1. Record Nr. UNINA9910135033803321 Autore Islam Rafigul <1959-> Titolo Advanced petroleum reservoir simulation : towards developing reservoir emulators / / M. R. Islam [and four others] Pubbl/distr/stampa Salem, Massachusetts: .: Scrivener Publishing, . 2016 ©2016 **ISBN** 1-5231-0999-8 1-119-03871-5 1-119-03878-2 1-119-03857-X Edizione [Second edition.] Descrizione fisica 1 online resource (567 p.) Wiley-Scrivener Collana Disciplina 622/.3382 Soggetti Hydrocarbon reservoirs - Simulation methods Petroleum reserves - Simulation methods Oil reservoir engineering - Data processing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Half Title page; Title page; Copyright page; Dedication; Preface; Nota di contenuto Chapter 1: Introduction; 1.1 Summary; 1.2 Opening Remarks; 1.3 The Need for a Knowledge-Based Approach; 1.4 Summary of Chapters; Chapter 2: Reservoir Simulation Background; 2.1 Essence of Reservoir Simulation; 2.2 Assumptions Behind Various Modeling Approaches; 2.3 Recent Advances in Reservoir Simulation; 2.4 Memory Models; 2.5 Future Challenges in Reservoir Simulation; Chapter 3: Reservoir Simulator-Input/Output: 3.1 Input and Output Data: 3.2 Geological and Geophysical Modeling: 3.3 Reservoir Characterization: 3.4 Upscaling 3.5 Pressure/Production Data3.6 Phase Saturations Distribution; 3.7 Reservoir Simulator Output; 3.8 History Matching; 3.9 Real-Time Monitoring; Chapter 4: Reservoir Simulators: Problems, Shortcomings, and Some Solution Techniques; 4.1 Multiple Solutions in Natural Phenomena; 4.2 Adomian Decomposition; 4.3 Some Remarks on Multiple Solutions: Chapter 5: Mathematical Formulation of Reservoir Simulation Problems; 5.1 Black Oil Model and Compositional Model; 5.2

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