

1. Record Nr.	UNINA9910965961603321
Autore	Roach G. F (Gary Francis)
Titolo	Mathematical analysis of deterministic and stochastic problems in complex media electromagnetics // G.F. Roach, I.G. Stratis, A.N. Yannacopoulos
Pubbl/distr/stampa	Princeton, : Princeton University Press, 2012
ISBN	1-68015-903-8 1-283-43978-6 9786613439789 1-4008-4265-4
Edizione	[Course Book]
Descrizione fisica	1 online resource (400 p.)
Collana	Princeton series in applied mathematics
Altri autori (Persone)	Stratisl. G <1955-> (Ioannis G.) YannacopoulosA. N <1968-> (Athanasios N.)
Disciplina	537.01/519
Soggetti	Electromagnetism - Mathematics Stochastic control theory Mathematical analysis
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	pt. 1. Modelling and mathematical preliminaries -- pt. 2. Time-harmonic deterministic problems -- pt. 3. Time-dependent deterministic problems -- pt. 4. Stochastic problems -- pt. 5. Appendices.
Sommario/riassunto	Electromagnetic complex media are artificial materials that affect the propagation of electromagnetic waves in surprising ways not usually seen in nature. Because of their wide range of important applications, these materials have been intensely studied over the past twenty-five years, mainly from the perspectives of physics and engineering. But a body of rigorous mathematical theory has also gradually developed, and this is the first book to present that theory. Designed for researchers and advanced graduate students in applied mathematics, electrical engineering, and physics, this book introduces the electromagnetics of complex media through a systematic, state-of-the-art account of their mathematical theory. The book combines the study of well posedness, homogenization, and controllability of

Maxwell equations complemented with constitutive relations describing complex media. The book treats deterministic and stochastic problems both in the frequency and time domains. It also covers computational aspects and scattering problems, among other important topics. Detailed appendices make the book self-contained in terms of mathematical prerequisites, and accessible to engineers and physicists as well as mathematicians.
