Abstracts

A 360/spl deg/ retrodirective self-oscillating mixer array [using HEMTs]

D.M.K. Ah Yo, W.E. Forsyth and W.A. Shiroma. "A 360/spl deg/ retrodirective self-oscillating mixer array [using HEMTs]." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 813-816.

A 360/spl deg/ retrodirective self-oscillating mixer (SOM) array is presented. The structure is composed of a 96-element transistor grid conformed around a cylindrical dielectric core. The three-dimensional architecture allows for retrodirectivity over a larger range of incident angles compared to planar retrodirective arrays. Use of the SOM's free-running oscillation signal eliminates the need for an external LO. Experimental results at C-band confirm retrodirectivity of source beams incident at angles of 0/spl deg/, 20/spl deg/, -25/spl deg/ and -160/spl deg/ in the H-plane.

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