Abstracts

The Noise Performance of an Active, Linear Antenna Array for Reception

W.R. Panton and J.B. Beyer. "The Noise Performance of an Active, Linear Antenna Array for Reception." 1994 MTT-S International Microwave Symposium Digest 94.1 (1994 Vol. I [MWSYM]): 317-320.

The noise performance of an active receiving antenna array with endfire pattern was studied using "Noise Wave Analysis". Gallium Arsenide, Field Effect Transistors (GaAs FET's) were used. The array signal combining was accomplished with a series feed identical to the output transmission line of a Distributed Amplifier. A single stub tuner was simulated between each antenna element and active device (FET's in this case). System noise performance was simulated as the transformation due to the tuners was varied. The configuration giving best noise performance was found. Finally, two, four, six, and eight element active arrays were built and tested at 2 GHz confirming the analysis.

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