Robert W Clayton

List of Publications by Year
in descending order

86 papers	5,241 citations	126907 33 h-index	85541 71 g-index
89 all docs	89 docs citations	89 times ranked	3209 citing authors

#	Article	IF	Citations
1	Absorbing boundary conditions for acoustic and elastic wave equations. Bulletin of the Seismological Society of America, 1977, 67, 1529-1540.	2.3	973
2	Lower mantle heterogeneity, dynamic topography and the geoid. Nature, 1985, 313, 541-545.	27.8	722
3	High-resolution 3D shallow crustal structure in Long Beach, California: Application of ambient noise tomography on a dense seismic array. Geophysics, 2013, 78, Q45-Q56.	2.6	333
4	A Bornâ€WKBJ inversion method for acoustic reflection data. Geophysics, 1981, 46, 1559-1567.	2.6	274
5	Horizontal subduction and truncation of the Cocos Plate beneath central Mexico. Geophysical Research Letters, 2008, 35, .	4.0	241
6	Subducting Slab Ultra-Slow Velocity Layer Coincident with Silent Earthquakes in Southern Mexico. Science, 2009, 324, 502-506.	12.6	166
7	A tomographic image of mantle structure beneath Southern California. Geophysical Research Letters, 1984, 11, 625-627.	4.0	149
8	Absorbing boundary conditions for waveâ€equation migration. Geophysics, 1980, 45, 895-904.	2.6	117
9	Lateral velocity variations in Southern California. II. Results for the lower crust from Pn waves. Bulletin of the Seismological Society of America, 1986, 76, 511-520.	2.3	115
10	Spurious velocity changes caused by temporal variations in ambient noise frequency content. Geophysical Journal International, 2013, 194, 1574-1581.	2.4	97
11	Inversion of refraction data by wave field continuation. Geophysics, 1981, 46, 860-868.	2.6	94
12	The 2006 slow slip event and nonvolcanic tremor in the Mexican subduction zone. Geophysical Research Letters, 2010, 37, .	4.0	88
13	Localized seismic deformation in the upper mantle revealed by dense seismic arrays. Science, 2016, 354, 88-92.	12.6	78
14	Fault systems of the 1971 San Fernando and 1994 Northridge earthquakes, southern California: Relocated aftershocks and seismic images from LARSE II. Geology, 2003, 31, 171.	4.4	68
15	Global synthetic seismograms using a 2-D finite-difference method. Geophysical Journal International, 2014, 197, 1166-1183.	2.4	65
16	Mid-Cretaceous tectonic evolution of the Tongareva triple junction in the southwestern Pacific Basin. Geology, 2002, 30, 67.	4.4	64
17	Crustal thickness variations in the margins of the Gulf of California from receiver functions. Geophysical Journal International, 2007, 170, 687-699.	2.4	63
18	Community Seismic Network: A Dense Array to Sense Earthquake Strong Motion. Seismological Research Letters, 2015, 86, 1354-1363.	1.9	63

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19	Analysis of teleseismic P waves with a 5200â€station array in Long Beach, California: Evidence for an abrupt boundary to Inner Borderland rifting. Journal of Geophysical Research: Solid Earth, 2013, 118, 5320-5338.	3.4	61
20	A stable freeâ€surface boundary condition for twoâ€dimensional elastic finiteâ€difference wave simulation. Geophysics, 1986, 51, 2247-2249.	2.6	51
21	An iterative inversion of backâ€scattered acoustic waves. Geophysics, 1988, 53, 501-508.	2.6	51
22	Seismic imaging of the Cocos plate subduction zone system in central Mexico. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	47
23	Generation of talc in the mantle wedge and its role in subduction dynamics in central Mexico. Earth and Planetary Science Letters, 2013, 384, 81-87.	4.4	46
24	The lack of correlation between flat slabs and bathymetric impactors in South America. Earth and Planetary Science Letters, 2013, 371-372, 1-5.	4.4	45
25	Community sense and response systems. Communications of the ACM, 2014, 57, 66-75.	4.5	44
26	Evidence of a collision between the YucatÃ¡n Block and Mexico in the Miocene. Geophysical Journal International, 2011, 187, 989-1000.	2.4	41
27	Threeâ€dimensional imaging of steeply dipping structure near the San Andreas fault, Parkfield, California. Geophysics, 1988, 53, 176-185.	2.6	40
28	Imaging widespread seismicity at midlower crustal depths beneath Long Beach, CA, with a dense seismic array: Evidence for a depthâ€dependent earthquake size distribution. Geophysical Research Letters, 2015, 42, 6314-6323.	4.0	40
29	Using constraints to address the instabilities of automated prestack velocity analysis. Geophysics, 1992, 57, 404-419.	2.6	38
30	Rolling hills on the coreâ€“mantle boundary. Earth and Planetary Science Letters, 2013, 361, 333-342.	4.4	37
31	An Evaluation of Proposed Mechanisms of Slab Flattening in Central Mexico. Pure and Applied Geophysics, 2011, 168, 1461-1474.	1.9	35
32	Seismicity and structure in central Mexico: Evidence for a possible slab tear in the South Cocos plate. Journal of Geophysical Research: Solid Earth, 2014, 119, 3424-3447.	3.4	35
33	Rayleigh and S wave tomography constraints on subduction termination and lithospheric foundering in central California. Earth and Planetary Science Letters, 2018, 488, 14-26.	4.4	35
34	Imaging the Eastern Transâ€Mexican Volcanic Belt With Ambient Seismic Noise: Evidence for a Slab Tear. Journal of Geophysical Research: Solid Earth, 2018, 123, 7741-7759.	3.4	35
35	Seismic structure in central Mexico: Implications for fragmentation of the subducted Cocos plate. Journal of Geophysical Research, 2012, 117, .	3.3	33
36	The crust and uppermost mantle structure of Southern Peru from ambient noise and earthquake surface wave analysis. Earth and Planetary Science Letters, 2014, 395, 61-70.	4.4	33

