

1. Record Nr.	UNINA9910828806903321
Autore	Henriksen R. N.
Titolo	Scale invariance : self-similarity of the physical world // Richard N. Henriksen
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH, , 2015 ©2015
ISBN	3-527-68735-1 3-527-68734-3 3-527-68733-5
Descrizione fisica	1 online resource (301 p.)
Disciplina	530.1595
Soggetti	Scaling laws (Statistical physics) Self-similar processes Statistical mechanics
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 at the end of each chapters and index.
Nota di contenuto	<p>""Cover ""Contents ""Preface "";</p> <p>""Acknowledgments ""; ""Introduction "";</p> <p>""Chapter 1 Arbitrary Measures of the Physical World</p> <p>""; ""1.1 Similarity ""; ""1.2 Dimensional Similarity</p> <p>""; ""1.3 Physical Equations and the 'Pi' Theorem</p> <p>""; ""1.4 Applications of the Pi Theorem ""</p> <p>""1.4.1 Plane Pendulum """"1.4.2 Pipe Flow of a Fluid</p> <p>""; ""1.4.3 Steady Motion of a Rigid Object in Viscous 'Fluid'</p> <p>""; ""1.4.4 Diffusion and Self-Similarity "";</p> <p>""1.4.5 Ship Wave Drag ""; ""1.4.6 Adiabatic Gas Flow</p> <p>""; ""1.4.7 Time-Dependent Adiabatic Flow ""</p> <p>""1.4.8 Point Explosion in a Gaseous Medium</p> <p>""""1.4.9 Applications in Fundamental Physics</p> <p>""; ""1.4.10 Drag on a Flexible Object in Steady Motion</p> <p>""; ""1.4.11 Dimensional Analysis of Mammals</p> <p>""; ""1.4.12 Trees ""; ""References ""; ""Chapter 2</p> <p>Lie Groups and Scaling Symmetry ""</p>

""2.1 The Rescaling Group
Physical Objects
the Buckingham Pi Theorem
""2.1.3 Rescaling and Self-Similarity as a Lie Algebra
""; ""2.1.4 Practical Lie Self-Similarity
Familiar Physical Examples
""3.2.1 Self-Similar Lorentz Boost

""""2.1.1 Rescaling
""; ""2.1.2 Reconciliation with
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""; ""2.2
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2. Record Nr.	UNINA9910826058003321
Autore	Bourlier Christophe
Titolo	Method of moments for 2d scattering problems : basic concepts and applications // Christophe Bourlier, Nicolas Pinel, Gildas Kubicke
Pubbl/distr/stampa	Hoboken, N.J., : ISTE Ltd/John Wiley and Sons Inc, 2013
ISBN	9781118648681 1118648684 9781118648674 1118648676 9781118648698 1118648692
Edizione	[1st ed.]
Descrizione fisica	1 online resource (162 p.)
Collana	Focus waves series, , 2051-2481
Altri autori (Persone)	PinelNicolas KubickeGildas
Disciplina	530.141
Soggetti	Electromagnetic waves - Scattering - Mathematical models
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	Cover; Title Page; Contents; Preface; Introduction; Chapter 1. Integral Equations For A Single Scatterer: Method Of Moments And Rough Surfaces; 1.1. Introduction; 1.2. Integral equations; 1.2.1. TE and TM polarizations and boundary conditions; 1.2.2. Electric and magnetic currents for a 2D problem; 1.2.3. Huygens' principle and extinction theorem; 1.2.4. Radar cross-section (RCS); 1.2.5. Normalized radar cross-section (NRCS); 1.3. Method of moments with point-matching method; 1.4. Application to a surface; 1.4.1. The Dirichlet boundary conditions; 1.4.2. The Neumann boundary conditions

1.4.3. General case 1.4.4. Impedance boundary condition; 1.5. Forward-Backward (FB) method; 1.6. Random rough surface generation; 1.6.1. Statistical parameters; 1.6.2. Generation of a random profile; 1.6.3. Simulations; 1.6.4. Conclusion; Chapter 2. Validation of the Method of Moments for a Single Scatterer; 2.1. Introduction; 2.2. Solutions of a scattering problem; 2.3. Comparison with the exact solution of a circular cylinder in free space; 2.3.1. Solution of the Helmholtz equation; 2.3.2. Dirichlet boundary conditions; 2.3.3. Neumann boundary conditions; 2.3.4. Dielectric cylinder 2.3.5. MoM for an elliptical cylinder 2.3.6. Numerical comparisons for a circular cylinder; 2.3.7. Conclusion; 2.4. PO approximation; 2.4.1. Formulation; 2.4.2. Applications; 2.4.3. Sea-like surface; 2.5. FB method; 2.6. Conclusion; Chapter 3. Scattering from two Illuminated Scatterers; 3.1. Introduction; 3.2. Integral equations and method of moments; 3.2.1. Integral equations for two scatterers; 3.2.2. Method of moments for two scatterers; 3.2.3. Method of moments for P scatterers; 3.3. Efficient inversion of the impedance matrix: E-PILE method for two scatterers 3.3.1. Mathematical formulation 3.3.2. Numerical results; 3.4. E-PILE method combined with PO and FB; 3.4.1. E-PILE hybridized with FB; 3.4.2. E-PILE hybridized with PO; 3.5. Conclusion; Chapter 4. Scattering from two Scatterers Where Only one is Illuminated; 4.1. Introduction; 4.2. Integral equations and method of moments; 4.2.1. Integral equations; 4.2.2. Method of moments; 4.2.3. Case for which scatterer 2 is perfectly conducting; 4.2.4. Numerical results; 4.3. Efficient inversion of the impedance matrix: PILE method; 4.3.1. Mathematical formulation; 4.3.2. Numerical results 4.4. PILE method combined with FB or PO 4.4.1. PILE hybridized with FB; 4.4.2. PILE hybridized with PO; 4.5. Conclusion; Appendix. Matlab Codes; Bibliography; Index

Sommario/riassunto

Electromagnetic wave scattering from randomly rough surfaces in the presence of scatterers is an active, interdisciplinary area of research with myriad practical applications in fields such as optics, acoustics, geoscience and remote sensing. In this book, the Method of Moments (MoM) is applied to compute the field scattered by scatterers such as canonical objects (cylinder or plate) or a randomly rough surface, and also by an object above or below a random rough surface. Since the problem is considered to be 2D, the integral equations (IEs) are scalar and only the TE (transverse elect

3. Record Nr.	UNINA9910578590803321
Autore	Bruciati Andrea
Titolo	Villae Leonardo e L'Antico : Convegno Di Studi - una Sintesi Introduttiva
Pubbl/distr/stampa	Rome : , : L'Erma di Bretschneider, , 2021 ©2021
Edizione	[1st ed.]
Descrizione fisica	1 online resource (162 pages)
Soggetti	Architecture, Classical Influence (Literary, artistic, etc.)
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book explores Leonardo da Vinci's visit to Emperor Hadrian's Villa in the early 16th century, highlighting its impact on his creative development. Documented by sketches and notes, Leonardo's journey is examined through the lens of his engagement with classical antiquity. The publication is part of the 500th anniversary commemorations of Leonardo's death, featuring insights from a conference that brought together experts in art history, archaeology, and architecture. The book aims to deepen understanding of Leonardo's continued dialogue with ancient art and architecture, offering a comprehensive analysis of his influence by classical elements.