

# Abstracts

## A Dual-Mode Latching Reciprocal Ferrite Phase Shifter (Dec. 1970 [T-MTT])

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C.R. Boyd, Jr.. "A Dual-Mode Latching Reciprocal Ferrite Phase Shifter (Dec. 1970 [T-MTT])." 1970 Transactions on Microwave Theory and Techniques 18.12 (Dec. 1970 [T-MTT] (1970 Symposium Issue)): 1119-1124.

A ferrite phase shifter has been developed to provide latching reciprocal phase shift over a moderate frequency band. The principle of operation is based on the use of dual-mode circularly polarized waves in the active ferrite with nonreciprocal polarizers to select modes that provide reciprocal transmission phase. The physical structure of the phase shifter consists of a metallized assembly of ferrite and ceramic dielectric. A ferrite yoke is fitted over a portion of this assembly to permit latching operation. The completed phase shifter has a very simple geometry that can be produced at low cost and has relatively low insertion loss. The maximum cross-sectional dimensions are small and are consequently compatible with application in two-dimensional electronically scanned arrays. Experimental results are presented for an X-band design having a 10-percent bandwidth centered near 9 GHz.

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