

1. Record Nr.	UNISA996212468103316
Autore	Pregla Reinhold
Titolo	Analysis of electromagnetic fields and waves [[electronic resource]] : the method of lines // Reinhold Pregla ; with the assistance of Stefan Helfert
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : J. Wiley & Sons/Research Studies Press, c2008
ISBN	1-282-34623-7 9786612346231 0-470-05850-1 0-470-05851-X
Descrizione fisica	1 online resource (523 p.)
Collana	RSP ; ; v.21
Altri autori (Persone)	HelfertStefan
Disciplina	530.14/1 530.141
Soggetti	Electromagnetic devices - Mathematical models Electromagnetism - Mathematics Differential equations, Partial - Numerical solutions
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	Analysis of Electromagnetic Fields and Waves; Contents; D EQUIVALENT CIRCUITS FOR DISCONTINUITIES; Preface; 1 THE METHOD OF LINES; 1.1 INTRODUCTION; 1.2 MOL: FUNDAMENTALS OF DISCRETISATION; 1.2.1 Qualitative description; 1.2.2 Quantitative description of the discretisation; 1.2.3 Numerical example; 2 BASIC PRINCIPLES OF THE METHOD OF LINES; 2.1 INTRODUCTION; 2.2 BASIC EQUATIONS; 2.2.1 Anisotropicmaterial parameters; 2.2.2 Relations between transversal electric and magnetic fields - generalised transmission line (GTL) equations; 2.2.3 Relation to the analysis with vector potentials 2.2.4 GTL equations for 2D structures2.2.5 Solution of the GTL equations; 2.2.6 Numerical examples; 2.3 EIGENMODES IN PLANAR WAVEGUIDE STRUCTURES WITH ANISOTROPIC LAYERS; 2.3.1 Introduction; 2.3.2 Analysis equations for eigenmodes in planar structures; 2.3.3 Examples of system equations; 2.3.4 Impedance/admittance transformation in multilayered structures; 2.3.5

System equation in transformed domain; 2.3.6 System equation in spatial domain; 2.3.7 Matrix partition technique: two examples; 2.3.8 Numerical results; 2.4 ANALYSIS OF PLANAR CIRCUITS
2.4.1 Discretisation of the transmission line equations
2.4.2 Determination of the field components; 2.5 FIELD AND IMPEDANCE/ADMITTANCE TRANSFORMATION; 2.5.1 Introduction; 2.5.2 Impedance/admittance transformation in multilayered and multisectioned structures; 2.5.3 Impedance/admittance transformation with finite differences; 2.5.4 Stable field transformation through layers and sections; 3 ANALYSIS OF RECTANGULAR WAVEGUIDE CIRCUITS; 3.1 INTRODUCTION; 3.2 CONCATENATIONS OF WAVEGUIDE SECTIONS; 3.2.1 LSM and LSE modes in circular waveguide bends; 3.2.2 LSM and LSE modes in straight waveguides
3.2.3 Impedance transformation at waveguide interfaces
3.2.4 Numerical results for concatenations; 3.2.5 Numerical results for waveguide filters; 3.3 WAVEGUIDE JUNCTIONS; 3.3.1 E-plane junctions; 3.3.2 H-plane junctions; 3.3.3 Algorithm for generalised scattering parameters; 3.3.4 Special junctions: E-plane 3-port junction; 3.3.5 Matched E-plane bend; 3.3.6 Analysis of waveguide bend discontinuities; 3.3.7 Scattering parameters; 3.3.8 Numerical results; 3.4 ANALYSIS OF 3D WAVEGUIDE JUNCTIONS; 3.4.1 General description; 3.4.2 Basic equations
3.4.3 Discretisation scheme for propagation between A and B
3.4.4 Discontinuities; 3.4.5 Coupling to other ports; 3.4.6 Impedance/admittance transformation; 3.4.7 Numerical results; 4 ANALYSIS OF WAVEGUIDE STRUCTURES IN CYLINDRICAL COORDINATES; 4.1 INTRODUCTION; 4.2 GENERALISED TRANSMISSION LINE (GTL) EQUATIONS; 4.2.1 Material parameters in a cylindrical coordinate system; 4.2.2 GTL equations for z-direction; 4.2.3 GTL equations for -direction; 4.2.4 Analysis of circular (coaxial) waveguides with azimuthally-magnetised ferrites and azimuthally magnetised solid plasma
4.2.5 GTL equations for r-direction

Sommario/riassunto

The Method of Lines (MOL) is a versatile approach to obtaining numerical solutions to partial differential equations (PDEs) as they appear in dynamic and static problems. This method, popular in science and engineering, essentially reduces PDEs to a set of ordinary differential equations that can be integrated using standard numerical integration methods. Its significant advantage is that the analysis algorithms follow the physical wave propagation and are therefore efficient. This is because the fields on the discretisation lines are described by generalised transmission line (GTL) equations.

2. Record Nr.	UNINA9910404084903321
Autore	Makris Dimitris
Titolo	Polyphenolic Antioxidants from Agri-Food Waste Biomass
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2020
ISBN	3-03928-675-7
Descrizione fisica	1 online resource (168 p.)
Soggetti	Biology, life sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>The re-use of industrial food residues is essential in the general framework of rational waste handling and recycling, which aims at the minimizing environmental impact of food production and producing functional food ingredients. Agri-food processing waste has long been considered a valuable biomass with a significant polyphenol load and profile. Polyphenols, aside from being powerful antioxidants that confer inherent stability to a variety of foods, may possess versatile bioactivities including anti-inflammatory and chemopreventive properties. The valorization of agri-food waste as a prominent source of polyphenols stems from the enormous amount of food-related material discharged worldwide and the emerging eco-friendly technologies that allow high recovery, recycling, and sustainable use of these materials. This book addresses the concept of recovering natural polyphenolic antioxidants from waste biomass generated by agri-food and related industrial processes and presents state-of-the-art applications with prospect in the food, cosmetic, and pharmaceutical industries.</p>