1. Record Nr. UNINA9910254214003321

Autore	Yaduvanshi Rajveer S
Titolo	Rectangular Dielectric Resonator Antennas [[electronic resource]] : Theory and Design / / by Rajveer S. Yaduvanshi, Harish Parthasarathy
Pubbl/distr/stampa	New Delhi : , : Springer India : , : Imprint : Springer, , 2016
ISBN	81-322-2500-7
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (378 p.)
Disciplina	620
Soggetti	Microwaves Optical engineering Electrical engineering Lasers Photonics Microwaves, RF and Optical Engineering Communications Engineering, Networks Optics, Lasers, Photonics, Optical Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Rectangular DRA fundamental background -- Rectangular DRA resonant modes and sources -- Mathematical analysis of Rectangular DRA -- Mathematical analysis of transcendental equation in rectangular DRA.- Mathematical analysis of RDRA amplitude coefficients -- Mathematical analysis of radiation pattern of RDRA -- Rectangular DRA higher order modes and experimentations -- RDRA in input angular excitation mathematical model and resonant modes -- Sensitivity Analysis Rectangular DRA -- Hybrid modes in RDRA -- Inhomogeneous permittivity, permeability and conductivity solution in rectangular DRA -- Case Study 1-Structure and hardware experimentations -- Case Study 2-RDRA with manganese- manganese material as dielectric -- Case Study 3-Dual feed RDRA hardware and measurements -- Case Study 4-Isolated and Grounded RDRA -- Annexure 1-Details of Dielectric materials and their suppliers -- Annexure 2-Two dimensional mathematical model of resonant modes in cavity resonator -- Annexure 3-Design steps of RDRA using A.D.S

software -- Annexure 4-Resonating Modes in Rectangular Resonators -- Annexure 5-Resonant mode generation and control in RDRA -- Annexure 6-Cartesian, cylindrical and spherical coordinate system -- References -- Index Terms.

Sommario/riassunto

This book covers resonating modes inside device and gives insights into antenna design, impedance and radiation patterns. It discusses how higher-order modes generation and control impact bandwidth and antenna gain. The text covers new approaches in antenna design by investigation hybrid modes, H_Z and E_Z fields available simultaneously, and analysis and modelling on modes with practical applications in antenna design. The book will be prove useful to students, researchers and professionals alike.