Abstracts

Simple Magnetostatic Delay Lines in Microwave Pulse Compression Loops

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A magnetostatic surface wave (MSSW) delay line has been evaluated theoretically and experimentally as a microwave pulse compression filter in an active generation compression loop. The MSSW delay line had a 570 MHz bandwidth (based on the half pulse width), centered at 2.9 GHz, with 53 nsec of delay dispersion, for a time-bandwidth product of 30. Measured time-sidelobes were 15.8dB below the main pulse with a theoretically predicted peak-to-sidelobe ratio of 19.6dB. Effects of Doppler shifts, delay Iine characteristics, spectral weighting, and FM predistortion were included.

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