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Titolo	Advanced petroleum reservoir simulation [[electronic resource] /] / M. Rafiqul Islam ... [et al.]
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Descrizione fisica	1 online resource (490 p.)
Collana	Wiley-Scrivener ; ; v.40
Altri autori (Persone)	IslamM. Rafiqul
Disciplina	553.28015118 622.3382
Soggetti	Petroleum reserves - Mathematical models Petroleum reserves - Computer simulation Oil reservoir engineering - Mathematical models Oil reservoir engineering - Data processing Electronic books.
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.
Nota di contenuto	Advanced Petroleum Reservoir Simulation; Contents; Foreword; Introduction; 1. Reservoir Simulation Background; 1.1 Essence of Reservoir Simulation; 1.2 Assumptions Behind Various Modeling Approaches; 1.3 Material Balance Equation; 1.3.1 Decline Curve; 1.3.2 Statistical Method; 1.3.3 Analytical Methods; 1.3.4 Finite Difference Methods; 1.3.5 Darcy's Law; 1.4 Recent Advances in Reservoir Simulation; 1.4.1 Speed and Accuracy; 1.4.2 New Fluid Flow Equations; 1.4.3 Coupled Fluid Flow and Geo-mechanical Stress Model; 1.4.4 Fluid Flow Modeling Under Thermal Stress 1.5 Future Challenges in Reservoir Simulation1.5.1 Experimental Challenges; 1.5.2 Numerical Challenges; 1.5.2.1 Theory of Onset and Propagation of Fractures Due to Thermal Stress; 1.5.2.2 2-D and 3-D

Solutions of the Governing Equations; 1.5.2.3 Viscous Fingering During Miscible Displacement; 1.5.2.4 Improvement in Remote Sensing and Monitoring Ability; 1.5.2.5 Improvement in Data Processing Techniques; 1.5.3 Remote Sensing and Real-time Monitoring; 1.5.3.1 Monitoring Offshore Structures; 1.5.3.2 Development of a Dynamic Characterization Tool (Based on Seismic-while-drilling Data)
1.5.3.3 Use of 3-D Sonogram1.5.3.4 Virtual Reality (VR) Applications; 1.5.3.5 Intelligent Reservoir Management; 1.6 Economic Models Based on Futuristic Energy Pricing Policies; 1.7 Integrated System of Monitoring, Environmental Impact and Economics; 2. Reservoir Simulator-input/output; 2.1 Input and Output Data; 2.2 Geological and Geophysical Modeling; 2.3 Reservoir Characterization; 2.3.1 Representative Elementary Volume, REV; 2.3.2 Fluid and Rock Properties; 2.3.2.1 Fluid Properties; 2.3.2.1.1 Crude Oil Properties; 2.3.2.1.2 Natural Gas Properties; 2.3.2.1.3 Water Content Properties
2.3.3 Rock Properties2.4 Upscaling; 2.4.1 Power Law Averaging Method; 2.4.2 Pressure-solver Method; 2.4.3 Renormalization Technique; 2.4.4 Multiphase Flow Upscaling; 2.5 Pressure/Production data; 2.5.1 Phase Saturations Distribution; 2.6 Reservoir Simulator Output; 2.7 History-matching; 2.7.1 History-matching Formulation; 2.7.2 Uncertainty Analysis; 2.7.2.1 Measurement Uncertainty; 2.7.2.2 Upscaling Uncertainty; 2.7.2.3 Model Error; 2.7.2.4 The Prediction Uncertainty; 2.8 Real-time Monitoring; 3. Reservoir Simulators: Problems, Shortcomings, and Some Solution Techniques
3.1 Multiple Solutions in Natural Phenomena3.1.1 Knowledge Dimension; 3.2 Adomian Decomposition; 3.2.1 Governing Equations; 3.2.2 Adomian Decomposition of Buckley-Leverett Equation; 3.2.3 Results and Discussions; 3.3 Some Remarks on Multiple Solutions; 4. Mathematical Formulation of Reservoir Simulation Problems; 4.1 Black Oil Model and Compositional Model; 4.2 General Purpose Compositional Model; 4.2.1 Basic Definitions; 4.2.2 Primary and Secondary Parameters and Model Variables; 4.2.3 Mass Conservation Equation; 4.2.4 Energy Balance Equation; 4.2.5 Volume Balance Equation
4.2.6 The Motion Equation in Porous Medium

Sommario/riassunto

Advanced Petroleum Reservoir Simulation Add precision and ease to the process of reservoir simulation. Until simulation software and other methods of reservoir characterization were developed, engineers had to drill numerous wells to find the best way to extract crude oil and natural gas. Today, even with highly sophisticated reservoir simulations software available, reservoir simulation still involves a great deal of guesswork. Advanced Petroleum Reservoir Simulation provides an advanced approach to petroleum reservoir simulation, taking the guesswork out of the process and re

