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Titolo	Perturbation theories for the thermodynamic properties of fluids and solids // J.R. Solana
Pubbl/distr/stampa	Boca Raton, Fla : , : CRC Press, Taylor & Francis Group, , [2013]
ISBN	0-429-09239-3 1-4398-0776-0
Descrizione fisica	1 online resource (400 p.)
Classificazione	SCI013050SCI065000
Disciplina	536/.71
Soggetti	Thermodynamics Fluids - Thermal properties Solids - Thermal properties Perturbation (Mathematics)
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.
Nota di contenuto	Front Cover; Contents; Preface; Author; Notation; Chapter 1: Introduction; Chapter 2: Some Basics on Statistical Mechanics; Chapter 3: Overview of Computer Simulation Methods; Chapter 4: Integral Equation Theories; Chapter 5: Radial Distribution Function and Equation of State of the Hard-Sphere Fluid and Solid; Chapter 6: Free Energy Perturbation Theories for Simple Fluids and Solids; Chapter 7: Perturbation Theories for Simple Fluid Mixtures; Chapter 8: Perturbation Theories for Molecular Fluids; Chapter 9: Inhomogeneous Systems Chapter 10: Overview to Perturbation Theories for More Complex Systems
Sommario/riassunto	This book, Perturbation Theories for the Thermodynamic Properties of Fluids and Solids, provides a comprehensive review of current perturbation theories--as well as integral equation theories and density functional theories--for the equilibrium thermodynamic and structural properties of classical systems. Emphasizing practical applications, the text avoids complex theoretical derivations as much as possible. It begins with discussions of the nature of intermolecular forces and simple potential models. The book also presents a summary of

statistical mechanics concepts and formulae. In addition, it reviews simulation techniques, providing background for the performance analyses of theories executed throughout the text using simulation data. Chapters describe integral equation theories, theoretical approaches for hard-sphere fluid or solid systems, and perturbation theories for simple fluids and solids for monocomponent and multicomponent systems. They also cover density functional theories for inhomogeneous systems and perturbative and nonperturbative approaches to describe the structure and thermodynamics of hard-body molecular fluids. The final chapter examines several more challenging systems, such as fluids near the critical point, liquid metals, molten salts, colloids, and aqueous protein solutions. This book offers a thorough account of the available equilibrium theories for the thermodynamic and structural properties of fluids and solids, with special focus on perturbation theories, emphasizing their applications, strengths, and weaknesses. Appropriate for experienced researchers as well as postgraduate students, the text presents a wide-ranging yet detailed view and provides a useful guide to the application of the theories described--

2. Record Nr.	UNINA9910483156203321
Titolo	Neural Mechanisms : New Challenges in the Philosophy of Neuroscience // edited by Fabrizio Calzavarini, Marco Viola
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-54092-8
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (VI, 506 p. 36 illus., 11 illus. in color.)
Collana	Studies in Brain and Mind, , 2468-399X ; ; 17
Disciplina	612.801
Soggetti	Philosophy of mind Neurosciences Neuropsychology Philosophy of Mind Neuroscience
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part 1: Explanation and prediction -- Chapter 2. Bayesian Explanation in Neuroscience (David Kaplan, Chris Hewitson) -- Chapter 3. Your Brain is Like a Computer: Function, Analogy, Simplification (Mazviita Chirimuuta) -- Chapter 4. Circuitual and developmental explanations for the cortex (Alessio Plebe) -- Chapter 5. Prediction and Topological Models in Cognitive Neuroscience (Stanely Gessell, De Brigard Geib) -- Chapter 6. Miscomputation in Computational Psychiatry (Matteo Colombo) -- Part 2: New concepts and techniques -- Chapter 8. Evolving Concepts of "Hierarchy" in Systems Neuroscience (Daniel Burnston and Philipp Haueis) -- Chapter 9. Neural reuse is a general mechanism, but Neural Darwinism is a fundamental theory (Luis Favela) -- Chapter 10. Evaluating the Revolutionary Status of Innovations in Network Analysis: Conceptual Ambiguity and Instability as Signs of Progress in Cognitive Neuroscience (Jessey Wright) -- Chapter 11. What does neural architecture tell us about human nature? (Charles Rathkopf) -- Chapter 12. Is there a proper recipe for cumulative neuroscience? (Jacqueline Sullivan) -- Part 3: Metaphysical challenges -- Chapter 13. The Mind-Body Problem 3.0 (Marco Nathan) -- Chapter 14. Psychoneural Isomorphism: Metaphysics, Heuristics, and Robustness

(Alfredo Vernazzani) -- Chapter 15. Folk psychological and neurocognitive ontologies: incompatible or incommensurable? (Joe Dewhurst) -- Chapter 16. (Gualtiero Piccinini) -- Part 4: Mechanisms -- Chapter 17. On mechanistic triad: How Do Producing, Underlying and Maintaining Mechanisms Connect? (Lena Kästner) -- Chapter 18. Constraints on Localization and Decomposition as Explanatory Strategies in the Biological Sciences 2.0 (Michael Silberstein) -- Chapter 19. Unfolding the mechanisms of conscious experience (Matteo Grasso) -- Chapter 20. Contrast and Compare: How to choose the relevant details for a mechanistic explanation -- Part 5: Bodily representations -- Chapter 21. Representation versus Transformation in Bodily Representation (Colin Klein and Peter Clutton) -- Chapter 22. Categorically perceiving motor actions (Chiara Brozzo) -- Chapter 23. Mechanisms of Embodiment (Hong Yu Wong).

Sommario/riassunto

This volume brings together new papers advancing contemporary debates in foundational, conceptual, and methodological issues in cognitive neuroscience. The different perspectives presented in each chapter have previously been discussed between the authors, as the volume builds on the experience of Neural Mechanisms (NM) Online – webinar series on the philosophy of neuroscience organized by the editors of this volume. The contributed chapters pertain to five core areas in current philosophy of neuroscience. It surveys the novel forms of explanation (and prediction) developed in cognitive neuroscience, and looks at new concepts, methods and techniques used in the field. The book also highlights the metaphysical challenges raised by recent neuroscience and demonstrates the relation between neuroscience and mechanistic philosophy. Finally, the book dives into the issue of neural computations and representations. Assembling contributions from leading philosophers of neuroscience, this work draws upon the expertise of both established scholars and promising early career researchers.
