

Contents

Preface	v
Contributors	xiii
Chapter 1	
The Use of Artificial Intelligence for Model Identification in Well Test Interpretation	1
<i>Olivier Allain and Roland N. Horne</i>	
Chapter 2	
Artificial Intelligence in Formation Evaluation	33
<i>Tsai-Bao Kuo, Steven A. Wong, and Richard A. Startzman</i>	
Chapter 3	
Intelligent Knowledge Based Systems and Seismic Interpretation ..	61
<i>I. Williamson</i>	
Chapter 4	
An Expert System for the Design of Array Parameters for Onshore Seismic Surveys	71
<i>Barrie K. Davis</i>	
Chapter 5	
An Expert System to Assist in Processing Vertical Seismic Profiles	81
<i>Peter Crisi</i>	
Chapter 6	
Expert Systems for Seismic Interpretations and Validation of Simulated Stacking Velocity Functions	99
<i>Kou-Yuan Huang</i>	
Chapter 7	
Pattern Recognition to Seismic Exploration	121
<i>Kou-Yuan Huang</i>	

Chapter 8	
Pattern Recognition for Marine Seismic Exploration	155
<i>Ferial El-Hawary</i>	
Chapter 9	
Clustering of Attributes by Projection Pursuit for Reservoir Characterization	173
<i>A.T. Walden</i>	
Chapter 10	
Exploring the Fractal Mountains	201
<i>Brian Klinkenberg and Keith C. Clarke</i>	
Chapter 11	
Image Analysis of Particle Shape	213
<i>John Starkey and Sandra Rutherford</i>	
Chapter 12	
Interactive Image Analysis of Borehole Televiwer Data	223
<i>Colleen A. Barton, Lawrence G. Tesler, and Mark D. Zoback</i>	
Chapter 13	
Petrographic Image Analysis: An Alternate Method for Determining Petrophysical Properties	249
<i>R.E. Gerard, C.A. Philipson, F.M. Manni, and D.M. Marschall</i>	
Chapter 14	
Image Processing of Magnetic Data and Application of Integrated Interpretation for Mineral Resources Detection in Yiesan Area, East China	265
<i>Wu Chaojun</i>	
Chapter 15	
Interactive Three-Dimensional Seismic Display by Volumetric Rendering	285
<i>Robert H. Wolfe, Jr. and C.N. Liu</i>	
Index	293