

Alan Levander

List of Publications by Year in descending order

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139
papers

6,060
citations

76196

40
h-index

79541

73
g-index

147
all docs

147
docs citations

147
times ranked

3595
citing authors

#	ARTICLE	IF	CITATIONS
1	Fourth-order finite-difference P-SV seismograms. <i>Geophysics</i> , 1988, 53, 1425-1436.	1.4	1,340
2	Continuing Colorado plateau uplift by delamination-style convective lithospheric downwelling. <i>Nature</i> , 2011, 472, 461-465.	13.7	258
3	A stochastic view of lower crustal fabric based on evidence from the Ivrea Zone. <i>Geophysical Research Letters</i> , 1992, 19, 1153-1156.	1.5	139
4	Trans-Alaska Crustal Transect and continental evolution involving subduction underplating and synchronous foreland thrusting. <i>Geology</i> , 2008, 36, 267.	2.0	139
5	Deep Probe: imaging the roots of western North America. <i>Canadian Journal of Earth Sciences</i> , 2002, 39, 375-398.	0.6	131
6	Evolutionary aspects of lithosphere discontinuity structure in the western U.S.. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	1.0	118
7	Deformation in the Lower Crust of the San Andreas Fault System in Northern California. <i>Science</i> , 1997, 278, 650-653.	6.0	101
8	The role of chemical boundary layers in regulating the thickness of continental and oceanic thermal boundary layers. <i>Earth and Planetary Science Letters</i> , 2005, 230, 379-395.	1.8	97
9	Magma reservoirs from the upper crust to the Moho inferred from high-resolution Vp and Vs models beneath Mount St. Helens, Washington State, USA. <i>Geology</i> , 2016, 44, 411-414.	2.0	94
10	Finite-frequency Rayleigh wave tomography of the western Mediterranean: Mapping its lithospheric structure. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 140-160.	1.0	89
11	The crust as a heterogeneous "optical" medium, or "crocodiles in the mist". <i>Tectonophysics</i> , 1994, 232, 281-297.	0.9	86
12	Stochastic modeling of the reflective lower crust: Petrophysical and geological evidence from the Ivrea Zone (northern Italy). <i>Journal of Geophysical Research</i> , 1993, 98, 11967-11980.	3.3	80
13	Modal fields: A new method for characterization of random seismic velocity heterogeneity. <i>Geophysical Research Letters</i> , 1994, 21, 493-496.	1.5	80
14	Crustal and uppermost mantle structure along the Deep Probe seismic profile. <i>Rocky Mountain Geology</i> , 1998, 33, 181-198.	0.4	78
15	Receiver function study of the crustal structure of the southeastern Caribbean plate boundary and Venezuela. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	77
16	Moho depth and crustal composition in Southern Africa. <i>Tectonophysics</i> , 2013, 609, 267-287.	0.9	77
17	Mapping the subducting Pacific slab beneath southwest Japan with Hi-net receiver functions. <i>Earth and Planetary Science Letters</i> , 2005, 239, 9-17.	1.8	76
18	3D seismic refraction travelttime tomography at a groundwater contamination site. <i>Geophysics</i> , 2006, 71, H67-H78.	1.4	76

