Abstracts

Generation of Millimeter-Wave Signals of High Spectral Purity

A.A. Castro and F.P. Ziolkowski. "Generation of Millimeter-Wave Signals of High Spectral Purity." 1976 Transactions on Microwave Theory and Techniques 24.11 (Nov. 1976 [T-MTT] (Special Issue on Millimeter Waves: Circuits, Components, and Systems)): 780-786.

The generation of millimeter-(mm-) wave signals phase coherent to a lower frequency reference or standard implies a large multiplication factor with inherent amplification of the short term instability or phase noise. This effect which usually is of secondary importance at lower microwave frequencies may become a limiting factor in the implementation of some mm-wave digital communication systems. Techniques used for the generation of signals of high spectral purity are discussed, and illustrated with the realization for a low data rate mm-wave satellite communications system. Quantitative results are presented and analyzed in terms of the theoretical time and frequency domain relationships.

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