1. Record Nr. UNINA9910826336403321 Autore Huang Kou-Yuan **Titolo** Syntactic pattern recognition for seismic oil exploration / / Kou-Yuan Huang Pubbl/distr/stampa River Edge, NJ,: World Scientific, c2002 1-281-92835-6 **ISBN** 9786611928353 981-277-574-9 Edizione [1st ed.] Descrizione fisica 1 online resource (149 p.) Series in machine perception and artificial intelligence;; v. 46 Collana Disciplina 622/.1828/0285 Soggetti Petroleum - Prospecting - Data processing Pattern recognition systems Seismic reflection method - 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 (p. 123-129) and index. Nota di contenuto CONTENTS; AUTHOR'S BIOGRAPHY; PREFACE; 1 INTRODUCTION TO SYNTACTIC PATTERN RECOGNITION; 1.1. SUMMARY; 1.2. INTRODUCTION; 1.3. ORGANIZATION OF THIS BOOK; 2 INTRODUCTION TO FORMAL LANGUAGES AND AUTOMATA; 2.1. SUMMARY; 2.2. LANGUAGES AND GRAMMARS; 2.3. FINITE-STATE AUTOMATON; 2.4. EARLEY'S PARSING; 2.5. FINITE-STATE GRAMMATICAL INFERENCE; 2.6. STRING DISTANCE COMPUTATION: 3 ERROR-CORRECTING FINITE-STATE AUTOMATON FOR RECOGNITION OF RICKER WAVELETS; 3.1. SUMMARY; 3.2. INTRODUCTION; 3.3. SYNTACTIC PATTERN RECOGNITION: 3.3.1. Training and Testing Ricker Wavelets 3.3.2. Location of Waveforms and Pattern Representation 3.4. EXPANDED GRAMMARS; 3.4.1. General Expanded Finite-State Grammar; 3.4.2. Restricted Expanded Finite-State Grammar; 3.5. MINIMUM-DISTANCE ERROR-CORRECTING FINITE-STATE PARSING; 3.6. CLASSIFICATION OF RICKER WAVELETS; 3.7. DISCUSSION AND CONCLUSIONS: 4 ATTRIBUTED GRAMMAR AND ERROR-CORRECTING EARLEY'S PARSING; 4.1. SUMMARY; 4.2. INTRODUCTION; 4.3. ATTRIBUTED PRIMITIVES AND STRING; 4.4. DEFINITION OF ERROR

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The use of pattern recognition has become more and more important in seismic oil exploration. Interpreting a large volume of seismic data is a challenging problem. Seismic reflection data in the one-shot seismogram and stacked seismogram may contain some structural information from the response of the subsurface. Syntactic/structural pattern recognition techniques can recognize the structural seismic patterns and improve seismic interpretations. The syntactic analysis methods include: (1) the error-correcting finite-state parsing, (2) the modified error-correcting Earley's parsing, (3) the p