Abstracts

Ultrawide-band fiber-optic control of a millimeter-wave transmit beamformer

D.A. Tulchinsky and P.J. Matthews. "Ultrawide-band fiber-optic control of a millimeter-wave transmit beamformer." 2001 Transactions on Microwave Theory and Techniques 49.7 (Jul. 2001 [T-MTT]): 1248-1253.

An ultrawide-band fiber-optic true time-delay millimeter-wave array transmitter is fully characterized and demonstrated in this paper. The beamformer is based on dispersive-prism optical-delay lines and exhibits squint-free /spl plusmn/60/spl deg/ steering in azimuth across the entire Ka-band (26.5-40 GHz). This is believed to be the first fully functioning demonstration of a photonically controlled wide-band millimeter-wave transmitter system.

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