Abstracts

Hybrid FET/SAW Programmable Transversal Filter

C.M. Panasik. "Hybrid FET/SAW Programmable Transversal Filter." 1982 MTT-S International Microwave Symposium Digest 82.1 (1982 [MWSYM]): 49-51.

A programmable transversal filter is described which employs hybrid tap weight circuitry to produce continuously adjustable tap weight magnitude and sign. The breadboard consists of a LiNb0/ sub 3/ surface acoustic wave device utilizing a wideband 250 MHz input IDT and a 16 tap (200 MHz) output electrode array and associated electronics. A novel sampling technique allows the output array to function from 200 to 300 MHz. Programmable tap weight changes over greater than 40 dB and at a 9 MHz rate have been demonstrated. Experimental results are compared with theoretical analyses of loss mechanisms and filter response capabilities.

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