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19	Small-scale heterogeneity and large-scale velocity structure of the continental crust. <i>Journal of Geophysical Research</i> , 1992, 97, 8797-8804.	3.3	70
20	Migration moveout analysis and depth focusing. <i>Geophysics</i> , 1993, 58, 91-100.	1.4	68
21	Subduction-driven recycling of continental margin lithosphere. <i>Nature</i> , 2014, 515, 253-256.	13.7	66
22	Modeling and processing of scattered waves in seismic reflection surveys. <i>Geophysics</i> , 1988, 53, 466-478.	1.4	61
23	Ongoing lithospheric removal in the western Mediterranean: Evidence from Ps receiver functions and thermobarometry of Neogene basalts (PICASSO project). <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 1113-1127.	1.0	60
24	Seismic constraints on the depth and composition of the mantle keel beneath the Kaapvaal craton. <i>Earth and Planetary Science Letters</i> , 2004, 224, 337-346.	1.8	58
25	The Yavapai-Mazatzal boundary: A long-lived tectonic element in the lithosphere of southwestern North America. <i>Bulletin of the Geological Society of America</i> , 2004, 116, 1137.	1.6	58
26	Lithospheric structure of Iberia and Morocco using finite-frequency Rayleigh wave tomography from earthquakes and seismic ambient noise. <i>Geochemistry, Geophysics, Geosystems</i> , 2017, 18, 1824-1840.	1.0	57
27	Waveform tomography at a groundwater contamination site: VSP-surface data set. <i>Geophysics</i> , 2006, 71, H1-H11.	1.4	55
28	Waveform tomography at a groundwater contamination site: Surface reflection data. <i>Geophysics</i> , 2007, 72, G45-G55.	1.4	54
29	The Mohorovičić discontinuity beneath the continental crust: An overview of seismic constraints. <i>Tectonophysics</i> , 2013, 609, 353-376.	0.9	52
30	Lower crustal reflectivity patterns in wide-angle seismic recordings. <i>Geophysical Research Letters</i> , 1988, 15, 617-620.	1.5	51
31	Some attributes of wavefields scattered from Ivrea-type lower crust. <i>Tectonophysics</i> , 1994, 232, 267-279.	0.9	49
32	Transition from slab to slabless: Results from the 1993 Mendocino triple junction seismic experiment. <i>Geology</i> , 1996, 24, 195.	2.0	48
33	Piecewise delamination of Moroccan lithosphere from beneath the Atlas Mountains. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 975-985.	1.0	48
34	Fluid Controls on the Heterogeneous Seismic Characteristics of the Cascadia Margin. <i>Geophysical Research Letters</i> , 2018, 45, 11,021.	1.5	48
35	Fluids in the lower crust following Mendocino triple junction migration: Active basaltic intrusion?. <i>Geology</i> , 1998, 26, 171.	2.0	43
36	Upper mantle structure beneath the Caribbean-South American plate boundary from surface wave tomography. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	43

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37	Subduction in the southern Caribbean: Images from finite-frequency P wave tomography. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	43
38	Role of arc magmatism and lower crustal foundering in controlling elevation history of the Nevadaplano and Colorado Plateau: A case study of pyroxenitic lower crust from central Arizona, USA. <i>Earth and Planetary Science Letters</i> , 2016, 439, 48-57.	1.8	43
39	Stochastic characterization and seismic response of upper and middle crustal rocks based on the Lewisian gneiss complex, Scotland. <i>Geophysical Journal International</i> , 1994, 119, 243-259.	1.0	42
40	High-resolution transition zone structures of the Gorda Slab beneath the western United States: Implication for deep water subduction. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	42
41	Crustal thickness and velocity structure across the Moroccan Atlas from long offset wide-angle reflection seismic data: The SIMA experiment. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 1698-1717.	1.0	42
42	Seismic evidence for a cold serpentinized mantle wedge beneath Mount St Helens. <i>Nature Communications</i> , 2016, 7, 13242.	5.8	42
43	Potential Pitfalls in the Analysis and Structural Interpretation of Seismic Data from the Mars InSight Mission. <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 2982-3002.	1.1	42
44	Characterizing the Caribbean-South American plate boundary at 64°W using wide-angle seismic data. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	41
45	Asthenospheric flow and lithospheric evolution near the Mendocino Triple Junction. <i>Earth and Planetary Science Letters</i> , 2012, 323-324, 60-71.	1.8	41
46	Structure and seismic response of extended continental crust: Stochastic analysis of the Strona-Ceneri and Ivrea zones, Italy. <i>Geology</i> , 1994, 22, 79.	2.0	40
47	Identification and tectonic implications of a tear in the South American plate at the southern end of the Lesser Antilles. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	1.0	38
48	Estimation of crustal stochastic parameters from seismic exploration data. <i>Journal of Geophysical Research</i> , 1997, 102, 15269-15286.	3.3	37
49	Imag(in)ing the continental lithosphere. <i>Tectonophysics</i> , 2006, 416, 167-185.	0.9	37
50	Seismic scattering near the earth's surface. <i>Pure and Applied Geophysics</i> , 1990, 132, 21-47.	0.8	36
51	Melting under the Colorado Plateau, USA. <i>Geology</i> , 2012, 40, 387-390.	2.0	36
52	Focusing of melt near the top of the Mount St. Helens (USA) magma reservoir and its relationship to major volcanic eruptions. <i>Geology</i> , 2018, 46, 775-778.	2.0	36
53	Wide-angle seismic reflections from two-dimensional random target zones. <i>Journal of Geophysical Research</i> , 1991, 96, 10251-10260.	3.3	34
54	Upper mantle structure beneath southern African cratons from seismic finite-frequency P- and S-body wave tomography. <i>Earth and Planetary Science Letters</i> , 2015, 420, 174-186.	1.8	34

