Directions in Electromagnetic Wave Modeling #1992 #Springer US, 1992 #560 pages #H. Bertoni, L.B. Felsen #9780306440236

Part one covers fundamentals of electromagnetic wave propagation, radiation, and scattering. It provides ample end-of-chapter problems and offers a 90-page solution manual to help readers check and comprehend their work. The second part of the book explores up-to-date applications of electromagnetic wavesâ€"including radiometry, geophysical remote sensing and imaging, and biomedical and signal processing applications. Written by a world renowned authority in the field of electromagnetic research, this new edition of Electromagnetic Wave Propagation, Radiation, and Scattering: From Fundamentals t Ari Sihvola is Professor of Electromagnetics at Helsinki University of Technology with research interests in electromagnetic theory, complex media, materials modelling, remote sensing, and radar applications. He is Vice-Chairman of the Finnish National Committee of URSI (International Union of Radio Science) and served as the Secretary of the 22nd European Microwave Conference, held in August 1992 in Espoo, Finland.Â Product Dimensions : 6.14 x 0.69 x 9.21 inches. Language: : English. Best Sellers Rank: #1,698,702 in Books (See Top 100 in Books). #1,093 in Electromagnetism (Books). #1,323 in Materials Science (Books). Customer Reviews: 4.3 out of 5 stars 2 ratings. Characteristics of Electromagnetic Wave. Electromagnetic waves are transverse in nature. The electric and magnetic field are perpendicular to each other. Accelerated charges produce electromagnetic waves. These waves travel at a constant velocity of 3 x 108 m/s in a vacuum. Electromagnetic waves do not require a medium to travel. The frequency of the wave remains unchanged but wavelength changes when it travels from one medium to another. It follows the law of superposition.Â The electric energy is equal to the magnetic energy in electromagnetic waves. The Poynting vector represents the energy transferred by electromagnetic waves per unit area. Q1: Electromagnetic waves are produced by. A static charge. An accelerated charge. Electromagnetic Modeling in Accelerator Designs. Pages 229-238. Cooper, Richard K. (et al.)Â Bibliographic Information. Book Title. Directions in Electromagnetic Wave Modeling. Editors. H. Bertoni. View Electromagnetic Waves Research Papers on Academia.edu for free.Â By manipulating the periodicity of the dielectric cylinders, it is possible to achieve the required dielectric map and therefor the propagate direction of the electromagnetic waves. The scattering reduction effects of the cloak are verified through both simulation and experiment from 7 GHz to 9 GHz with the incidence of an open-end waveguide.