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Autore	Grimes Dale M
Titolo	Photon creation-annihilation [[electronic resource]] : continuum electromagnetic theory // Dale M. Grimes, Craig A. Grimes
Pubbl/distr/stampa	Singapore, : World Scientific Pub. Co., 2012
ISBN	1-280-66986-1 9786613646798 981-4383-37-6
Descrizione fisica	1 online resource (432 p.)
Altri autori (Persone)	GrimesCraig A
Disciplina	539.7217
Soggetti	Photons Electromagnetic theory Photon emission Photon-photon interactions Quantum theory Electronic books.
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	Prelude; Acknowledgments; Contents; Introduction; References; Chapter 1 Classical Electrodynamics; 1.1 Introductory Comments; 1.2 Space and Time Dependence upon Speed; 1.3 Four-Dimensional Space-Time; 1.4 Newton's Laws; 1.5 Electrodynamics; 1.6 The Field Equations; 1.7 Accelerating Charges; 1.8 The Electromagnetic Stress Tensor; 1.9 Kinematic Properties of Fields; 1.10 Wave Equations, Potential Gauges, and Uniqueness; 1.11 A Lemma for Field Calculation; 1.12 The Scalar Differential Equation; 1.13 Radiation Fields in Spherical Coordinates; References; Chapter 2 Properties of Radiation Fields 2.1 Dipoles in Continuous Media Electric Dipole Sources; Magnetic Dipole Sources; Maxwell Source Equations; Boundary Conditions; 2.2 Electromagnetic Fields in Continuous Media; Constitutive Relationships; 2.3 Boxed, Discrete Electromagnetic Fields; 2.4 Q of Time Varying Systems; 2.5 Instantaneous and Complex Power in Fields; 2.6 Time Varying Power in Actual Radiation Fields; 2.7 Comparison of Complex and Instantaneous Powers; 2.8 Traveling Waves; 2.9 Scattering by a

Sphere, General Aspects; 2.10 Scattering Spheres, Specific Examples; References; Chapter 3 Transmitting Biconical Antennas 3.1 Transmitting Biconical Antennas 3.2 Fields; The Exterior Region; The Interior Region; 3.3 TEM Mode; 3.4 Boundary Conditions; 3.5 Defining Integral Equations; 3.6 Solution of the Biconical Antenna Problem; 3.7 Power; References; Chapter 4 Receiving Biconical Antennas; 4.1 Receiving Biconical Antennas; 4.2 Incoming TE Fields; 4.3 Incoming TM Fields; 4.4 Exterior Fields, Powers, and Forces; 4.5 The Cross Sections; 4.6 General Comments; 4.7 Fields of Receiving Antennas; 4.8 Boundary Conditions; 4.9 Zero Degree Solution; 4.10 Non-Zero Degree Solutions; 4.11 Surface Current Densities; 4.12 Power References Chapter 5 Classical-Based Quantum Theory; 5.1 Electrons; 5.2 The Time-Independent Schrodinger Equation; 5.3 The Uncertainty Principle; 5.4 The Time-Dependent Schrodinger Equation; 5.5 Quantum Operators; 5.6 Wave Function Orthogonality; 5.7 Electron Spin; 5.8 Harmonic Oscillators; 5.9 Angular Momentum, Central Force Fields; References; Chapter 6 Quantized Energy Exchanges; 6.1 Blackbody Radiation, Long Wavelength Limit; 6.2 Blackbody Radiation Law Using Energy; 6.3 Blackbody Radiation Law Using Momentum; Damping Product Rv ; Momentum Transfer \vec{p} ; 6.4 The Zero-Point Field 6.5 Coulomb Potential Well 6.6 Hydrogen Atom Eigenfunctions; 6.7 Perturbation Analysis; 6.8 Non-Ionizing Transitions; 6.9 Absorption and Emission of Radiation; 6.10 Dipole Radiation Selection Rules; 6.11 Many-Electron Systems; References; Chapter 7 Matched Multipolar Sources; 7.1 Radiating Electric Dipole; Radiation Q; 7.2 Radiation Reaction Force; Real and Reactive Radiation Reaction Forces; The Dipole Case; 7.3 Stress in a Dipole Radiation Field; 7.4 Pairs of Radiating Multipoles; Directivity; Field Energy; Radiation Q; Linear Momentum; Radiated Angular Momentum 7.5 Characterization of Sums over Matched Modes

Sommario/riassunto

This book provides a classical physics-based explanation of quantum physics, including a full description of photon creation and annihilation, and successful working models of both photons and electrons. Classical field theory, known to fully describe macroscopic scale events, is shown to fully describe atomic scale events, including photon emission and annihilation. As such the book provides a 'top-down' unification of electromagnetic and quantum theories.

2. Record Nr.	UNINA9910790859003321
Autore	DeVito Carl L
Titolo	Science, SETI and mathematics // Carl L. DeVito
Pubbl/distr/stampa	New York : , : Berghahn Books, , 2014
ISBN	1-80073-007-1 1-4619-5258-1 1-78238-070-1
Descrizione fisica	1 online resource (220 p.)
Disciplina	999.01/51 999.0151
Soggetti	Science - Mathematics Extraterrestrial beings
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	Contents; Preface; Chapter 1 - Where Are We?; Chapter 2 - Naive Questions; Chapter 3 - Are We Special?; Chapter 4 - Stories-Part One; Chapter 5 - Measuring Our Solar Neighborhood; Chapter 6 - The Scotsman; Chapter 7 - The Birth of SETI; Chapter 8 - The Conference at Green Bank; Chapter 9 - Stories-Part Two; Chapter 10 - Talking to E.T.; Chapter 11 - Languages; Chapter 12 - Paradoxes; Chapter 13 - The Universal Science; Chapter 14 - The Special Theory of Relativity; Chapter 15 - The General Theory of Relativity; Chapter 16 - The University of Colorado Study; Chapter 17 - Surprise! Chapter 18 - Epilogue Appendix I - Infinite Sets; Appendix II - Mars; Appendix III - The DeVito-Oehrle Language; Bibliography; Index
Sommario/riassunto	Mathematics is as much a part of our humanity as music and art. And it is our mathematics that might be understandable, even familiar, to a distant race and might provide the basis for mutual communication. This book discusses, in a conversational way, the role of mathematics in the search for extraterrestrial intelligence. The author explores the science behind that search, its history, and the many questions associated with it, including those regarding the nature of language and the philosophical/psychological motivation behind this search.

3. Record Nr.	UNIORUON00131754
Titolo	Fu xue da cidian
Pubbl/distr/stampa	Shanghai, : Jiuxue shuju, [s.d.]
Descrizione fisica	16 v. ; 23 cm
Classificazione	T.C.D
Lingua di pubblicazione	Cinese
Formato	Materiale a stampa
Livello bibliografico	Monografia
4. Record Nr.	UNINA9910557616503321
Autore	Brent Alan
Titolo	Sustainable Energy Systems: Efficiency and Optimization
Pubbl/distr/stampa	Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022
Descrizione fisica	1 online resource (182 p.)
Soggetti	Research & information: general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book explores how the concepts, methods and tools of systemic analyses have been utilised in various contexts, and at different levels, to improve the efficiency and optimisation of sustainable energy systems.