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55	Apparent layering in commonâ€midpoint stacked images of twoâ€dimensionally heterogeneous targets. <i>Geophysics</i> , 1990, 55, 1466-1477.	1.4	33
56	Seismic structure of gneissic/granitic upper crust: geological and petrophysical evidence from the Strona-Ceneri Zone (northern Italy) and implications for crustal seismic exploration. <i>Geophysical Journal International</i> , 1994, 119, 497-510.	1.0	33
57	Lower crustal reflectivity modeled by rheological controls on mafic intrusions. <i>Geology</i> , 1994, 22, 367-370.	2.0	33
58	Origin of upper-mantle seismic scattering - evidence from Russian peaceful nuclear explosion data. <i>Geophysical Journal International</i> , 2003, 154, 196-204.	1.0	33
59	Crustal structure of the South Americanâ€Caribbean plate boundary at 67Â°W from controlled source seismic data. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	31
60	<i>V_s</i> and density structure beneath the Colorado Plateau constrained by gravity anomalies and joint inversions of receiver function and phase velocity data. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	31
61	Imaging crustal and upper mantle structure beneath the Colorado Plateau using finite frequency Rayleigh wave tomography. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	1.0	30
62	Lithospheric evolution in the wake of the Mendocino triple junction: structure of the San Andreas Fault system at 2â€Ma. <i>Geophysical Journal International</i> , 2000, 140, 233-247.	1.0	29
63	Mantle flow beneath northwestern Venezuela: Seismic evidence for a deep origin of the MÃ©rida Andes. <i>Earth and Planetary Science Letters</i> , 2011, 305, 396-404.	1.8	28
64	Autocorrelation Reflectivity of Mars. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089630.	1.5	27
65	Deep crustal reflection profiling offshore southern central California. <i>Journal of Geophysical Research</i> , 1991, 96, 6475-6491.	3.3	26
66	Migration of wide-aperture onshore-offshore seismic data, central California: Seismic images of late stage subduction. <i>Journal of Geophysical Research</i> , 1995, 100, 22231-22243.	3.3	26
67	Internal deformation of the southern Gorda plate: Fragmentation of a weak plate near the Mendocino triple junction. <i>Geology</i> , 2001, 29, 691.	2.0	26
68	Crustal structure beneath the <i>Rifordillera</i> , <i>North Morocco</i> , from the <i>RIFISIS</i> wideâ€angle reflection seismic experiment. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 4712-4733.	1.0	26
69	Local Source <i>V_p</i> and <i>V_s</i> Tomography in the Mount St. Helens Region With the iMUSH Broadband Array. <i>Geochemistry, Geophysics, Geosystems</i> , 2020, 21, e2019GC008888.	1.0	26
70	Use of the telegraphy equation to improve absorbing boundary efficiency for fourth-order acoustic wave finite difference schemes. <i>Bulletin of the Seismological Society of America</i> , 1985, 75, 1847-1852.	1.1	26
71	Proposed project would give unprecedented look under North America. <i>Eos</i> , 1999, 80, 245-251.	0.1	25
72	Evolution of the Southern Caribbean Plate Boundary. <i>Eos</i> , 2006, 87, 97.	0.1	25

