

# Contents

<b>Acknowledgments</b>	<b>iii</b>
<b>Policy on Proprietary Printed Material</b>	<b>v</b>
<b>Introduction</b>	<b>vii</b>
<b>Imaging/Velocity Analysis</b>	<b>1</b>
Generalized imaging conditions for wave-equation migration (CWP-524)	
<i>P. Sava &amp; S. Fomel</i> . . . . .	1
Kirchhoff inversion for incident waves synthesized from common-shot data gathers (CWP-525)	
<i>N. Bleistein</i> . . . . .	11
A hybrid formulation of map migration and wave-equation-based migration using curvelets (CWP-526)	
<i>H. Douma &amp; M.V. de Hoop</i> . . . . .	29
Nonhyperbolic moveout inversion of qP-waves in layered VTI media using rational interpolation (CWP-527)	
<i>H. Douma &amp; M. van der Baan</i> . . . . .	57
Properties of evanescent waves in anisotropic media (CWP-528)	
<i>I. Tsvankin</i> . . . . .	67
<b>Azimuthal Anisotropy and Fracture Characterization</b>	
Developments in seismic anisotropy: Treating realistic subsurface models in imaging and fracture detection (CWP-529)	
<i>I. Tsvankin &amp; V. Grechka</i> . . . . .	75
Synthetic study of wide-azimuth AVO analysis with anisotropic spreading correction (CWP-530)	
<i>X. Xu &amp; I. Tsvankin</i> . . . . .	81
Seismic critical-angle reflectometry: A method to characterize azimuthal anisotropy? (CWP-531)	
<i>M. Landrø &amp; I. Tsvankin</i> . . . . .	91
On the influence of crack shape on effective elasticity of fractured media (CWP-532)	
<i>V. Grechka, I. Vasconcelos, &amp; M. Kachanov</i> . . . . .	103
Seismic characterization of multiple fracture sets from multicomponent, multiazimuth, 3D data: Rulison Field, CO (CWP-533)	
<i>I. Vasconcelos &amp; V. Grechka</i> . . . . .	115

**Anisotropic Attenuation**

Effective attenuation anisotropy of layered media (CWP-534) <i>Y. Zhu, I. Tsvankin &amp; I. Vasconcelos</i> . . . . .	133
Far-field radiation from seismic sources in 2D attenuative anisotropic media (CWP-535) <i>Y. Zhu &amp; I. Tsvankin</i> . . . . .	155
Heavy oils and oil shales: Their shear story (CWP-536) <i>J. Behura &amp; M. Batzle</i> . . . . .	167

**Seismic Interferometry**

Extraction of near-surface properties from earthquake data recorded in a borehole using seismic interferometry (CWP-537) <i>K. Mehta, R. Snieder, &amp; V. Graizer</i> . . . . .	195
Virtual source gathers and attenuation of free-surface multiples using OBC data: Implementation issues and a case study (CWP-538) <i>K. Mehta, R. Snieder, R. Calvert &amp; J. Sheiman</i> . . . . .	205
Equivalence of the virtual source method and wavefield deconvolution in seismic interferometry (CWP-539) <i>R. Snieder, J. Sheiman, &amp; R. Calvert</i> . . . . .	215
Estimating changes in source mechanisms from coda wave interferometry (CWP-540) <i>D. Robinson, R. Snieder, &amp; M. Sambridge</i> . . . . .	227
The coherent backscattering effect for moving scatterers (CWP-541) <i>R. Snieder</i> . . . . .	235

**Volcano Monitoring**

Increase of shear wave velocity before the 1998 eruption of Merapi volcano (Indonesia) (CWP-542) <i>U. Wegler, B.-G. Lühr, R. Snieder &amp; A. Ratdomopurbo</i> . . . . .	241
Spatial variation in Mount St. Helens clones from coda wave analysis (CWP-543) <i>R. Snieder, S. Prejean &amp; J. Johnson</i> . . . . .	247

**Image Processing and Computation**

An efficient method for computing local cross-correlations of multi-dimensional signals (CWP-544) <i>D. Hale</i> . . . . .	253
Seamless local prediction filtering (CWP-545) <i>D. Hale</i> . . . . .	261
Recursive Gaussian filters (CWP-546) <i>D. Hale</i> . . . . .	269
The Java and C++ platforms for scientific computing (CWP-547) <i>D. Hale</i> . . . . .	279