Sergey B Fomel

List of Publications by Citations

323 papers	**8,624** citations
49 h-index	**82** g-index
375 ext. papers	**11,198** ext. citations
2.7 avg, IF	**7.05** L-index

#	Paper	IF	Citations
323	Applications of plane-wave destruction filters. *Geophysics*, **2002**, 67, 1946-1960	3.1	469
322	Angle-domain common-image gathers by wavefield continuation methods. *Geophysics*, **2003**, 68, 1065-1074	3.1	353
321	Shaping regularization in geophysical-estimation problems. *Geophysics*, **2007**, 72, R29-R36	3.1	252
320	FaultSeg3D: Using synthetic data sets to train an end-to-end convolutional neural network for 3D seismic fault segmentation. *Geophysics*, **2019**, 84, IM35-IM45	3.1	251
319	Seislet transform and seislet frame. *Geophysics*, **2010**, 75, V25-V38	3.1	242
318	Local seismic attributes. *Geophysics*, **2007**, 72, A29-A33	3.1	236
317	Time-shift imaging condition in seismic migration. *Geophysics*, **2006**, 71, S209-S217	3.1	218
316	Random noise attenuation using local signal-and-noise orthogonalization. *Geophysics*, **2015**, 80, WD1-WD9	3.1	215
315	Poststack velocity analysis by separation and imaging of seismic diffractions. *Geophysics*, **2007**, 72, U89-U94	3.1	211
314	Iterative deblending of simultaneous-source seismic data using seislet-domain shaping regularization. *Geophysics*, **2014**, 79, V179-V189	3.1	193
313	Seismic wave extrapolation using lowrank symbol approximation. *Geophysical Prospecting*, **2013**, 61, 526-536	1.5	143
312	Double-sparsity dictionary for seismic noise attenuation. *Geophysics*, **2016**, 81, V103-V116	3.1	135
311	Separation and imaging of seismic diffractions using migrated dip-angle gathers. *Geophysics*, **2012**, 77, S131-S143	3.1	126
310	Predictive painting of 3D seismic volumes. *Geophysics*, **2010**, 75, A25-A30	3.1	119
309	Seismic imaging of incomplete data and simultaneous-source data using least-squares reverse time migration with shaping regularization. *Geophysics*, **2016**, 81, S11-S20	3.1	117
308	On anelliptic approximations for qP velocities in VTI media. *Geophysical Prospecting*, **2004**, 52, 247-259	1.9	102
307	Seismic reflection data interpolation with differential offset and shot continuation. *Geophysics*, **2003**, 68, 733-744	3.1	99

306   Generalized nonhyperbolic moveout approximation. *Geophysics*, **2010**, 75, U9-U18   3.1   98

305   Stacking seismic data using local correlation. *Geophysics*, **2009**, 74, V43-V48   3.1   95

304   Fast sweeping method for the factored eikonal equation. *Journal of Computational Physics*, **2009**, 228, 6440-6455   4.1   90

303   Velocity analysis using AB semblance. *Geophysical Prospecting*, **2009**, 57, 311-321   1.9   87

302   Adaptive multiple subtraction using regularized nonstationary regression. *Geophysics*, **2009**, 74, V25-V33   3.1   83

301   Velocity-independent time-domain seismic imaging using local event slopes. *Geophysics*, **2007**, 72, S139-S147   3.1   82

300   Flattening without picking. *Geophysics*, **2006**, 71, P13-P20   3.1   80

299   Separation, imaging, and velocity analysis of seismic diffractions using migrated dip-angle gathers **2008**,   76

298   . *Computing in Science and Engineering*, **2009**, 11, 5-7   1.5   75

297   Fast algorithms for elastic-wave-mode separation and vector decomposition using low-rank approximation for anisotropic media. *Geophysics*, **2014**, 79, C97-C110   3.1   74

296   Lowrank finite-differences and lowrank Fourier finite-differences for seismic wave extrapolation in the acoustic approximation. *Geophysical Journal International*, **2013**, 193, 960-969   2.6   71