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73	Finite-difference forward modeling in seismology. , 1989, , 410-431.		25
74	Sensitivity of the lateral correlation function in deep seismic reflection data. Geophysical Research Letters, 1992, 19, 2263-2266.	1.5	24
75	Seismic images of the Brooks Range fold and thrust belt, Arctic Alaska, from an integrated seismic reflection/refraction experiment. Tectonophysics, 1994, 232, 13-30.	0.9	24
76	A hybrid wave propagation simulation technique for ocean acoustic problems. Journal of Geophysical Research, 1996, 101, 11225-11241.	3.3	24
77	Incorporating "continuous connectivity" into stochastic models of crustal heterogeneity: Examples from the Lewisian gneiss complex, Scotland, the Franciscan formation, California, and the Hafafit Gneiss Complex, Egypt. Journal of Geophysical Research, 1996, 101, 8489-8501.	3.3	24
78	Constraining Crustal Properties Using Receiver Functions and the Autocorrelation of Earthquake-Generated Body Waves. Journal of Geophysical Research: Solid Earth, 2019, 124, 8981-8997.	1.4	24
79	Subcretionary tectonics: Linking variability in the expression of subduction along the Cascadia forearc. Earth and Planetary Science Letters, 2021, 556, 116724.	1.8	24
80	Seismic images of the Brooks Range, Arctic Alaska, reveal crustal-scale duplexing. Geology, 1995, 23, 65.	2.0	21
81	Is the Moho flat? Seismic evidence for a rough crust-mantle interface beneath the northern Basin and Range. Geology, 1997, 25, 451.	2.0	21
82	PdS receiver function evidence for crustal scale thrusting, relic subduction, and mafic underplating in the Trans-Hudson Orogen and Yavapai province. Earth and Planetary Science Letters, 2015, 426, 13-22.	1.8	21
83	Wave-equation datuming for improving deep crustal seismic images. Tectonophysics, 1996, 264, 371-379.	0.9	20
84	Estimation of vertical stochastic scale parameters in the Earth's crystalline crust from seismic reflection data. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	20
85	Imaging teleseismic P to S scattered waves using the Kirchhoff integral. Geophysical Monograph Series, 2005, , 149-169.	0.1	20
86	Crustal thickness variations in Venezuela from deep seismic observations. Tectonophysics, 2008, 459, 14-26.	0.9	20
87	Synthesis of results from the CD-ROM Experiment: 4-D image of the lithosphere beneath the Rocky Mountains and implications for understanding the evolution of continental lithosphere. Geophysical Monograph Series, 2005, , 421-441.	0.1	18
88	A numerical study of seafloor scattering. Journal of the Acoustical Society of America, 1995, 97, 3532-3546.	0.5	16
89	An introduction to the special issue of Earth and Planetary Science Letters on USArray science. Earth and Planetary Science Letters, 2014, 402, 1-5.	1.8	16
90	Overlapping slabs: Untangling subduction in NW South America through finite-frequency teleseismic tomography. Earth and Planetary Science Letters, 2022, 577, 117253.	1.8	16

