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5.2 The extended normal equation5.2.1 Formulation; 5.2.2 The RAM solution; 5.2.3 Single normal equations simulation for Walker Lake; 5.2.4 The problem of conditioning; 5.3 Simulation by texture synthesis; 5.3.1 Computer graphics; 5.3.2 Image quilting; References; 6 Returning to the Sierra Nevada; Reference; Part II Methods; 1 Introduction; 2 The algorithmic building blocks; 2.1 Grid and pointset representations; 2.2 Multivariate grids; 2.3 Neighborhoods; 2.4 Storage and restitution of data events; 2.4.1 Raw storage of training image; 2.4.2 Cross-correlation based convolution
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3 Multiple-point geostatistics algorithms

Sommario/riassunto

"This book provides a comprehensive introduction to multiple-point geostatistics, where spatial continuity is described using training images. Multiple-point geostatistics aims at bridging the gap between physical modelling/realism and spatio-temporal stochastic modelling. The book provides an overview of this new field in three parts. Part I presents a conceptual comparison between traditional random function theory and stochastic modelling based on training images, where random function theory is not always used. Part II covers in detail various algorithms and methodologies starting from basic building blocks in statistical science and computer science. Concepts such as non-stationary and multi-variate modeling, consistency between data and model, the construction of training images and inverse modelling are treated. Part III covers three example application areas, namely, reservoir modelling, mineral resources modelling and climate model downscaling. This book will be an invaluable reference for students, researchers and practitioners of all areas of the Earth Sciences where forecasting based on spatio-temporal data is performed"--
"The topic of this book concerns an area of geostatistics that has commonly been known as multiple-point geostatistics because it uses more than two-point statistics (correlation), traditionally represented by the variogram, to model spatial phenomena"--