GEOPHYSICS Society of Exploration Geophysicists The international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a quality for purples is a second of the international society of a purple is a second of the international society of a



VOL. 79, No. 1 | January-February 2014

EDITOR'S CORNER
Instructions to Authors
This issue of Geophysics
TECHNICAL PAPERS
CASE HISTORIES
High-resolution quantitative seismic imaging of a strike-slip fault with small vertical offset in clay rocks from underground galleries: Experimental platform of Tournemire, France, François Bretaudeau, Céline Gélis, Donatienne Leparoux, Romain Brossier, Justo Cabrera, and Philippe Côte
Influence of frequency and saturation on AVO attributes for patchy saturated rocks, Bastien Dupuy, and Alexey Stovas
ANISOTROPY
Simulating propagation of separated wave modes in general anisotropic media, Part I: qP-wave propagators, Jiubing Cheng, and Wei Kang
Mapping moveout approximations in TI media, Alexey Stovas and Tariq Alkhalifah
BOREHOLE GEOPHYSICS AND ROCK PROPERTIES
Simulation of multipole acoustic logging in cracked porous formations, Xue-Lian Chen, Xiao-Ming
Tang, and Yu-Ping QianD1
Automated detection of planar geologic features in borehole images, Said Assous, Peter Elkington,
Stuart Clark, and James WhettonD11
Laboratory study of spectral induced polarization responses of magnetite — Fe ² + redox reactions in porous media, Christopher G. Hubbard, L. Jared West, Juan Diego Rodriguez-Blanco, and Samuel Shaw
ELECTRICAL AND ELECTROMAGNETIC METHODS
Mapping lateral changes in conductance of a thin sheet using time-domain inductive electromagnetic data, Michal Kolaj and Richard Smith
Quantifying background magnetic-field inhomogeneity for improved interpretation of free induction
decay measurements, Denys Grombacher, Jan O. Walbrecker, and Rosemary Knight
Complex conductivity tomography using low-frequency crosswell electromagnetic data,
Kris MacLennan, Marios Karaoulis, and André Revil
Transient marine electromagnetics in shallow water: A sensitivity and resolution study of the vertical
electric field at short ranges, Pavel O. Barsukov and Edward B. Fainberg
Demonstration of a value of information metric to assess the use of geophysical data for a groundwater application, Vanessa Nenna and Rosemary Knight
Geophysical monitoring and reactive transport simulations of bioclogging processes induced by
Leuconostoc mesenteroides, Yuxin Wu, Vikranth Kumar Surasani, Li Li,
and Susan Sharpless HubbardE61
ENGINEERING AND ENVIRONMENTAL GEOPHYSICS
Seismic study of the low-permeability volume in southern France karst systems, Pierre-Yves Galibert,
Rémi Valois, Manuela Mendes, and Roger GuérinEN1
GRAVITY EXPLORATION METHODS
Evaluating the utility of gravity gradient tensor components, Mark Pilkington
Harmonic and biharmonic biases in potential field inversion, João B. C. Silva, Darcicléa F. Santos, and Garganico

GEOPHYSICS®

VOL. 79, No. 1 | January-February 2014

Continued from front cover

İ

INTERPRETATION METHODS
Adaptive sampling of potential-field data: A direct approach to compressive inversion, Nathan Leon Foks, Richard Krahenbuhl, and Yaoguo Li
MAGNETIC EXPLORATION METHODS
Trend enhancement in aeromagnetic maps using constrained coherence-enhancing diffusion filtering, Meixia Geng, Qingjie Yang, and Yuan Yuan
PASSIVE SEISMIC METHODS
Azimuthal anisotropy in microseismic monitoring: A Bakken case study, Vladimir Grechka and Sergey Yaskevich
POROELASTICITY
Compressional-wave propagation in porous media saturated with two fluids, Igor A. BeresnevL1
RESERVOIR GEOPHYSICS
Multidimensional scaling for the evaluation of a geostatistical seismic elastic inversion methodology, Leonardo Azevedo, Ruben Nunes, Pedro Correia, Amílcar Soares, Luis Guerreiro, and Guenther Schwedersky Neto
SEISMIC INTERFEROMETRY
Time-series analysis of diffusion interferometry data and its application to Bayesian inversion of synthetic borehole pressure data, Sharmin Shamsalsadati and Chester J. Weiss
SEISMIC INVERSION
Cross-borehole tomography with correlation delay times, E. Diego Mercerat, Guust Nolet, and Christophe Zaroli
Anisotropic migration velocity analysis using reverse-time migration, Wiktor Waldemar Weibull, and Børge ArntsenR13
Estimation of elastic stiffness coefficients of an orthorhombic physical model using group velocity analysis on transmission data, Faranak Mahmoudian, G. F. Margrave, P. F. Daley, J. Wong, and D. C. Henley
SEISMIC MIGRATION
Simultaneous reverse time migration of primaries and free-surface related multiples without multiple prediction, Yibo Wang, Xu Chang, and Hao Hu
Least-squares reverse time migration of multiples, Dongliang Zhang, Gerard T. Schuster
SEISMIC MODELING AND WAVE PROPAGATION
Seismic ray tracing in anisotropic media: A modified Newton algorithm for solving highly nonlinear systems, Yanghua WangT1
Recursive integral time-extrapolation methods for waves: A comparative review, Xiang Du, Paul J. Fowler, and Robin P. Fletcher
Krauklis wave initiation in fluid-filled fractures by seismic body waves, Marcel FrehnerT27
SIGNAL PROCESSING
Simultaneous source separation using a robust Radon transform, Amr Ibrahim and Mauricio D. SacchiV1
DEPARTMENTS
Geophysics Dissertation Abstracts
Intellectual PropertyZ3

- (