

1. Record Nr.	UNINA9910451287403321
Autore	Hensley Doug
Titolo	Continued fractions [[electronic resource] /] / Doug Hensley
Pubbl/distr/stampa	Hackensack, N.J., : World Scientific, c2006
ISBN	1-281-91963-2 9786611919634 981-277-468-8
Descrizione fisica	1 online resource (xiii, 245 p.) : ill
Disciplina	512.72
Soggetti	Continued fractions Series Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	# Generalizations of the gcd and the Euclidean Algorithm # Continued Fractions with Small Partial Quotients # Ergodic Theory # Complex Continued Fractions # Multidimensional Diophantine Approximation # Powers of an Algebraic Integer # Marshall Hall's Theorem # Functional-Analytic Techniques # The Generating Function Method # Conformal Iterated Function Systems # Convergence of Continued Fractions
Sommario/riassunto	This text places emphasis on continued fraction Cantor sets and the Hausdorff dimension, algorithms and analysis of algorithms, and multi-dimensional algorithms for simultaneous diophantine approximation. Various computer-generated graphics are presented, and the underlying algorithms are discussed.

2. Record Nr.	UNISA996466843203316
Autore	Carraro Giovanni
Titolo	Astrophysics of the interstellar medium // Giovanni Carraro
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-75293-3
Descrizione fisica	1 online resource (361 pages)
Collana	UNITEXT for Physics Ser.
Disciplina	523.1135
Soggetti	Interstellar matter Materials science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Intro -- Preface -- Contents -- 1 Fundamental Equations for Ideal Fluids -- 1.1 Introduction: Fluids as Continuous Systems -- 1.2 Continuity Equation -- 1.3 Volume Forces and Surface Forces. Stresses -- 1.4 Equation of Motion (Euler Equation) for Ideal Fluids -- 1.5 Conservation of Total Energy and Thermal Energy -- 1.6 Vorticity in Ideal Fluids. Potential Motion -- 1.7 Numerical Solutions of Hydrodynamical Equations -- 1.8 Synthetic Summary -- 2 Acoustic Waves -- 2.1 Acoustic Waves in an Ideal Fluid at Rest -- 2.2 Velocity of Propagation in a Dispersive Medium -- 2.3 Acoustic Waves in a Patchy Medium at Rest -- 2.4 Acoustic Waves in a Gravity-Dominated Medium -- 2.5 Virial Theorem -- 2.6 Gravitational Collapse of a Sphere -- 2.7 Synthetic Summary -- References -- 3 Real Fluids -- 3.1 Transport Phenomena -- 3.2 Thermal Conduction -- 3.3 Internal Friction -- 3.4 Navier-Stokes Equation -- 3.5 Energy Dissipation by Internal Friction -- 3.6 Energy Balance in a Real Fluid -- 3.7 Integration of Equations for a Real Fluid -- 3.8 Case of Fluid with Low Viscosity -- 3.9 Similar Motions -- 3.10 Synthetic Summary -- References -- 4 The Interstellar Medium -- 4.1 Thermal Balance of Interstellar Gas -- 4.2 Thermodynamic State of Interstellar Gas -- 4.3 Cooling Processes -- 4.4 Heating Processes -- 4.5 Thermal Instability -- 4.6 Synthetic Summary -- References -- 5 Shock Waves -- 5.1 Supersonic Motion and Discontinuity -- 5.2 Jump Conditions -- 5.3 Shock Waves -- 5.4

