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	Nota di contenuto	Multiple-point geostatistics; Contents; Preface; Acknowledgments; Part I Concepts; 1 Hiking in the Sierra Nevada; 1.1 An imaginary outdoor adventure company: Buena Sierra; 1.2 What lies ahead; 2 Spatial estimation based on random function theory; 2.1 Assumptions of stationarity; 2.2 Assumption of stationarity in spatial problems; 2.3 The kriging solution; 2.3.1 Unbiasedness condition; 2.3.2 Minimizing squared loss; 2.4 Estimating covariances; 2.5 Semivariogram modeling; 2.6 Using a limited neighborhood; 2.7 Universal kriging; 2.8 Semivariogram modeling for universal kriging 2.9 Simple trend example case2.10 Nonstationary covariances; 2.11 Assessment; References; 3 Universal kriging with training images; 3.1 Choosing for random function theory or not?; 3.2 Formulation of universal kriging with training images; 3.2.1 Zero error-sum condition; 3.2.2 Minimum sum of square error condition; 3.3 Positive definiteness of the sop matrix; 3.4 Simple kriging with training images; 3.5 Creating a map of estimates; 3.6 Effect of the size of the training image; 3.7 Effect of the nature of the training image; 3.8 Training images for nonstationary modeling

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"--