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91	Seismic images of crustal duplexing and continental subduction in the Brooks Range. <i>Journal of Geophysical Research</i> , 1997, 102, 20847-20871.	3.3	15
92	USArray design implications for wavefield imaging in the lithosphere and upper mantle. <i>The Leading Edge</i> , 2003, 22, 250-255.	0.4	15
93	Creation and preservation of cratonic lithosphere: Seismic constraints and geodynamic models. <i>Geophysical Monograph Series</i> , 2006, , 75-88.	0.1	15
94	Three-dimensional Kirchhoff-approximate generalized Radon transform imaging using teleseismic P-to-S scattered waves. <i>Geophysical Journal International</i> , 2013, 192, 1196-1216.	1.0	14
95	Depth image focusing in traveltimes based wide-angle migration. <i>Geophysics</i> , 2002, 67, 1903-1912.	1.4	14
96	Negligible convergence and lithospheric tearing along the Caribbean-South American plate boundary at 64°W. <i>Tectonics</i> , 2008, 27, .	1.3	13
97	A deterministic and stochastic velocity model for the Salton Trough/Basin and Range transition zone and constraints on magmatism during rifting. <i>Journal of Geophysical Research</i> , 1996, 101, 27883-27897.	3.3	12
98	Finite difference calculations of dispersive Rayleigh wave propagation. <i>Tectonophysics</i> , 1985, 113, 1-30.	0.9	11
99	Upper crustal structure of the accreted Chugach Terrane, Alaska. <i>Journal of Geophysical Research</i> , 1989, 94, 4457-4466.	3.3	11
100	Three-dimensional seismic-reflection imaging of a shallow buried paleochannel. <i>Geophysics</i> , 2008, 73, B85-B98.	1.4	11
101	Mantle transition zone beneath the Caribbean-South American plate boundary and its tectonic implications. <i>Earth and Planetary Science Letters</i> , 2010, 289, 105-111.	1.8	11
102	Lithospheric Structure of Northwestern Venezuela From Wide-Angle Seismic Data: Implications for the Understanding of Continental Margin Evolution. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 13124-13149.	1.4	11
103	Shear velocity structure of the northern California lithosphere. <i>Journal of Geophysical Research</i> , 1990, 95, 19773-19784.	3.3	10
104	Crust and upper mantle velocity structure of the southern Rocky Mountains from the Jemez Lineament to the Cheyenne belt. <i>Geophysical Monograph Series</i> , 2005, , 293-308.	0.1	10
105	Lithospheric expression of cenozoic subduction, mesozoic rifting and the Precambrian Shield in Venezuela. <i>Earth and Planetary Science Letters</i> , 2015, 410, 12-24.	1.8	10
106	Synthetic seismograms through synthetic Franciscan: Insights into factors affecting large-aperture seismic data. <i>Geophysical Research Letters</i> , 1997, 24, 3317-3320.	1.5	9
107	The Caribbean-South American plate boundary at 65°W: Results from wide-angle seismic data. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	9
108	Similarities between the Th/U map of the western US crystalline basement and the seismic properties of the underlying lithosphere. <i>Earth and Planetary Science Letters</i> , 2014, 391, 243-254.	1.8	9