Rankine-Hugoniot Conditions for an Ideal Gas -- 5.5 Shock Waves in the Interstellar Medium -- 5.6 Isothermal Shock: Schematic Discussion -- 5.7 Structure of the Relaxation Layer -- 5.8 Observability of Radiative Shocks -- 5.9 Synthetic Summary -- Reference -- 6 Turbulence -- 6.1 Experimental Aspects of Turbulence -- 6.2 Stability of Stationary Motion and Turbulence Onset. 6.3 Notes on the Statistical Description of Turbulence -- 6.4 General Characteristics of Turbulence -- 6.5 Kolmogorov's Theory -- 6.6 Turbulence of the Interstellar Medium -- 6.7 Synthetic Summary -- References -- 7 Electrodynamics and Magnetohydrodynamics -- 7.1 Plasmas. Debye Screening Length -- 7.2 Plasma Oscillations -- 7.3 A Note on Systems of Measurement Units -- 7.4 Maxwell's Equations -- 7.5 Magnetic Field Equation -- 7.6 Freezing of the Magnetic Field Lines of Force -- 7.7 The Galactic Magnetic Field: Origin and Methods of Measure -- 7.8 Synthetic Summary -- 8 Motion of a Plasma in a Magnetic Field -- 8.1 Expressions of Magnetic Force -- 8.2 Fundamental Equations of Magnetohydrodynamics -- 8.3 Motion of a Plasma with Respect to Magnetic Lines of Force -- 8.4 Virial Theorem -- 8.5 Application of the Virial Theorem -- 8.6 Ambipolar Diffusion -- 8.7 Synthetic Summary -- 9 Magnetohydrodynamic Waves -- 9.1 Classification of MHD Waves -- 9.2 Alfvén Waves -- 9.3 MHD Waves: General Discussion -- 9.4 MHD Waves with Generic Propagation Direction -- 9.5 Waves with Particular Direction of Propagation -- 9.6 Alfvén Waves Attenuation -- 9.7 Excitation of MHD Waves -- 9.8 Magnetohydrodynamic Shock Waves -- 9.9 Synthetic Summary -- 10 Dust from the Interstellar Medium -- 10.1 Introduction -- 10.2 The Extinction of Radiation -- 10.3 Observational Determination of Stellar Extinction -- 10.4 The Extinction Curve of the Diffuse Medium in the Galaxy -- 10.5 Methods for Determining R_V -- 10.6 The Equilibrium Temperature of the Grains -- 10.7 The Temperature of the Small Grains -- 10.8 IR Emission of Galaxies -- 10.9 Synthetic Summary -- 11 HII Regions -- 11.1 Introduction -- 11.2 Ionisation Balance -- 11.3 Energy Balance and Temperature of an HII Region -- 11.4 The Stromgren Sphere -- 11.5 Effect of Dust on the HII Region. 11.6 Evolution of the HII Region in a Homogeneous Medium -- 11.7 Classification of Ionization Fronts -- 11.8 HII Region Expansion -- 11.9 End of Expansion -- 11.10 Expansion of an HII Region in an In-Homogeneous Medium -- 11.11 Radio Frequency Emission -- 11.12 Infrared Emission -- 11.13 Calculation of the Lines of the Balmer Series -- 11.14 HII Regions Excited by a Cluster -- 11.15 Synthetic Summary -- Reference -- 12 Stellar Winds -- 12.1 Introduction -- 12.2 Classification of Winds -- 12.3 Structure and Evolution of a Bubble Produced by a Strong Wind -- 12.4 A Simplified Model for the Radiative Phase -- 12.5 Evolution in Phase D -- 12.6 Observations of the Bubbles -- 12.7 Evolution of the Bubble in an In-Homogeneous Medium -- 12.8 Synthetic Summary -- References -- 13 Supernovae Remnants -- 13.1 Supernovae -- 13.2 SNR Evolution -- 13.2.1 Expansion End -- 13.3 Expansion of a SNR in a Patchy Medium -- 13.3.1 Magnetic Field -- 13.3.2 Relativistic Particles -- 13.3.3 Spherical Symmetry -- 13.4 Models of Evolution in a Patchy Medium -- 13.5 Effects of a SNR on the Interstellar Medium -- 13.6 Superbubbles and Shells -- 13.7 Description of some SNRs -- 13.8 Synthetic Summary -- References -- 14 The Interstellar Medium and Its Components -- 14.1 The Structure of the Interstellar Medium -- 14.2 Neutral Gas Diagnostic Techniques: The Line at 21 cm -- 14.3 The Spiral Structure of the Milky Way -- 14.4 Ionized Gas Diagnostic Techniques -- 14.4.1 Dispersion of Pulsar Signals -- 14.4.2 Recombination Optical Emission -- 14.4.3 Absorption at Low Radio Frequencies -- 14.5 The Hot Component: Coronal Gas --

14.6 The Cold Neutral Component: The Clouds of HI. -- 14.7 The Warm Neutral Component -- 14.8 Synthetic Summary -- References -- 15 Molecular Clouds -- 15.1 Detection of Molecular Gas -- 15.2 Correlation Between CO Emission and Molecular Gas Mass. 15.3 The Distribution of H₂ in the Galaxy -- 15.4 Distribution of H₂ in Other Galaxies -- 15.5 Clouds Classification and Statistical Properties -- 15.6 Mechanical Equilibrium of Molecular Clouds -- 15.7 Why the Clouds Where Stars Form Are Molecular? -- 15.8 Mechanisms of Molecular Cloud Formation -- 15.8.1 Formation of Clouds by the Compression of Ambient Gas Induced by Shock Waves -- 15.8.2 Cloud Formation by Agglomeration of Smaller Clouds. -- 15.8.3 Cloud Formation Through Medium Instability -- 15.8.4 Summary -- 15.9 Synthetic Summary -- References -- 16 Star Formation -- 16.1 Observational Data Related to Star Formation -- 16.2 Star Formation in the Presence of a Magnetic Field -- 16.3 The formation of Low-Mass Stars -- 16.4 Low-Mass Star Formation Scenario -- 16.5 Observational Findings -- 16.6 Synthetic Summary.
