwave and Optoelectronics Conference (IMOC'99))): 143-149.

This paper describes a set of experimental measurements designed to test the predictions of the continuum theoretical model concerning the dynamics of a linear array of mutually injection-locked voltage-controlled oscillators. The model indicates that the phase distribution evolves according to a diffusion process, the diffusion rate being determined by the inter-oscillator locking range. The theoretical predictions are confirmed by the experimental results. In addition, a discussion of computational predictions of the characteristics of the signal received in the far zone when such an oscillator array excites a linear array of radiating elements is included.

[Return to main document.](#)