295   Viscoacoustic modeling and imaging using low-rank approximation. *Geophysics*, **2015**, 80, A103-A108   3.1   68

294   Time-migration velocity analysis by velocity continuation. *Geophysics*, **2003**, 68, 1662-1672   3.1   68

293   Separation and imaging of seismic diffractions using plane-wave decomposition **2006**,   66

292   Azimuth moveout for 3-D prestack imaging. *Geophysics*, **1998**, 63, 574-588   3.1   66

291   Q-compensated least-squares reverse time migration using low-rank one-step wave extrapolation. *Geophysics*, **2016**, 81, S271-S279   3.1   65

290   Nonlinear structure-enhancing filtering using plane-wave prediction*. *Geophysical Prospecting*, **2010**, 58, 415-427   1.9   64

289   Building realistic structure models to train convolutional neural networks for seismic structural interpretation. *Geophysics*, **2020**, 85, WA27-WA39   3.1   62

288 Nonstationary phase estimation using regularized local kurtosis maximization. *Geophysics*, **2009**, 74, A75-A80   3.1   61

287 EMD-seislet transform. *Geophysics*, **2018**, 83, A27-A32   3.1   59

286 A Bayesian approach to estimate uncertainty for full-waveform inversion using a priori information from depth migration. *Geophysics*, **2016**, 81, R307-R323   3.1   59

285 Time-frequency analysis of seismic data using local attributes. *Geophysics*, **2011**, 76, P23-P34   3.1   59

284 FaultNet3D: Predicting Fault Probabilities, Strikes, and Dips With a Single Convolutional Neural Network. *IEEE Transactions on Geoscience and Remote Sensing*, **2019**, 57, 9138-9155   8.1   58

283 Monitoring CO2 response on surface seismic data; a rock physics and seismic modeling feasibility study at the CO2 sequestration site, Ketzin, Germany. *Journal of Applied Geophysics*, **2010**, 71, 109-124   1.7   57

282 SaltSeg: Automatic 3D salt segmentation using a deep convolutional neural network. *Interpretation*, **2019**, 7, SE113-SE122   1.4   56

281 Seismic data decomposition into spectral components using regularized nonstationary autoregression. *Geophysics*, **2013**, 78, O69-O76   3.1   56

280 Automatic salt-body classification using deep-convolutional neural network **2018**,   56

279 Convolutional neural networks for fault interpretation in seismic images **2018**,   55

278 Seismic data analysis using local time-frequency decomposition. *Geophysical Prospecting*, **2013**, 61, 516-525   2.5   54

277 Fast-phase space computation of multiple arrivals. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 7329-34   11.5   54

276 Velocity continuation and the anatomy of residual prestack time migration. *Geophysics*, **2003**, 68, 1650-1661   3.1   50

275 Theory of 3-D angle gathers in wave-equation imaging **2004**,   49

274 Seismic data interpolation beyond aliasing using regularized nonstationary autoregression. *Geophysics*, **2011**, 76, V69-V77   3.1   47

273 Time-lapse image registration using the local similarity attribute. *Geophysics*, **2009**, 74, A7-A11   3.1   47

272 Implementing the fast marching eikonal solver: spherical versus Cartesian coordinates. *Geophysical Prospecting*, **2001**, 49, 165-178   1.9   47

