

1. Record Nr.	UNINA9911046015303321
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Titolo	Ensemble History Matching : Conditioning Reservoir Models on Dynamic Data // by Geir Evensen, Dean S. Oliver, Remus G. Hanea
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2026
ISBN	3-031-99155-9
Edizione	[1st ed. 2026.]
Descrizione fisica	1 online resource (XVII, 199 p. 74 illus., 71 illus. in color.)
Disciplina	550 910.02
Soggetti	Physical geography Statistics Sampling (Statistics) Earth System Sciences Applied Statistics Methodology of Data Collection and Processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Solving the HM problem -- Introduction -- Formulating the History-Matching Problem -- Randomized Maximum-Likelihood Sampling -- Averaged Model Sensitivity -- Ensemble Formulation -- Subspace EnRML -- Correlation-Based Localization -- Non-Gaussian and Categorical Variables -- Nonlinearity Effects -- Robust optimization and closed-loop reservoir management -- Ensemble Optimization Method -- Mean Model Bias Correction Method -- Closed loop reservoir management -- History-matching examples and analysis -- History matching the REEK model -- History Matching the Troll Reservoir -- Summary and Future Perspectives.
Sommario/riassunto	This open-access book aims to formulate the history-matching problem consistently and present state-of-the-art ensemble solution methods. The content aims to help practitioners in the field understand the properties of ensemble methods better when used to history-match reservoir models. The book provides educational information for graduate students and researchers in petroleum, geothermal, and hydrological engineering and sciences. It introduces and explains

various algorithms used in data assimilation and parameter estimation, focusing on ensemble methods, particularly the most popular ones in the petroleum community. It discusses challenges associated with these techniques, such as dealing with high-dimensional models, finite number of realizations, parameterization, and handling uncertainties in the observations and model parameters. .

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