1.	Record Nr.	UNINA9910639877403321
	Autore	Evangelista L. R.
	Titolo	An Introduction to Anomalous Diffusion and Relaxation / / by Luiz Roberto Evangelista, Ervin Kaminski Lenzi
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
	ISBN	3-031-18150-6
	Edizione	[1st ed. 2023.]
	Descrizione fisica	1 online resource (411 pages)
	Collana	PoliTO Springer Series, , 2509-7024
	Disciplina	530.41 530.415
	Soggetti	Mathematical physics Stochastic processes Condensed matter Statistical mechanics Mathematical Physics Stochastic Processes Condensed Matter Statistical Mechanics 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	Preface -- Integral Transforms and Special Functions -- Concepts in Diffusion and Stochastic Processes -- Random Walks -- Elements of Fractional Calculus -- Fractional Anomalous Diffusion -- Adsorption Phenomena and Anomalous Behavior -- Reaction-Diffusion Problems -- Relaxation under Geometric Constraints I: Classical Processes -- Relaxation under Geometric Constraints II: Quantum Processes -- Index.
	Sommario/riassunto	This book provides a contemporary treatment of the problems related to anomalous diffusion and anomalous relaxation. It collects and promotes unprecedented applications dealing with diffusion problems and surface effects, adsorption-desorption phenomena, memory effects, reaction-diffusion equations, and relaxation in constrained structures of classical and quantum processes. The topics covered by

the book are of current interest and comprehensive range, including concepts in diffusion and stochastic physics, random walks, and elements of fractional calculus. They are accompanied by a detailed exposition of the mathematical techniques intended to serve the reader as a tool to handle modern boundary value problems. This self-contained text can be used as a reference source for graduates and researchers working in applied mathematics, physics of complex systems and fluids, condensed matter physics, statistical physics, chemistry, chemical and electrical engineering, biology, and many others.