Small Antennas:Miniaturization Techniques Applications

John Volakis, Chi-Chih Chen, Kyohei Fujimoto
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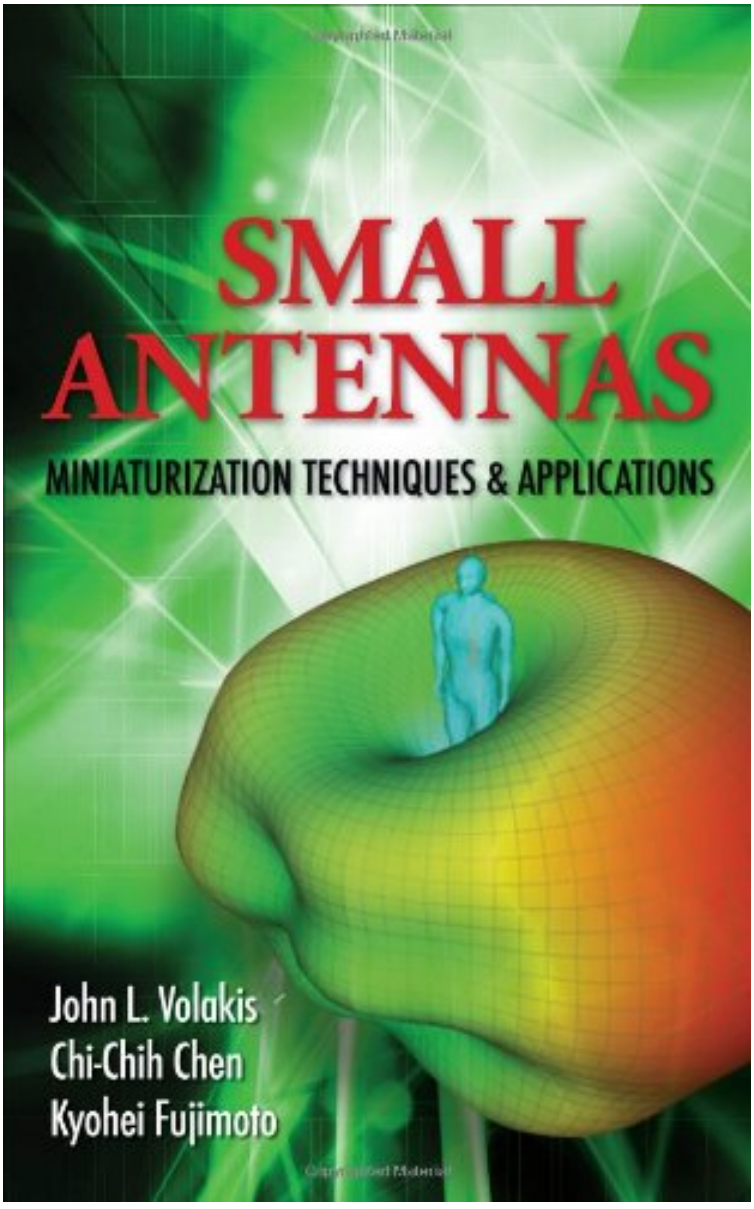

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recently appeared in the literature.However, this is an introductory text on Small antennas and not the antenna theory. For the latter, Balanis' Antenna theory is the standard text.2 of 2 people found the following review helpful. Miniaturization Techniques Applications I could easily designed and understand my antennasBy John GibsonThis book was very helpful for the research I am doing right now with Electronically Small Antennas (ESA). The break down of the work of Chu and Thai helped also. Using the combination of Balanis's Antenna Theory and Small Antennas: Miniaturization Techniques Applications I could easily designed and understand my antennas. I recommend this to researchers/engineers who didn't know there was a difference once the size is reduce much smaller than the wavelength of its operating frequency.

Next-generation small antenna design techniques This authoritative text provides the most up-to-date methods on the theory and design of small antennas, including an extensive survey of small antenna literature published over the past several years. Written by experts at the forefront of antenna research, Small Antennas: Miniaturization Techniques Applications begins with a detailed presentation of small antenna theory--narrowband and wideband--and progresses to small antenna design methods, such as materials and shaping approaches for multiband and wideband antennas. Generic miniaturization techniques are presented for narrowband, multiband, and wideband antennas. Two chapters devoted to metamaterials antennas and methods to achieve optimal small antennas, as well as a chapter on RFID technologies and related antennas, are included in this comprehensive volume. Coverage includes: Small antenna theory and optimal parameters Theory and limits of wideband electrically small antennas Extensive literature survey of small antenna designs Practical antenna miniaturization approaches Conformal wideband antennas based on spirals Negative refractive index (NRI) metamaterial and electromagnetic band gap (EBG) based antennas Small antennas based on magnetic photonic and degenerate band edge crystals Impedance matching for small antennas using passive and active circuits RFID antennas and technology

From the PublisherDescribes some of the more up-to-date developments in the design of small antennas from both the analytical and practical aspects, taking as examples the discretely- and continuously-loaded wire antennas. Discusses the principles of small antenna design and examines analytically the performance of small antennas when affixed onto real-life objects. Coverage encompasses applications and requirements for small and low-profile antennas, fundamental principles associated with small antenna design--particularly bandwidth and efficiency requirements, types of wire antennas (with and without discrete loadings, either passive or active), an alternative method of loading to give height reduction, performance of antennas located on or near real size objects, and much more. Includes a user's guide to small antenna types now available. Illustrated.About the AuthorJohn L. Volakis, Ph.D., is Dean of Engineering Computing and Professor of Electrical Computer Engineering at Florida International University (FIU). Previously, he was the Chope Chair Professor in the Electrical and Computer Engineering Department at The Ohio State University and Director of the ElectroScience Laboratory. He is the editor-in-chief of McGraw-Hill's Antenna Engineering Handbook.Chi-Chih Chen, Ph.D., is a research scientist at the ElectroScience Laboratory and an adjunct assistant professor of the Electrical and Computer Engineering Dept. of the Ohio State University.Kyohei Fujimoto is a professor emeritus at the University of Tsukuba, Japan, and consulting professor at Northwestern Polytechnic University, China.