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Collana	Information Systems and Applications, incl. Internet/Web, and HCI, , 2946-1642 ; ; 5820
Classificazione	DAT 614f SS 4800
Altri autori (Persone)	LiuJiming <1962->
Disciplina	004n/a
Soggetti	Information storage and retrieval systems Computer simulation Artificial intelligence Application software Multimedia systems User interfaces (Computer systems) Human-computer interaction Information Storage and Retrieval Computer Modelling Artificial Intelligence Computer and Information Systems Applications Multimedia Information Systems User Interfaces and Human Computer Interaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	International conference proceedings.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Keynote Talks -- Using Neural Imaging to Inform the Instruction of Mathematics -- Distributed Human-Machine Systems: Progress and Prospects -- Large Scale Reasoning on the Semantic Web: What to Do When Success Is Becoming a Problem -- How Midazolam Can Help Us Understand Human Memory: 3 Illustrations and a Proposal for a New Methodology -- Research on Brain-Like Computer -- A Framework for

Machine Learning with Ambiguous Objects -- Special Session on Conversational Informatics -- Implementing a Multi-user Tour Guide System with an Embodied Conversational Agent -- Actively Adaptive Agent for Human-Agent Collaborative Task -- Low-Overhead 3D Items Drawing Engine for Communicating Situated Knowledge -- A Method to Detect Lies in Free Communication Using Diverse Nonverbal Information: Towards an Attentive Agent -- An Integrative Agent Model for Adaptive Human-Aware Presentation of Information during Demanding Tasks -- Special Session on Human-Web Interaction -- Consumer Decision Making in Knowledge-Based Recommendation -- Incremental Learning of Triadic PLSA for Collaborative Filtering -- Interactive Storyboard: Animated Story Creation on Touch Interfaces -- Comparative Evaluation of Reliabilities on Semantic Search Functions: Auto-complete and Entity-Centric Unified Search -- Integrated Recommender Systems Based on Ontology and Usage Mining -- Active Media Retrieval and Sharing -- Knowledge-Based Concept Score Fusion for Multimedia Retrieval -- Example-Based Query Analysis Using Functional Conceptual Graphs -- Checking Satisfactions of XML Referential Integrity Constraints -- A Verification Method of Hyponymy between Chinese Terms Based on Concept Space -- Sharing Mobile Multimedia Annotations to Support Inquiry-Based Learning Using MobiTOP -- Understanding Perceived Gratifications for Mobile Content Sharing and Retrieval in a Game-Based Environment -- Why We Share: A Study of Motivations for Mobile Media Sharing -- Active Support Systems and Intelligent Interfaces -- The Layout of Web Pages: A Study on the Relation between Information Forms and Locations Using Eye-Tracking -- Human Characteristics on Length Perception with Three Fingers for Tactile Intelligent Interfaces -- A Model and Environment for Improving Multimedia Intensive Reading Practices -- Study on Adaptive Computer-Assisted Instruction for In-Service Training -- Research on Recreational Sports Instruction Using an Expert System -- Smart Digital Media -- Using 6LowPAN UPnP and OSGi to Implement Adaptable Home Ambient Intelligence Network Platform -- Low Frequency Domain Aided Texture Synthesis for Intra Prediction -- A Novel Geometry Image Coding -- Musical Style Classification Using Low-Level Features -- Multi-agent Systems and Autonomy-Oriented Computing -- Enterprise Cluster Dynamics and Innovation Diffusion: A New Scientific Approach -- A Novel Application of Organic Plant Farming Analysis System – Using Game Theory and Multi-Agent Technique -- A Dynamic Trust Network for Autonomy-Oriented Partner Finding -- Modeling an Educational Multi-Agent System in MaSE -- Enhancing Decentralized MAS-Based Framework for Composite Web Services Orchestration and Exception Handling by Means of Mobile Agents Technology -- Multi-objective Analysis on Optimization of Negotiation Support -- Data Mining and Ontology Mining in Active Media -- Rough Set Based Personalized Recommendation in Mobile Commerce -- SpamTerminator: A Personal Anti-spam Add-In for Outlook -- Classifying Images with Image and Text Search Clickthrough Data -- A Novel Fast Inter Mode Decision Algorithm in H. 264/AVC for Forest Fire Prevention Surveillance -- A Methodfor Analyzing Software Faults Based on Mining Outliers' Feature Attribute Sets -- Web Intelligence -- Unifying Web-Scale Search and Reasoning from the Viewpoint of Granularity -- The Quest for Parallel Reasoning on the Semantic Web -- A Model for Personalized Web-Scale Case Base Maintenance -- X3D-Based Web 3D Resources Integration and Reediting -- Providing Relevant Answers for Queries over E-Commerce Web Databases -- Detecting News Event from a Citizen Journalism Website Using Tags -- Networks and Security -- A New Mechanism for

Job Scheduling in Computational Grid Network Environments -- Efficient and Provably Secure Self-certified Signature Scheme -- A Reversible Watermarking Scheme for 3D Meshes -- Neighbor-List Based Pairwise Key Management Scheme in Wireless Sensor Networks.

Sommario/riassunto

This book constitutes the refereed proceedings of the 5th International Conference on Active Media Technology, AMT 2009, held in Beijing, China, in October 2009. The 47 revised full papers and the 6 keynote talks were carefully reviewed and selected. The papers reflect the shared forum for researchers and practitioniers from diverse fields, such as computer science, information technology, artificial intelligence, media engineering, economics, data mining, data and knowledge engineering, intelligent agent technology, human computer interaction, complex systems and systems science. The book offers new insights into the main research challenges and development of AMT by revealing the interplay between the studies of human informatics and research of informatics on the Web/Internet, mobile and wireless centric intelligent information processing systems. .