271 Automatic channel detection using deep learning. *Interpretation*, **2019**, 7, SE43-SE50   1.4   46

270	Coordinate-independent angle-gathers for wave equation migration **2005**,		45
269	On anelliptic approximations for qP velocities in transversely isotropic and orthorhombic media. *Geophysics*, **2015**, 80, C89-C105	3.1	43
268	Regularizing seismic inverse problems by model reparameterization using plane-wave construction. *Geophysics*, **2006**, 71, A43-A47	3.1	43
267	Path-integral seismic imaging. *Geophysical Prospecting*, **2006**, 54, 491-503	1.9	42
266	Multidimensional recursive filter preconditioning in geophysical estimation problems. *Geophysics*, **2003**, 68, 577-588	3.1	42
265	Riemannian wavefield extrapolation. *Geophysics*, **2005**, 70, T45-T56	3.1	42
264	Non-hyperbolic common reflection surface. *Geophysical Prospecting*, **2013**, 61, 21-27	1.9	41
263	Seismic velocity estimation from time migration. *Inverse Problems*, **2007**, 23, 1329-1369	2.3	41
262	Building good starting models for full-waveform inversion using adaptive matching filtering misfit. *Geophysics*, **2016**, 81, U61-U72	3.1	41
261	Low-rank one-step wave extrapolation for reverse time migration. *Geophysics*, **2016**, 81, S39-S54	3.1	40
260	Fourier finite-difference wave propagation. *Geophysics*, **2011**, 76, T123-T129	3.1	40
259	Automatic fault interpretation with optimal surface voting. *Geophysics*, **2018**, 83, O67-O82	3.1	39
258	The space-time domain: theory and modelling for anisotropic media. *Geophysical Journal International*, **2001**, 144, 105-113	2.6	39
257	Signal and noise separation in prestack seismic data using velocity-dependent seislet transform. *Geophysics*, **2015**, 80, WD117-WD128	3.1	38
256	Least-squares horizons with local slopes and multigrid correlations. *Geophysics*, **2018**, 83, IM29-IM40	3.1	37
255	Wave-equation angle-domain common-image gathers for converted waves. *Geophysics*, **2008**, 73, S17-S26	3.1	37
254	Amplitude-preserved common image gathers by wave-equation migration **2001**,		34
253	Multitask learning for local seismic image processing: fault detection, structure-oriented smoothing with edge-preserving, and seismic normal estimation by using a single convolutional neural network. *Geophysical Journal International*, **2019**, 219, 2097-2109	2.6	33

252	Accelerated plane-wave destruction. *Geophysics*, **2013**, 78, V1-V9	3.1	32
251	Seismic data interpolation using CycleGAN **2019**,		32
250	OC-seislet: Seislet transform construction with differential offset continuation. *Geophysics*, **2010**, 75, WB235-WB245	3.1	31
249	Lowrank seismic-wave extrapolation on a staggered grid. *Geophysics*, **2014**, 79, T157-T168	3.1	30
248	Theory of differential offset continuation. *Geophysics*, **2003**, 68, 718-732	3.1	30
247	A multistep approach to multicomponent seismic image registration with application to a West Texas carbonate reservoir study **2005**,		30
246	Accelerating full-waveform inversion with attenuation compensation. *Geophysics*, **2018**, 83, A13-A20	3.1	29
245	Diffraction imaging and time-migration velocity analysis using oriented velocity continuation. *Geophysics*, **2017**, 82, U25-U35	3.1	28
244	A fast butterfly algorithm for generalized Radon transforms. *Geophysics*, **2013**, 78, U41-U51	3.1	27
243	Seismic wave extrapolation using lowrank symbol approximation **2010**,		26
242	Time-to-depth conversion and seismic velocity estimation using time-migration velocity. *Geophysics*, **2008**, 73, VE205-VE210	3.1	25
241	Full-waveform inversion of passive seismic data for sources and velocities **2016**,		25
240	Full-waveform inversion using seislet regularization. *Geophysics*, **2017**, 82, A43-A49	3.1	24
239	Structural uncertainty of time-migrated seismic images. *Journal of Applied Geophysics*, **2014**, 101, 27-30	1.7	24
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236	3-D traveltime computation using Huygens wavefront tracing. *Geophysics*, **2001**, 66, 883-889	3.1	24
235	Carbonate reservoir characterization using seismic diffraction imaging. *Interpretation*, **2015**, 3, SF21-SF30	2.4	23