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109	Structure and seismotectonics of the Mendocino Triple Junction, California. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	8
110	The dynamic nature of the continental crust-mantle boundary: Crustal evolution in the southern Rocky Mountain region as an example. <i>Geophysical Monograph Series</i> , 2005, , 403-420.	0.1	8
111	Caribbean Slab Segmentation Beneath Northwest South America Revealed by 3D Finite Frequency Teleseismic P-Wave Tomography. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2020GC009431.	1.0	8
112	A comparative study of free-surface boundary conditions for finite-difference simulation of elastic/viscoelastic wave propagation. , 1995, , .		7
113	Impact of a complex overburden on analysis of bright reflections: A case study from the Mendocino Triple Junction. <i>Journal of Geophysical Research</i> , 2000, 105, 21711-21726.	3.3	7
114	A compressive sensing approach to the high-resolution linear Radon transform: application on teleseismic wavefields. <i>Geophysical Journal International</i> , 2016, 207, 811-822.	1.0	7
115	Perspectives on array seismology and USArray. <i>Geophysical Monograph Series</i> , 2005, , 1-6.	0.1	6
116	Receiver function imaging in strongly laterally heterogeneous crust: Synthetic modeling of BOLIVAR data. <i>Earthquake Science</i> , 2011, 24, 45-54.	0.4	6
117	Moho depth map of northern Venezuela based on wide-angle seismic studies. <i>Journal of South American Earth Sciences</i> , 2021, 107, 103088.	0.6	6
118	Crustal structure of the offshore southern Santa Maria Basin and transverse ranges, southern California, from deep seismic reflection data. <i>Journal of Geophysical Research</i> , 1993, 98, 8335-8348.	3.3	5
119	Listric thrust faulting in the Laramide front of north-central New Mexico guided by Precambrian basement structures. <i>Geophysical Monograph Series</i> , 2005, , 239-251.	0.1	5
120	Upper Crustal Structure and Magmatism in Southwest Washington: V_p , V_s , and V_p/V_s Results From the iMUSH Active-Source Seismic Experiment. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 7067-7080.	1.4	5
121	Fast and accurate dynamic raytracing in heterogeneous media. <i>Bulletin of the Seismological Society of America</i> , 1990, 80, 1284-1296.	1.1	5
122	Modeling of the Acoustic Reverberation Special Research Program deep ocean seafloor scattering experiments using a hybrid wave propagation simulation technique. <i>Journal of Geophysical Research</i> , 1996, 101, 3085-3101.	3.3	4
123	Seismic waveform tomography with multicomponent data at a groundwater contamination site. , 2009, , .		4
124	Sedimentary and crustal structure of the US Gulf Coast revealed by Rayleigh wave and teleseismic P coda data with implications for continent rifting. <i>Earth and Planetary Science Letters</i> , 2022, 577, 117257.	1.8	4
125	High-resolution seismic survey over a near-surface contamination site. , 1999, , .		3
126	Numerical Scattering Results for a Rough, Unsedimented Seafloor. , 1993, , 215-220.		3

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127	Seismic velocity, Q, geological structure and lithology estimation at a ground water contamination site. , 2005, , .		3
128	Structure and seismic response of extended continental crust: Stochastic analysis of the Strona-Ceneri and Ivrea zones, Italy. <i>Geology</i> , 1994, 22, 79-1082.	2.0	3
129	S-wave observations in the Franciscan terrane, central California. <i>Bulletin of the Seismological Society of America</i> , 1981, 71, 1863-1874.	1.1	3
130	The rise of the academic science humble brag. <i>Matter</i> , 2022, 5, 766-767.	5.0	3
131	Seismic investigation of the Yavapai-Mazatzal transition zone and the Jemez Lineament in northeastern New Mexico. <i>Geophysical Monograph Series</i> , 2005, , 227-238.	0.1	2
132	Seismic Evidence of Bottomâ€Up Crustal Control on Volcanism and Magma Storage Near Mount St. Helens. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090612.	1.5	2
133	Highâ€resolution 3â€D seismic investigations at a groundwater contamination site: Initial results. , 2001, , .		2
134	Using elastic wave seismic data to image an ultraâ€shallow buried paleoâ€channel. , 2006, , .		2
135	Layer-stripping reverse-time migration1. <i>Geophysical Prospecting</i> , 1994, 42, 211-227.	1.0	1
136	Crust and Lithospheric Structure â€“ Active Source Studies of Crust and Lithospheric Structure. , 2007, , 247-288.		1
137	A localized waveform inversion at teleseismic distances: an application to the Dâ€3 region beneath the Cocos plate. <i>Geophysical Journal International</i> , 2010, 180, 1344-1352.	1.0	1
138	Crust and Lithospheric Structure - Active Source Studies of Crust and Lithospheric Structure. , 2007, , 479-511.		0
139	A U.S. human resource challenge for Earth science education and energy exploration and exploitation. <i>The Leading Edge</i> , 2012, 31, 714-716.	0.4	0