# Abstracts

## Divider and Combiner Line-Unified FET's as Basic Circuit Function Modules--Part I

*T. Tokumitsu, S. Hara, T. Takenaka and M. Aikawa. "Divider and Combiner Line-Unified FET's as Basic Circuit Function Modules--Part I." 1990 Transactions on Microwave Theory and Techniques 38.9 (Sep. 1990 [T-MTT] (Special Issue on Multifunction MMIC's and their System Applications)): 1210-1217.*

FET-sized combiners and dividers, in phase and out of phase, based on a novel line-unified-FET (LUFET) concept are described and demonstrated. Some effective extensions, such as extended combiner LUFET's, magic T LUFET's, and phase inverter LUFET's, are also described. The "extension" of the basic combiner and divider LUFET's allows the realization of various circuit functions in a very small area. The area of fabricated LUFET's is between 0.1 and 0.3 $mm^2$ and the operating frequency bandwidth approaches 20 GHz. LUFET applications as miniaturized RF signal processing MMIC's are described in Part II (in this issue).

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