Abstracts

Quasi-Optical Traveling Wave Amplifiers

A. Alexanian, H.-S. Tsai and R.A. York. "Quasi-Optical Traveling Wave Amplifiers." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 1115-1118.

Previously reported quasi-optical amplifier arrays have limited bandwidth and suffer from poor input/output isolation. These problems can be solved by using traveling wave antennas and distributed amplifier techniques. FDTD simulations of a linearly tapered slot array topology demonstrate very broadband quasi-optical transitions are feasible with small unit-cell aperture. Experiments using a single-element low frequency prototype exhibit a 50% fractional bandwidth at 3.5GHz using Vivaldi-type slots and a hybrid microstrip MESFET TWA circuit.

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