1. Record Nr. UNISA996518464303316

Autore	Gleaton James U.
Titolo	Fiber bundles : statistical models and applications / / James U. Gleaton [and four others]
Pubbl/distr/stampa	Cham, Switzerland : , : Springer Nature Switzerland AG, , [2022] ©2022
ISBN	3-031-14797-9
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (164 pages)
Disciplina	514
Soggetti	Topology Topologia Estadística Matemàtica per a enginyers Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Introduction and Preliminaries -- 2. Electrical Circuits of Ordinary Capacitors -- 3. Breakdown of Thin-Film Dielectrics -- 4. Cell Models for Dielectrics -- 5. Electrical Breakdown and the Breakdown Formalism -- 6. Statistical Properties of a Load-Sharing Bundle -- 7. Statistical Analysis of Kim and Lee (2004)'s Data -- 8. Circuits of Ordinary Capacitors -- 9. Size Effects Relationships Motivated by the Load-Sharing Cell Model -- 10. Concluding Comments and Future Research Directions.
Sommario/riassunto	This book presents a critical overview of statistical fiber bundle models, including existing models and potential new ones. The authors focus on both the physical and statistical aspects of a specific load-sharing example: the breakdown for circuits of capacitors and related dielectrics. In addition, they investigate some areas of open research. This book is designed for graduate students and researchers in statistics, materials science, engineering, physics, and related fields, as well as practitioners and technicians in materials science and mechanical engineering.