216	Nonlinear shaping regularization in geophysical inverse problems **2008**,		17
215	Towards the seislet transform **2006**,		17
214	Generalized velocity approximation. *Geophysics*, **2019**, 84, C27-C40	3.1	17
213	Elastic wave-vector decomposition in heterogeneous anisotropic media. *Geophysical Prospecting*, **2017**, 65, 1231-1245	1.9	16
212	A comparison of diffraction imaging to incoherence and curvature. *The Leading Edge*, **2016**, 35, 86-89	1	16
211	EMD-seislet transform **2015**,		16
210	Time-lapse seismic data registration and inversion for CO2 sequestration study at Cranfield. *Geophysics*, **2013**, 78, B329-B338	3.1	16
209	Fractal heterogeneities in sonic logs and low-frequency scattering attenuation. *Geophysics*, **2009**, 74, WA77-WA92	3.1	16
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206	Predictive coherence. *Interpretation*, **2015**, 3, SAE1-SAE7	1.4	15
205	Fast salt boundary interpretation with optimal path picking. *Geophysics*, **2018**, 83, O45-O53	3.1	15
204	Post-stack velocity analysis by separation and imaging of seismic diffractions **2006**,		15
203	A robust approach to time-to-depth conversion and interval velocity estimation from time migration in the presence of lateral velocity variations. *Geophysical Prospecting*, **2015**, 63, 315-337	1.9	14
202	Imaging incomplete data and simultaneous-source data using least-squares reverse-time migration with shaping regularization **2014**,		14
201	An eikonal-based formulation for traveltime perturbation with respect to the source location. *Geophysics*, **2010**, 75, T175-T183	3.1	14
200	Regularizing velocity estimation using geologic dip information **1998**,		14
199	Diffraction imaging of high-resolution 3D P-cable data from the Gulf of Mexico using azimuthal plane-wave destruction. *First Break*, **2017**, 35,	0.5	14

198	Least-squares path-summation diffraction imaging using sparsity constraints. *Geophysics*, **2019**, 84, S187-S200	3.1	13
197	The WilsonBurg method of spectral factorization with application to helical filtering. *Geophysical Prospecting*, **2003**, 51, 409-420	1.9	13
196	Analytical path-summation imaging of seismic diffractions. *Geophysics*, **2017**, 82, S51-S59	3.1	12
195	Low-rank one-step wave extrapolation **2013**,		12
194	3D velocity-independent elliptically anisotropic moveout correction. *Geophysics*, **2009**, 74, WB129-WB136	3.1	12
193	Implicit 3-D depth migration by wavefield extrapolation with helical boundary conditions **1998**,		12
192	SCALODEEP: A Highly Generalized Deep Learning Framework for Real-Time Earthquake Detection. *Journal of Geophysical Research: Solid Earth*, **2021**, 126, e2020JB021473	3.6	12
191	Mapping of moveout attributes using local slopes. *Geophysical Prospecting*, **2016**, 64, 31-37	1.9	12
190	Missing log data interpolation and semiautomatic seismic well ties using data matching techniques. *Interpretation*, **2019**, 7, T347-T361	1.4	12
189	Q-compensated full-waveform inversion using constant-Q wave equation **2016**,		11
188	Theory of interval traveltime parameter estimation in layered anisotropic media. *Geophysics*, **2016**, 81, C253-C263	3.1	11
187	The modified generalized moveout approximation: a new parameter selection. *Geophysical Prospecting*, **2017**, 65, 687-695	1.9	11
186	Stratigraphic coordinates: a coordinate system tailored to seismic interpretation. *Geophysical Prospecting*, **2015**, 63, 1246-1255	1.9	11
185	Comparison of seismic diffraction imaging techniques: Plane wave destruction versus apex destruction **2013**,		11
184	Local skewness attribute as a seismic phase detector. *Interpretation*, **2014**, 2, SA49-SA56	1.4	11
183	Theory of 3-D angle gathers in wave-equation seismic imaging. *Journal of Petroleum Exploration and Production*, **2011**, 1, 11-16	2.2	11
182	Enhancing seismic data resolution using the prestack blueing technique: An example from the Ketzin C O2 injection site, Germany. *Geophysics*, **2010**, 75, V101-V110	3.1	11
181	Nonstationary phase estimation: A tool for seismic interpretation?. *The Leading Edge*, **2010**, 29, 1020-1026		11

