Abstracts

Range demonstration of an ultrawideband, fiber-optic, array transmitter with dynamic null steering

P.J. Matthews, J.B. Medberry, Pao-Lo Liu and R.D. Esman. "Range demonstration of an ultrawideband, fiber-optic, array transmitter with dynamic null steering." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1109-1112 vol.3.

A novel technique for dynamically forming and steering ultrawideband nulls in the far-field pattern of a time-steered array antenna is demonstrated. The transmitter system is based upon a fiber-optic dispersive prism design which generates an ultrawideband transmit beam as well as the required nulling waveform which is then properly time-steered. A four-element system is demonstrated in a compact antenna range showing null depths in excess of 15 dB over the 4 to 18 GHz bandwidth of the system for various main beam and null steering angles.

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