Abstracts

Control of a GaAs Monolithic Ka-Band Phase Shifter Using a High-Speed Optical Interconnect (Short Papers)

K.B. Bhasin, P.C. Claspy, M.A. Richard, R.R. Romanofsky, M. Bendett, G. Gustafson and W. Walters. "Control of a GaAs Monolithic Ka-Band Phase Shifter Using a High-Speed Optical Interconnect (Short Papers)." 1990 Transactions on Microwave Theory and Techniques 38.5 (May 1990 [T-MTT] (Special Issue on Applications of Lightwave Technology to Microwave Devices, Circuits, and Systems)): 686-688.

The use of a high-speed optical interconnect in the control of a Ka-band GaAs monolithic phase shifter is described. A 16 b serial control signal was used to modulate the output of a laser transmitter, and the transmitted optical signal was detected and demultiplexed into 16 parallel electrical outputs using a high-speed hybrid GaAs optoelectronic integrated circuit (OEIC). Four of the parallel output lines were interfaced to the 4 b phase shifter, and high-speed, optically controlled switching of the phase shifter was observed at clock frequencies to 30 MHz using an interferometric technique.

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