162	Time-domain seismic imaging using beams **2009**,		9
161	Relative geologic time estimation using a deep convolutional neural network **2019**,		9
160	Fast time-to-depth conversion and interval velocity estimation in the case of weak lateral variations. *Geophysics*, **2018**, 83, S227-S235	3.1	8
159	Kirchhoff migration using eikonal-based computation of traveltime source derivatives. *Geophysics*, **2013**, 78, S211-S219	3.1	8
158	An efficient workflow for path-integral imaging of seismic diffractions **2015**,		8
157	Fast-marching eikonal solver in the tetragonal coordinates **1998**,		8
156	Diffraction imaging using azimuthal plane-wave destruction **2016**,		8
155	Overcoming numerical dispersion of finite-difference wave extrapolation using deep learning **2019**,		8
154	Seislet-based morphological component analysis using scale-dependent exponential shrinkage. *Journal of Applied Geophysics*, **2015**, 118, 66-74	1.7	7
153	Matching and merging high-resolution and legacy seismic images. *Geophysics*, **2018**, 83, V115-V122	3.1	7
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150	Local similarity with the envelope as a seismic phase detector **2010**,		7
149	Analysis and algorithms for a regularized cauchy problem arising from a non-linear elliptic PDE for seismic velocity estimation. *Journal of Computational Physics*, **2009**, 228, 7388-7411	4.1	7
148	Time-frequency characterization of seismic data using local attributes **2009**,		7
147	Predictive painting of 3-D seismic volumes **2008**,		7
146	True amplitude DMO, offset continuation and AVA/AVO for curved reflectors **1996**,		7
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144	The Slope-Attribute-Regularized High-Resolution Prestack Seismic Inversion. *Surveys in Geophysics*, **2021**, 42, 625-671	7.6	7
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142	Deep learning for local seismic image processing: Fault detection, structure-oriented smoothing with edge-preserving, and slope estimation by using a single convolutional neural network **2019**,		7
141	Deep learning for velocity model building with common-image gather volumes. *Geophysical Journal International*,	2.6	7
140	Least-squares diffraction imaging using shaping regularization by anisotropic smoothing. *Geophysics*, **2020**, 85, S313-S325	3.1	6
139	Least-squares reverse-time migration using one-step two-way wave extrapolation by non-stationary phase shift **2014**,		6
138	Recursive integral time extrapolation of elastic waves using low-rank symbol approximation. *Geophysical Journal International*, **2017**, 211, 1478-1493	2.6	6
137	Unconventional Reservoir Characterization Using Azimuthal Seismic Diffraction Imaging **2017**,		6
136	Time-lapse pre-stack seismic data registration and inversion for CO2 sequestration study at Cranfield. *Geophysical Prospecting*, **2014**, 62, 1028-1039	1.9	6
135	Improving wave-equation fidelity of Gaussian beams by solving the complex eikonal equation **2011**,		6
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132	Non-hyperbolic common reflection surface **2009**,		6
131	Separating primaries and multiples using hyperbolic Radon transform with deep learning **2020**,		6
130	Deep learning parameterization for geophysical inverse problems **2020**,		5
129	Incremental correlation of multiple well logs following geologically optimal neighbors. *Interpretation*, **2018**, 6, T713-T722	1.4	5
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125	Shifted hyperbola moveout approximation revisited. *Geophysical Prospecting*, **2012**, 60, 395-399	1.9	5
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121	Shaping regularization in geophysical estimation problems **2005**,		5
120	Angle gathers in wave-equation imaging for VTI media **2009**,		5
119	Lowrank finite-differences for wave extrapolation **2011**,		5
118	Wave-equation time migration **2013**,		5
117	Random noise attenuation using local similarity **2014**,		5
116	Anelliptic approximations for qP velocities in orthorhombic media **2014**,		5
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114	Relative time seislet transform. *Geophysics*, **2020**, 85, V223-V232	3.1	5
113	A Compact Program for 3D Passive Seismic Source-Location Imaging. *Seismological Research Letters* , **2021**, 92, 3187-3201	3	5
112	Uncertainty and interpretability analysis of encoder-decoder architecture for channel detection. *Geophysics*, **2021**, 86, O49-O58	3.1	5
111	Migration-based passive-source imaging for continuous data **2016**,		5
110	Structure-oriented plane-wave Sobel filter for edge detection in seismic images **2016**,		5
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108	Solving fractional Laplacian viscoelastic wave equations using domain decomposition **2018**,		5
107	Nonstationary local signal-and-noise orthogonalization. *Geophysics*, **2021**, 86, V409-V418	3.1	5
106	Pattern-guided dip estimation with plane-wave destruction filters. *Geophysical Prospecting*, **2019**, 67, 1798-1810	1.9	4
105	A fast algorithm for 3D azimuthally anisotropic velocity scan. *Geophysical Prospecting*, **2015**, 63, 368-377	1.9	4
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99	Split-step complex Padé Fourier depth migration. *Geophysical Journal International*, **2007**, 171, 1308-1313	2.6	4
98	Split-step complex Padé Fourier depth migration **2004**,		4
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95	Seismic time-lapse image registration using amplitude-adjusted plane-wave destruction **2016**,		4
94	Recursive integral time extrapolation of elastic waves using lowrank approximation **2016**,		4
93	Enhancing seismic-diffraction images using semblance-weighted least-squares migration **2017**,		4
92	Missing well-log data prediction using Bayesian approach in the relative-geologic time domain **2018**,		4
91	3-D Forward Seismic Model of an Outcrop-Based Geocellular Model **2011**, 87-106		4