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37	Structure of the Northern Los Angeles Basins Revealed in Teleseismic Receiver Functions from Shortâ€Term Nodal Seismic Arrays. Seismological Research Letters, 2018, 89, 1680-1689.	1.9	32
38	Seismic attenuation structure in central Mexico: Image of a focused highâ€attenuation zone in the mantle wedge. Journal of Geophysical Research, 2009, 114, .	3.3	30
39	Structure of the Los Angeles Basin from ambient noise and receiver functions. Geophysical Journal International, 2016, 206, 1645-1651.	2.4	30
40	Extracting Dispersion Curves From Ambient Noise Correlations Using Deep Learning. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 8932-8939.	6.3	30
41	Resolution of tomographic models of the mantle beneath Iceland. Geophysical Research Letters, 2000, 27, 3993-3996.	4.0	29
42	Structure of the subduction transition region from seismic array data in southern Peru. Geophysical Journal International, 2014, 196, 1889-1905.	2.4	29
43	Structure of the subduction system in southern Peru from seismic array data. Journal of Geophysical Research, 2012, 117, .	3.3	26
44	Seismic refraction evidence for steep faults cutting highly attenuated continental basement in the central Transverse ranges, California. Geophysical Journal International, 2005, 160, 651-666.	2.4	25
45	Higher-mode ambient-noise Rayleigh waves in sedimentary basins. Geophysical Journal International, 2016, 206, 1634-1644.	2.4	25
46	Using a Timeâ€Based Subarray Method to Extract and Invert Noiseâ€Derived Body Waves at Long Beach, California. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018855.	3.4	23
47	Locating a scatterer in the active volcanic area of Southern Peru from ambient noise cross-correlation. Geophysical Journal International, 2013, 192, 1332-1341.	2.4	22
48	Tomographic reconstruction of velocity anomalies. Bulletin of the Seismological Society of America, 1984, 74, 2201-2219.	2.3	22
49	The nature of deep crustal structures in the Mojave Desert, California. Geophysical Journal International, 1987, 89, 125-132.	2.4	20
50	Imaging the Subsurface with Ambient Noise Autocorrelations. Seismological Research Letters, 2020, 91, 930-935.	1.9	20
51	Modeling path effects in three-dimensional basin structures. Bulletin of the Seismological Society of America, 1992, 82, 81-103.	2.3	20
52	Seismic Wave Propagation and Inversion with Neural Operators. The Seismic Record, 2021, 1, 126-134.	3.1	19
53	Crustal structure of the Borderland-Continent Transition Zone of southern California adjacent to Los Angeles. Journal of Geophysical Research, 2003, 108, .	3.3	18
54	Flat slab deformation caused by interplate suction force. Geophysical Research Letters, 2015, 42, 7064-7072.	4.0	17

