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Nota di contenuto	Introduction -- Value of information for reservoir simulation -- Contrasts between adaptive and deterministic models -- Alternatives for mathematical apparatus of adaptive simulation - neural networks and fuzzy logic -- Adaptive geological modeling -- Adaptive hydrodynamic modeling -- Adaptive forecasting -- Adaptive software system Cervart -- Conclusion.
Sommario/riassunto	This book presents unique features of the adaptive modeling approach based on new machine learning algorithms for petroleum exploration, development, and production. The adaptive approach helps simulation engineers and geoscientists to create adequate geological and hydrodynamic models. This approach is proven to be a real alternative to traditional techniques, such as deterministic modeling. Currently, machine-learning algorithms grow in popularity because they provide consistency, predictiveness, and convenience. The primary purpose of this book is to describe the theoretical state of the adaptive approach and show some examples of its implementation in simulation and forecasting different reservoir processes.