

1. Record Nr.	UNINA9910481015803321
Autore	Goodearl K. R.
Titolo	The complete dimension theory of partially ordered systems with equivalence and orthogonality // K.R. Goodearl, F. Wehrung
Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , [2005] ©2005
ISBN	1-4704-0432-X
Descrizione fisica	1 online resource (134 p.)
Collana	Memoirs of the American Mathematical Society, , 0065-9266 ; ; number 831
Disciplina	510 s 511.3/3
Soggetti	Lattice theory Boolean rings Partial algebras Modules (Algebra) Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Volume 176, number 831 (third of 5 numbers)."
Nota di bibliografia	Includes bibliographical references (pages 111-113) and index.
Nota di contenuto	""Contents""; ""Chapter 1. Introduction""; ""1-1. Background""; ""1-2. Results and methods""; ""1-3. Notation and terminology""; ""Chapter 2. Partial commutative monoids""; ""2-1. Basic results about partial commutative monoids""; ""2-2. Direct decompositions of partial refinement monoids""; ""2-3. Projections of partial refinement monoids""; ""2-4. General comparability""; ""2-5. Boolean-valued partial refinement monoids""; ""2-6. Least and largest difference functions""; ""Chapter 3. Continuous dimension scales""; ""3-1. Basic properties the monoids $Z[\text{sub}(I^3)]$, $R[\text{sub}(I^3)]$, and $2[\text{sub}(I^3)]$ ""; ""3-2. Dedekind complete lattice-ordered groups""; ""3-3. Continuous functions on extremally disconnected topological spaces""; ""3-4. Completeness of the Boolean algebra of projections""; ""3-5. The elements $(p \mid I_{\pm})$ ""; ""3-6. The dimension function $l?$ ""; ""3-7. Projections on the directly finite elements""; ""3-8. Embedding arbitrary continuous dimension scales""; ""3-9. Uniqueness of the canonical embedding""; ""3-10. Continuous

dimension scales which are proper classes"; "Chapter 4. Espaliers";
 "4-1. The axioms"
 "4-2. Purely infinite elements trim sequences"; "4-3. Axiom (M6)";
 "4-4. D-universal classes of espaliers"; "4-5. Existence of large
 constants"; "Chapter 5. Classes of espaliers"; "5-1. Abstract measure
 theory; Boolean espaliers"; "5-2. Conditionally complete, meet-
 continuous, relatively complemented, modular lattices"; "5-3. Self-
 injective regular rings and nonsingular injective modules"; "5-4.
 Projection lattices of W^* - and AW^* -algebras"; "5-5. Concluding
 remarks"; "Bibliography"; "Index"; "A"; "B"; "C"; "D"; "E"; "F";
 "G"; "H"; "I"; "J"; "K"
 "L"; "M"; "N"; "O"; "P"; "R"; "S"; "T"; "U"; "V"; "W"; "X";
 "Z"

2. Record Nr.	UNINA9910720081803321
Autore	Shiraishi Naoto
Titolo	An Introduction to Stochastic Thermodynamics : From Basic to Advanced / / by Naoto Shiraishi
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	9789811981869 9789811981852
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (437 pages)
Collana	Fundamental Theories of Physics, , 2365-6425 ; ; 212
Disciplina	519.2
Soggetti	Mathematical physics Thermodynamics Spintronics Probabilities Biophysics Theoretical, Mathematical and Computational Physics Probability Theory Mathematical Methods in Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Background -- Stochastic Processes -- Stochastic Thermodynamics and

Fluctuation Theorems -- Fluctuation-Theorem-Type Equalities -- Information Thermodynamics and Beyond -- Large Deviation and Rate Function -- Some Results on One-Dimensional Overdamped Langevin Systems -- Quantum Fluctuation Theorem and Some Techniques in Quantum Information Theory -- Maximum Efficiency of Stationary Autonomous Engines -- Implementation of Quantum Operation by Autonomous Transient Process -- Power and Efficiency: Phenomenological Approach -- Universal Trade-Off Relation Between Efficiency and Power -- Thermodynamic Uncertainty Relation -- Bound of Speed in Quantum Non-Markovian Systems -- Speed Limit for State Transformation -- Conclusion.

Sommario/riassunto

This book presents the fundamentals of stochastic thermodynamics, one of the most central subjects in non-equilibrium statistical mechanics. It also explores many recent advances, e.g., in information thermodynamics, the thermodynamic uncertainty relation, and the trade-off relation between efficiency and power. The content is divided into three main parts, the first of which introduces readers to fundamental topics in stochastic thermodynamics, e.g., the basics of stochastic processes, the fluctuation theorem and its variants, information thermodynamics, and large deviation theory. In turn, parts two and three explore advanced topics such as autonomous engines (engines not controlled externally) and finite speed engines, while also explaining the key concepts from recent stochastic thermodynamics theory that are involved. To fully benefit from the book, readers only need an undergraduate-level background in statistical mechanics and quantum mechanics; no background in information theory or stochastic processes is needed. Accordingly, the book offers a valuable resource for early graduate or higher-level readers who are unfamiliar with this subject but want to keep up with the cutting-edge research in this field. In addition, the author's vivid descriptions interspersed throughout the book will help readers grasp 'living' research developments and begin their own research in this field.