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55	Determination of Near Surface Shearâ€Wave Velocities in the Central Los Angeles Basin With Dense Arrays. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021369.	3.4	16
56	Seismic properties of the Nazca oceanic crust in southern Peruvian subduction system. Earth and Planetary Science Letters, 2015, 429, 110-121.	4.4	15
57	CSN-LAUSD Network: A Dense Accelerometer Network in Los Angeles Schools. Seismological Research Letters, 2020, 91, 622-630.	1.9	15
58	A notch structure on the Moho beneath the Eastern San Gabriel Mountains. Earth and Planetary Science Letters, 2007, 260, 570-581.	4.4	14
59	Shear wave structure of a transect of the Los Angeles basin from multimode surface waves and H/V spectral ratio analysis. Geophysical Journal International, 2020, 220, 415-427.	2.4	14
60	The relationship between upper mantle anisotropic structures beneath California, transpression, and absolute plate motions. Journal of Geophysical Research, 2011, 116, .	3.3	13
61	Distribution of hydrous minerals in the subduction system beneath Mexico. Earth and Planetary Science Letters, 2012, 341-344, 58-67.	4.4	13
62	Rayleigh wave dispersion measurements reveal lowâ€velocity zones beneath the new crust in the Gulf of California. Geophysical Research Letters, 2015, 42, 1766-1774.	4.0	13
63	Downtown Los Angeles 52-Story High-Rise and Free-Field Response to an Oil Refinery Explosion. Earthquake Spectra, 2016, 32, 1793-1820.	3.1	13
64	Crustal structure variations in south-central Mexico from receiver functions. Geophysical Journal International, 2019, 219, 2174-2186.	2.4	13
65	A 2-D synthetic study of global traveltime tomography. Geophysical Journal International, 1991, 106, 53-65.	2.4	12
66	Vertical tectonics of the High Plateau region, Manihiki Plateau, Western Pacific, from seismic stratigraphy. Marine Geophysical Researches, 2008, 29, 13-26.	1.2	11
67	2019 Ridgecrest Earthquake Reveals Areas of Los Angeles That Amplify Shaking of High-Rises. Seismological Research Letters, 2020, 91, 3370-3380.	1.9	11
68	Seismic anisotropy reveals crustal flow driven by mantle vertical loading in the Pacific NW. Science Advances, 2020, 6, eabb0476.	10.3	11
69	Urban Basin Structure Imaging Based on Dense Arrays and Bayesian Arrayâ€Based Coherent Receiver Functions. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022279.	3.4	11
70	The Fineâ€Scale Structure of Long Beach, California, and Its Impact on Ground Motion Acceleration. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022462.	3.4	11
71	Seismicity and structure of Nazca Plate subduction zone in southern Peru. Earth and Planetary Science Letters, 2018, 498, 334-347.	4.4	10
72	Analysis of upper mantle structure using wave field continuation of P waves. Bulletin of the Seismological Society of America, 1984, 74, 1703-1719.	2.3	9

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73	Exposing Los Angelesâ€™s Shaky Geologic Underbelly. Eos, 2019, 100, .	0.1	8
74	Seismic attenuation structure of southern Peruvian subduction system. Tectonophysics, 2019, 771, 228203.	2.2	7
75	Ground motions in urban Los Angeles from the 2019 Ridgecrest earthquake sequence. Earthquake Spectra, 2021, 37, 2493-2522.	3.1	7
76	Seismic evidence for a fossil slab origin for the Isabella anomaly. Geophysical Journal International, 2020, 224, 1188-1196.	2.4	6
77	Imaging the subsurface with ambient noise autocorrelations. , 2018, , .		6
78	An Anisotropic Contrast in the Lithosphere Across the Central San Andreas Fault. Geophysical Research Letters, 2018, 45, 3967-3975.	4.0	5
79	Southern California Earthquake Data Now Available in the AWS Cloud. Seismological Research Letters, 2021, 92, 3238-3247.	1.9	5
80	Damage Detection by Template Matching of Scattered Waves. Bulletin of the Seismological Society of America, 2018, 108, 2556-2564.	2.3	4
81	Parsimonious Velocity Inversion Applied to the Los Angeles Basin, CA. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	4
82	GEC Hirst Research Centre. Physics in Technology, 1985, 16, 76-84.	0.2	3
83	Evidence of an upper mantle seismic anomaly opposing the <scp>C</scp>ocos slab beneath the <scp>I</scp>sthmus of <scp>T</scp>ehuantepec, <scp>M</scp>exico. Geochemistry, Geophysics, Geosystems, 2014, 15, 3021-3034.	2.5	3
84	A detailed image of the continent-borderland transition beneath Long Beach, California. Geophysical Journal International, 2020, 222, 2102-2107.	2.4	2
85	Spatial Variation and Frequency Dependence of Lg Wave Attenuation With Site Response Correction Along the CCSE Array in Central California, US. Geochemistry, Geophysics, Geosystems, 2022, 23, .	2.5	0
86	Evidence of Mantleâ€Based Deformation Across the Western US. Geophysical Research Letters, 0, , .	4.0	0