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| Autore | Evensen Geir |
| 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. .
