1. Record Nr. UNINA9910465378203321

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Titolo	Global optimization methods in geophysical inversion / / Mrinal K. Sen, University of Texas, Austin, USA and Paul L. Stoffa, The University of Texas, Austin, USA [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-107-23477-8 1-139-61021-X 1-139-60864-9 1-139-62509-8 0-511-99757-4 1-139-61579-3 1-139-61207-7 1-299-25764-X
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (xii, 289 pages) : digital, PDF file(s)
Disciplina	550.1/515357
Soggetti	Geological modeling Geophysics - Mathematical models Inverse problems (Differential equations) Mathematical optimization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Global Optimization Methods in Geophysical Inversion; Title; Copyright; Contents; Preface to the first edition (1995); Preface to the second edition (2013); 1 Preliminary statistics; 1.1 Random variables; 1.2 Random numbers; 1.3 Probability; 1.4 Probability distribution, distribution function, and density function; 1.4.1 Examples of distribution and density functions; 1.4.1.1 Normal or Gaussian distribution; 1.4.1.2 Cauchy distribution; 1.4.1.3 Gibbs' distribution; 1.5 Joint and marginal probability distributions; 1.6 Mathematical expectation, moments, variances, and covariances 1.7 Conditional probability and Bayes' rule1.8 Monte Carlo integration; 1.9 Importance sampling; 1.10 Stochastic processes; 1.11 Markov

Sommario/riassunto

Providing an up-to-date overview of the most popular global optimization methods used in interpreting geophysical observations, this new edition includes a detailed description of the theoretical development underlying each method and a thorough explanation of the design, implementation and limitations of algorithms. New and expanded chapters provide details of recently developed methods, such as the neighborhood algorithm, particle swarm optimization, hybrid Monte Carlo and multi-chain MCMC methods. Other chapters include new examples of applications, from uncertainty in climate modeling to whole earth studies. Several different examples of geophysical inversion, including joint inversion of disparate geophysical datasets, are provided to help readers design algorithms for their own applications. This is an authoritative and valuable text for researchers and graduate students in geophysics, inverse theory and exploration geoscience, and an important resource for professionals working in engineering and petroleum exploration.