DESCRIPTION

A detailed and timely overview of recent developments in active quasi-optical arrays

In recent years, active quasi-optics has emerged as one of the most dynamic fields of contemporary research—a highly unconventional approach to microwave and millimeter-wave power generation that integrates solid-state devices into a single quasi-optical component in which all devices operate in unison. This book defines and describes active quasi-optical arrays, reviews the current state of the art, and answers numerous basic and technical questions on the design, analysis, and application of these devices.

The contributors to this volume are leading researchers in the field who present results and views from government, industrial, and university laboratories and offer a balanced discussion on a high technical level. They also offer insight into the applicability and commercial value of this technology for military systems, manufacturing processes, communications, and consumer products. Topics presented include:

* Analysis and design methodologies for quasi-optical active arrays
* Power-added and power-combining efficiencies of quasi-optical amplifier arrays
* Phase-shifterless beam steering in oscillator and amplifier arrays
* Integrating quasi-optical active components into a compact subsystem
* Design and fabrication of quasi-optical oscillators, amplifiers, multipliers, and tuners
* Characterization and measurement of quasi-optical components

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