Abstracts

Optically Controlled Generation and True-Time-Delay Phase-Shifts of Broad-Band 60-GHz Signals

S.-L.L. Huang, C.H. Lee and H.-L.A. Hung. "Optically Controlled Generation and True-Time-Delay Phase-Shifts of Broad-Band 60-GHz Signals." 1993 Microwave and Guided Wave Letters 3.2 (Feb. 1993 [MGWL]): 42-44.

A new technique of generating true-time-delay phase shifts of broad-band microwave and millimeter-wave signals through optical control has been demonstrated. Continuous and precise phase shift with a range of 360° has been achieved without millimeter-wave signal loss. The microwave/millimeter-wave circuit and the optic-electronic intermixing structure can be monolithically integrated. Optical fiber distribution of the picosecond triggering pulses could be applied. The potential applications of this optical control technique are in phased-array radar and satellite-borne communication systems.

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