

1. Record Nr.	UNINA9910778824403321
Autore	Venkatachaliengar K
Titolo	Development of elliptic functions according to Ramanujan [[electronic resource] /] / originally by K. Venkatachaliengar ; edited and revised by Shaun Cooper
Pubbl/distr/stampa	Singapore ; ; Hackensack, N.J., : World Scientific, c2012
ISBN	1-280-37754-2 9786613555458 981-4366-46-3
Edizione	[[Rev. ed.].]
Descrizione fisica	1 online resource (185 p.)
Collana	Monographs in number theory, , 1793-8341 ; ; v. 6
Altri autori (Persone)	CooperShaun
Disciplina	515.983
Soggetti	Elliptic functions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Originally published as a Technical Report 2 by Madurai Kamaraj University in February, 1988.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface; Contents; 1. The Basic Identity; 1.1 Introduction; 1.2 The generalized Ramanujan identity; 1.3 The Weierstrass elliptic function; 1.4 Notes; 2. The Differential Equations of P, Q and R; 2.1 Ramanujan's differential equations; 2.2 Ramanujan's 11 summation formula; 2.3 Ramanujan's transcendentals $U_{2n}$ and $V_{2n}$ ; 2.4 The imaginary transformation and Dedekind's eta-function; 2.5 Notes; 3. The Jordan-Kronecker Function; 3.1 The Jordan-Kronecker function; 3.2 The fundamental multiplicative identity; 3.3 Partitions; 3.4 The hypergeometric function ${}_2F_1(1/2, 1/2; 1; x)$ : first method 3.5 Notes 4. The Weierstrassian Invariants; 4.1 Halphen's differential equations; 4.2 Jacobi's identities and sums of two and four squares; 4.3 Quadratic transformations; 4.4 The hypergeometric function ${}_2F_1(1/2, 1/2; 1; x)$ : second method; 4.5 Notes; 5. The Weierstrassian Invariants, II; 5.1 Parameterizations of Eisenstein series; 5.2 Sums of eight squares and sums of eight triangular numbers; 5.3 Quadratic transformations; 5.4 The hypergeometric function ${}_2F_1(1/4, 3/4; 1; x)$ ; 5.5 The hypergeometric function ${}_2F_1(1/6, 5/6; 1; x)$ ; 5.6 The hypergeometric function ${}_2F_1(1/3, 2/3; 1; x)$ 5.7 Notes 6. Development of Elliptic Functions; 6.1 Introduction; 6.2 Jacobian elliptic functions; 6.3 Reciprocals and quotients; 6.4

Derivatives; 6.5 Addition formulas; 6.6 Notes; 7. The Modular Function ; 7.1 Introduction; 7.2 Modular equations; 7.3 Modular equation of degree 3; 7.4 Modular equation of degree 5; 7.5 Modular equation of degree 7; 7.6 Modular equation of degree 11; 7.7 Modular equation of degree 23; 7.8 Notes; Appendix A Singular Moduli; A.1 Notes; Appendix B The Quintuple Product Identity; B.1 Notes; Appendix C Addition Theorem of Elliptic Integrals; Bibliography; Index

Sommario/riassunto

This unique book provides an innovative and efficient approach to elliptic functions, based on the ideas of the great Indian mathematician Srinivasa Ramanujan. The original 1988 monograph of K Venkatachaliengar has been completely revised. Many details, omitted from the original version, have been included, and the book has been made comprehensive by notes at the end of each chapter. The book is for graduate students and researchers in Number Theory and Classical Analysis, as well for scholars and aficionados of Ramanujan's work. It can be read by anyone with some undergraduate knowledge of

2. Record Nr.	UNINA9910974063103321
Autore	Le Bellac Michel
Titolo	Equilibrium and non-equilibrium statistical thermodynamics // Michel Le Bellac, Fabrice Mortessagne and G. George Batrouni
Pubbl/distr/stampa	Cambridge, UK ; ; New York, : Cambridge University Press, 2004
ISBN	1-107-14564-3 0-511-64817-0 0-511-19370-X 0-511-56214-4 0-511-60657-5 0-511-19444-7
Edizione	[1st ed.]
Descrizione fisica	1 online resource (xvi, 616 pages) : digital, PDF file(s)
Altri autori (Persone)	Mortessagne Fabrice <1966-> Batrouni G. George <1956-> (Ghassan George)
Disciplina	536/.7
Soggetti	Thermodynamic equilibrium Irreversible processes Statistical thermodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references (p. 605-610) and index.
Nota di contenuto	Cover; Half-title; Title; Copyright; Contents; Preface; 1 Thermostatistics; 2 Statistical entropy and Boltzmann distribution; 3 Canonical and grand canonical ensembles: applications; 4 Critical phenomena; 5 Quantum statistics; 6 Irreversible processes: macroscopic theory; 7 Numerical simulations; 8 Irreversible processes: kinetic theory; 9 Topics in non-equilibrium statistical mechanics; Appendix; References; Index
Sommario/riassunto	This graduate-level text gives a self-contained exposition of fundamental topics in equilibrium and nonequilibrium statistical thermodynamics. The text follows a balanced approach between the macroscopic (thermodynamic) and microscopic (statistical) points of view. The first half of the book deals with equilibrium thermodynamics and statistical mechanics. In addition to standard subjects, the reader will find a detailed account of broken symmetries, critical phenomena and the renormalization group, as well as an introduction to numerical methods. The second half of the book is devoted to nonequilibrium phenomena, first following a macroscopic approach, with hydrodynamics as an important example. Kinetic theory receives a thorough treatment through analysis of the Boltzmann-Lorentz model and the Boltzmann equation. The book concludes with general nonequilibrium methods such as linear response, projection method and the Langevin and Fokker-Planck equations, including numerical simulations. This advanced textbook will be of interest to graduate students and researchers in physics.