Abstracts

The Compressive Nature of Optical Detection in GaAs MESFETs and Possible Application as an RF Logarithmic Amplifier (Short Papers)

A. Madjar, A. Paollela and P.R. Herczfeld. "The Compressive Nature of Optical Detection in GaAs MESFETs and Possible Application as an RF Logarithmic Amplifier (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.1 (Jan. 1993 [T-MTT]): 165-167.

The photodetection mechanisms in GaAs MESFETs have been investigated by several researchers. Recently the authors have published an in-depth study of the MESFET as an optical detector under constant illumination involving both experimental and theoretical modelling. In this paper we discuss the compressive nature of that photodetection process. Experimental results involving constant illumination, modulated tight and pulsed illumination verify the theoretical conclusions. Finally we present a suggested structure of an RF logarithmic amplifier based on the above phenomenon.

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