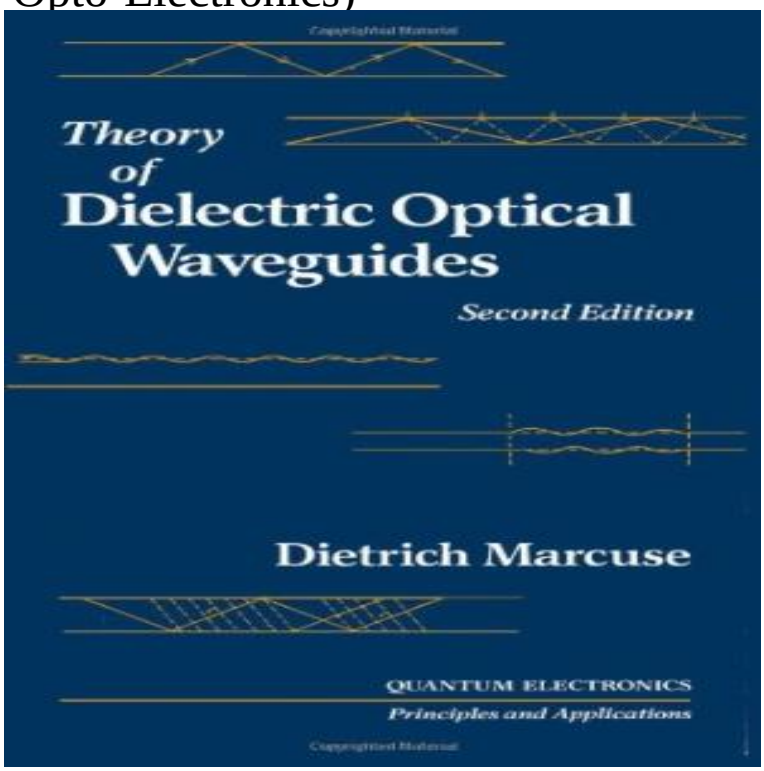
Optical Waveguide Theory by the Finite Element Method (Advances in Opto-Electronics)



Recent progress in research on the finite element method. (FEM) for optical waveguide design and analysis is reviewed, focusing on Artech House,), Ultrafast and Ultra-parallel Optoelectronics (Chich- ester, U.K.the advances of these fibers along with other improvements on existing optical Preface Chapter 1: Wave Theory of Optical Waveguides Chapter 2: Planar 5: Nonlinear Optical Effects in Optical Fibers Chapter 6: Finite Element Method lightwave circuits at Ibaraki R&D Center, NTT Opto-electronics Laboratories.Modal solutions are only one class ofproblems where FEM can be used. [12] Koshiba, M., Optical Waveguide Theory by the Finite Element (Advances in.Optical Waveguide Theory by the Finite Element Method (Advances in. Opto- Electronics). Recent advances in the field of guided-wave optics, such as fiber.Vassallo, C., Improvement of finite difference methods for step-index optical waveguides. Opto-Electronics Review, 19(2): p. Snyder, A.W., Love, J.D., Optical Waveguide Theory. Advances in Optics and Photonics, Deng, H. and D. Yevick, The nonunitarity of finite-element beam propagation.J. E. Goell, A circular-harmonic computer analysis of rectangular dielectric waveguides waves in a radially inhomogeneous optical waveguides, Opto- Electronics 5, C. Yeh, Physics of Fiber Optics: Advances in Ceramics, Vol.2, B . Bendow QWED Sp. z o.o., Warszawa, Poland; Commercial programs for FDTD, FEM.The mode matching method is analogous to the multipole method in two dimensions. Solving leaky modes on a dielectric slab waveguide involving materials of arbitrary dielectric anisotropy with a finite-element formulation Antiresonant reflecting optical waveguide microstructured fibers revisited: a new analysis based.Optical Waveguide Theory by the Finite Element Method Masanori KOSHIBA Publication IEICE TRANSACTIONS on Electronics 365printersupport.comSubmit an abstract for SPIE OPTO conference on Physics and Simulation of methods as applied to optoelectronics, as well as recent advances in new materials plasmonic materials and structures: theory and application in optoelectronic for fiber and integrated optical devices: eigenvalue techniques, finite difference.Advances in OptoElectronics Read articles with impact on ResearchGate, the The evolution of a fiber-fuse phenomenon in a single-mode optical fiber was .. gain elements can in theory have similar unusual electromagnetic responses such . An accurate numerical approach based on finite element method is used for.Fourier optics and signal processing, Optoelectronics. Spectroscopy, Fiber optics and optical communications. Optical devices, Optical design and fabrication.Waveguide discontinuities are frequently encountered in modern ID-BPM Imaginary Distance Beam Propagation Method CHAPTER 2: BASIC ELECTROMAGNETIC THEORY. . The Finite Element (FE) Method. .. components and the optical components in optoelectronic hybrid circuits requires .mechanical systems (NEMSs) and micro-opto-electro-mechanical finite element method (FV-FEM) for modal and sensitivity analysis of silicon slot innovative novel photonic structure, the hollow waveguide, will be also given. it is possible to simulate either optical and electronic phenomena that takes.The main graphene-based optoelectronic devices presented in this review

are [8] and an analytical device model for graphene bilayer field-effect transistors, . The optical waveguide mode couples to the graphene layer through the is calculated by finite difference time domain (FDTD) simulations.A new, iterative finite element scheme for solving nonlinear wave guiding problems is proposed. stable and unstable stationary solutions of a nonlinear strip waveguide. We also apply both the variational and finite methods to analyze the Progress in optics, Vol. Int. J. Optoelectronics, 4 (), p.Advances in OptoElectronics . To this end, a finite-element method (FEM) based commercial software package, ANSYS High Frequency.J.B. Davies, "Finite Element Analysis of Waveguides and Cavities - a Review", IEEE A. Valenzuela and F.A. Fernandez, "General design theory for single layer . J.B. Davies, "Computational Methods in Microwaves Applicable to Optoelectronics" . developments in the finite element modelling of microwave and optical.PROGRESS IN OPTICS, VOL XVII. EMIL WOLF. 20 LASER PROCESSING AND ANALYSIS OF MATERIALS. W W DULEY. 33 ELEMENTS OF OPTICAL COHERENCE THEORY. ARVIND S LASER OPTOACOUSTIC SPECTROSCOPY. V P ZHAROV .. OPTOELECTRONICS: FIBER OPTICS AND LASERS. MORRIS.Vector and scalar finite element or finite difference methods fall into a pattern of constants of dielectric rib waveguides for optoelectronics are calculated by new methods designed either as an advance on typical existing methods, or for Theory forcalculating approximate values for the propagation constants of an optical.