90	Least-squares path-integral diffraction imaging using sparsity constraints **2016**,		4
89	Interactively tracking seismic geobodies with a deep-learning flood-filling network. *Geophysics*, **2021**, 86, A1-A5	3.1	4
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87	Diffraction imaging and velocity analysis using oriented velocity continuation **2014**,		3
86	Fast algorithms for elastic-wave-mode separation and vector decomposition using low-rank approximation for anisotropic media **2013**,		3
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84	Source-receiver two-way wave extrapolation for prestack exploding-reflector modelling and migration. *Geophysical Prospecting*, **2015**, 63, 23-34	1.9	3
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82	Time-lapse image registration using the local similarity attribute **2007**,		3
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79	The time and space formulation of azimuth moveout **1995**,		3
78	Machine Learning for Fast and Reliable Source-Location Estimation in Earthquake Early Warning. *IEEE Geoscience and Remote Sensing Letters*, **2022**, 19, 1-5	4.1	3
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76	Trace interpolation beyond aliasing using regularized nonstationary autoregression **2010**,		3
75	Optimal migration aperture for conflicting dips **2012**,		3
74	Multiple suppression in the t-x-p domain **2012**,		3
73	Modified anelliptic approximations for qP velocities in transversely isotropic media **2014**,		3

72	3D generalized nonhyperboloidal moveout approximation **2015**,		3
71	Improving resolution of NMO stack using shaping regularization **2015**,		3
70	Missing Well Log Estimation by Multiple Well-log Correlation **2018**,		3
69	Automatic fault interpretation using optimal surface voting **2018**,		3
68	Microseismic source localization using time-domain path-integral migration **2016**,		3
67	Probabilistic moveout analysis by time warping. *Geophysics*, **2020**, 85, U1-U20	3.1	3
66	A Fast Algorithm for Elastic Wave-Mode Separation Using Deep Learning With Generative Adversarial Networks (GANs). *Journal of Geophysical Research: Solid Earth*, **2021**, 126, e2020JB021123	3.6	3
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64	Transforming prestack seismic data by Gardner continuation **2014**,		2
63	Balancing local frequency content in seismic data using nonstationary smoothing **2017**,		2
62	Diffraction-based migration velocity analysis using double-path summation **2017**,		2
61	Fast salt-boundary interpretation with optimal path picking **2017**,		2
60	Predictive coherency **2013**,		2
59	Iterative deblending of simultaneous-source seismic data using shaping regularization **2013**,		2
58	Constrained simultaneous automatic picking for VVAZ analysis **2012**,		2
57	Seismic data analysis with one-dimensional seislet frame **2008**,		2
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50	Continuation of a class of seismic processor s and associated rays **2006**,		2
49	OC-seislet: Seislet transform construction with differential offset continuation **2009**,		2
48	Stratigraphic coordinate system **2011**,		2
47	Seismic wave extrapolation on a staggered grid using low-rank decomposition and low-rank finite differences **2013**,		2
46	Seismic diffraction imaging, one migration dip at a time **2013**,		2
45	Predictive painting across faults **2017**,		2
44	Least-squares diffraction imaging using shaping regularization by anisotropic smoothing **2018**,		2
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37	Subsurface Exploration: Recent Advances in Geo-Signal Processing, Interpretation, and Learning [From the Guest Editors]. *IEEE Signal Processing Magazine*, **2018**, 35, 16-18	9.4	1

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