DESCRIPTION

A comprehensive guide to the latest in phased array antenna analysis and design--the Floquet modal based approach

This comprehensive book offers an extensive presentation of a new methodology for phased array antenna analysis based on Floquet modal expansion. Engineers, researchers, and advanced graduate students involved in phased array antenna technology will find this systematic presentation an invaluable reference.

Elaborating from fundamental principles, the author presents an in-depth treatment of the Floquet modal based approach. Detailed derivations of theorems and concepts are provided, making Phased Array Antennas a self-contained work. Each chapter is followed by several practice problems. In addition, numerous design examples and guidelines will be found highly useful by those engaged in the practical application of this new approach to phased array structures.

Broadly organized into three sections, Phased Array Antennas covers:

* The development of the Floquet modal based approach to the analysis of phased array antennas
* Application of the Floquet modal based approach to important phased array structures
* Shaped beam array synthesis, array beam forming networks, active phased array systems, and statistical analysis of phased arrays
Incorporating the most recent developments in phased array technology, Phased Array Antennas is an essential resource for students of phased array theory, as well as research professionals and engineers engaged in the design and construction of phased array antennas.

ABOUT THE AUTHOR

ARUN K. BHATTACHARYYA, PhD, is a recognized expert in the field of array antennas. A fellow of the IEEE, his array analysis software and innovative array element designs have been implemented in several aerospace and satellite industries. He has published over ninety research papers in IEEE, IEE, and other international journals and proceedings, and holds ten patents. He is a recipient of several honors and awards including the Hughes Technical Excellence Award, Boeing Special Invention Award, Boeing patent awards and a Boeing technical fellowship. At present he is with Northrop Grumman Space Technology and holds a senior-grade scientist position. His previous works include *Electromagnetic Fields in Multilayered Structures: Theory and Applications*.

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