

## Insertion Loss of Electronically Variable Magnetostatic Wave Delay Lines

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S.N. Bajpai. "Insertion Loss of Electronically Variable Magnetostatic Wave Delay Lines." 1989 *Transactions on Microwave Theory and Techniques* 37.10 (Oct. 1989 [T-MTT]): 1529-1535.

This paper presents an investigation of insertion loss and constant variable delays in electronically variable magnetostatic volume wave delay lines. The delay line has a conductor-dielectric-YIG-dielectric-conductor structure. Variable delays up to 300 MHz have been obtained in single volume wave delay line by adjusting the direction and magnitude of the biasing dc magnetic field in a plane containing the normal to the YIG film and the direction of wave propagation. Insertion loss as a function of frequency has been obtained for different biasing field angles and also for the angles corresponding to variable constant delays. Comparison of theoretically obtained insertion loss has been made with experimental results, and good agreement is found. Electronically variable magnetostatic wave delay lines have promising applications in broad-band phased array antennas at 1-20 GHz frequencies.

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