Abstracts

Multiple output photonic RF phase shifters for optically controlled radar systems

H. Fetterman, Jeehoon Han, Hua Zhang, H. Erlig, D. Chang, Min-Cheol Oh and W. Steier. "Multiple output photonic RF phase shifters for optically controlled radar systems." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1937-1940 vol.3.

Photonic RF phase shifters with independent multiple outputs have been fabricated using our novel polymer modulator technology. These integrated planar devices incorporated low crosstalk optical waveguide crossings, which were critical to the independent operation of RF phase outputs. The measured RF phase shift characteristics at 20 GHz were approximately linear up to /spl sim/150/spl deg/ with respect to DC control voltages. Also new systems, currently being developed, will provide more linear transfer function for the RF phase and relatively constant amplitude with four outputs. Compact optically controlled antenna systems based on this technology are presented.

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