Título:

Autor:

Precio: $1793.67

Editorial:

Año: 2013

Tema:

Edición: 1ª

Sinopsis

ISBN: 9781461462880

Presents many central ideas of the mathematical theory of the Sherrington-Kirkpartrick model in detail
Contains a fundamental breakthrough in this subject by the author
Accessible to graduate students working in probability theory or statistical mechanics
The celebrated Parisi solution of the Sherrington-Kirkpatrick model for spin glasses is one of the most important achievements in the field of disordered systems. Over the last three decades, through the efforts of theoretical physicists and mathematicians, the essential aspects of the Parisi solution were clarified and proved mathematically. The core ideas of the theory that emerged are the subject of this book, including the recent solution of the Parisi ultrametricity conjecture and a conceptually simple proof of the Parisi formula for the free energy. The treatment is self-contained and should be accessible to graduate students with a background in probability theory, with no prior knowledge of spin glasses. The methods involved in the analysis of the Sherrington-Kirkpatrick model also serve as a good illustration of such classical topics in probability as the Gaussian interpolation and concentration of measure, Poisson processes, and representation results for exchangeable arrays.
Content Level » Research

Keywords » Aizenman-Sims-Starr scheme - Aldous-Hoover representation - Dovbysh-Sudakov representation - Gaussian processes - Ghirlanda-Guerra identities - Guerra replica symmetry breaking - Parisi ansatz - Parisi formula - Poisson processes - Poisson-Dirichlet processes - Ruelle probability cascades - Sherrington-Kirkpatrick model - Talagrand positivity principle - exchangeability - p-spin models - replica symmetry breaking - spin glass models - ultrametricity

Related subjects » Complexity - Probability Theory and Stochastic Processes - Theoretical, Mathematical & Computational Physics

Table of contents Preface.- 1 The Free Energy and Gibbs Measure.- 2 The Ruelle Probability Cascades.- 3 The Parisi Formula.- 4 Toward a Generalized Parisi Ansatz.- A Appendix.-

Bibliography.- Notes and Comments.- References.- Index.