

Abstracts

A Precision Analog Duplexing Phase Shifter

C.R. Boyd and G. Klein. "A Precision Analog Duplexing Phase Shifter." 1972 G-MTT International Microwave Symposium Digest of Technical Papers 72.1 (1972 [MWSYM]): 248-250.

Ferrite phase shifters have long been employed in high power, analog control applications. However, the control characteristics of most of these structures have left much to be desired. The suppressed-rotation (Reggia-Spencer) type unit is a typical example; although it is simple to build, this geometry suffers from excessive temperature drift and frequency dispersion. Also, the phase shift vs. coil current characteristic depends intimately on the magnetization curve of the particular piece of ferrite used, and large hysteresis effects are generally experienced, further complicating the problem of accurate control. Finally, the mechanical configuration of a rod suspended in a waveguide makes removal of large amounts of dissipated rf energy difficult at best.

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