1. Record Nr. UNINA9910639899403321

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Titolo	Information Theory and Selected Applications / / by Arieh Ben-Naim
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031212765 9783031212758
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (242 pages)
Disciplina	354.81150006 003.54
Soggetti	Data structures (Computer science) Information theory Thermodynamics Chemistry, Physical and theoretical Statistical mechanics Probabilities Data Structures and Information Theory Theoretical Chemistry Statistical Mechanics Probability Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction and Caveats -- Intermolecular interactions, correlations, and Mutual Information -- Application of Multivariate Mutual Information to study spin systems -- Entropy of Mixing and Entropy of Assimilation, an Informational Theoretical Approach -- Information transmission between molecules in binding systems -- Calculations of the “best-guess” probability distribution using Shannon’s Measure of Information.
Sommario/riassunto	This book focuses on analysing the applications of the Shannon Measure of Information (SMI). The book introduces the concept of frustration and discusses the question of the quantification of this concept within information theory (IT), while it also focuses on the

interpretation of the entropy of systems of interacting particles in terms of the SMI and of mutual information. The author examines the question of the possibility of measuring the extent of frustration using mutual information and discusses some classical examples of processes of mixing and assimilation for which the entropy changes are interpreted in terms of SMI. A description of a few binding systems and the interpretation of cooperativity phenomena in terms of mutual information are also presented, along with a detailed discussion on the general method of using maximum SMI in order to find the “best-guess” probability distribution. This book is a valuable contribution to the field of information theory and will be of great interest to any scientist who is interested in IT and in its potential applications.