

# Alan Chave

## List of Publications by Year in descending order

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121  
papers

6,849  
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66343

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71685

76  
g-index

127  
all docs

127  
docs citations

127  
times ranked

2809  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Magnetotelluric Method. , 2012, , .		354
2	On the robust estimation of power spectra, coherences, and transfer functions. Journal of Geophysical Research, 1987, 92, 633-648.	3.3	306
3	Controlled electromagnetic sources for measuring electrical conductivity beneath the oceans: 1. Forward problem and model study. Journal of Geophysical Research, 1982, 87, 5327-5338.	3.3	262
4	Bounded influence magnetotelluric response function estimation. Geophysical Journal International, 2004, 157, 988-1006.	2.4	249
5	Geophysical evidence from the MELT area for compositional controls on oceanic plates. Nature, 2005, 437, 249-252.	27.8	217
6	A comparison of techniques for magnetotelluric response function estimation. Journal of Geophysical Research, 1989, 94, 14201-14213.	3.3	201
7	Controlled-source electromagnetic sounding of the oceanic lithosphere. Nature, 1986, 320, 52-54.	27.8	190
8	Some comments on magnetotelluric response function estimation. Journal of Geophysical Research, 1989, 94, 14215-14225.	3.3	175
9	Northeastern Pacific mantle conductivity profile from long-period magnetotelluric sounding using Hawaii-to-California submarine cable data. Journal of Geophysical Research, 1995, 100, 17837-17854.	3.3	172
10	Numerical integration of related Hankel transforms by quadrature and continued fraction expansion. Geophysics, 1983, 48, 1671-1686.	2.6	170
11	On electric and magnetic galvanic distortion tensor decompositions. Journal of Geophysical Research, 1994, 99, 4669-4682.	3.3	168
12	Resistivity cross section through the Juan de Fuca Subduction System and its tectonic implications. Journal of Geophysical Research, 1989, 94, 14127-14144.	3.3	166
13	Conductivity discontinuities in the upper mantle beneath a stable craton. Geophysical Research Letters, 1993, 20, 2941-2944.	4.0	162
14	Mantle dynamics beneath the East Pacific Rise at 17°S: Insights from the Mantle Electromagnetic and Tomography (MELT) experiment. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	146
15	The electrical structure of the Slave craton. Lithos, 2003, 71, 505-527.	1.4	133
16	Comparison of continental and oceanic mantle electrical conductivity: Is the Archean lithosphere dry?. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a.	2.5	124
17	Electric lithosphere of the Slave craton. Geology, 2001, 29, 423.	4.4	124
18	12. Electrical Exploration Methods for the Seafloor. , 1991, , 931-966.		119

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19	Asymmetric Electrical Structure in the Mantle Beneath the East Pacific Rise at 17°S. Science, 1999, 286, 752-756.	12.6	118
20	Laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: evaluation of key measurement parameters. Applied Optics, 2007, 46, 2507.	2.1	117
21	On the theory of sea-floor conductivity mapping using transient electromagnetic systems. Geophysics, 1987, 52, 204-217.	2.6	111
22	Joint inversion of marine magnetotelluric and gravity data incorporating seismic constraints Preliminary results of sub-basalt imaging off the Faroe Shelf. Earth and Planetary Science Letters, 2009, 282, 47-55.	4.4	111
23	Cabled Ocean Observatory Systems. Marine Technology Society Journal, 2004, 38, 30-43.	0.4	108
24	Low-frequency, motionally induced electromagnetic fields in the ocean: 1. Theory. Journal of Geophysical Research, 1990, 95, 7185-7200.	3.3	98
25	Electromagnetic induction by a finite electric dipole source over a 2-D earth. Geophysics, 1993, 58, 198-214.	2.6	96
26	A semi-global reference model for electrical conductivity in the mid-mantle beneath the north Pacific region. Geophysical Research Letters, 2003, 30, .	4.0	95
27	Magnetotelluric imaging of the Society Islands hotspot. Journal of Geophysical Research, 1998, 103, 30287-30309.	3.3	94
28	Sequential-Pulse Laser-Induced Breakdown Spectroscopy of High-Pressure Bulk Aqueous Solutions. Applied Spectroscopy, 2007, 61, 171-176.	2.2	91
29	A transient electric dipole-dipole method for mapping the conductivity of the sea floor. Geophysics, 1986, 51, 984-987.	2.6	89
30	Light at deep-sea hydrothermal vents. Geophysical Research Letters, 1996, 23, 2049-2052.	4.0	73
31	Monitoring the integrated deep meridional flow in the tropical North Atlantic: Long-term performance of a geostrophic array. Deep-Sea Research Part I: Oceanographic Research Papers, 2006, 53, 528-546.	1.4	71
32	Magnetotelluric observations across the Juan de Fuca Subduction System in the EMSLAB Project. Journal of Geophysical Research, 1989, 94, 14111-14125.	3.3	68
33	Upper mantle electrical resistivity structure beneath the central Mariana subduction system. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	65
34	Test of Newton's inverse-square law in the Greenland ice cap. Physical Review Letters, 1989, 62, 985-988.	7.8	62
35	Coherence of seismic body waves from local events as measured by a small-aperture array. Journal of Geophysical Research, 1991, 96, 11981-11996.	3.3	61
36	Laser-Induced Breakdown Spectroscopy of High-Pressure Bulk Aqueous Solutions. Applied Spectroscopy, 2006, 60, 786-790.	2.2	61

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37	Evidence for local and nonlocal barotropic responses to atmospheric forcing during BEMPEX. Geophysical Research Letters, 1990, 17, 949-952.	4.0	59
38	A bounded influence regression estimator based on the statistics of the hat matrix. Journal of the Royal Statistical Society Series C: Applied Statistics, 2003, 52, 307-322.	1.0	55
39	Double pulse laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: interrelationship of gate delay, pulse energies, interpulse delay, and pressure. Applied Optics, 2008, 47, G131.	2.1	54
40	Single pulse laser-induced breakdown spectroscopy of bulk aqueous solutions at oceanic pressures: interrelationship of gate delay and pulse energy. Applied Optics, 2008, 47, G122.	2.1	52
41	Distortion of magnetotelluric data: its identification and removal. , 2012, , 219-302.		51
42	On the theory of electromagnetic induction in the Earth by ocean currents. Journal of Geophysical Research, 1983, 88, 3531-3542.	3.3	47
43	Correction of seafloor magnetotelluric data for topographic effects during inversion. Journal of Geophysical Research, 2005, 110, .	3.3	47
44	On the electromagnetic fields produced by marine frequency domain controlled sources. Geophysical Journal International, 2009, 179, 1429-1457.	2.4	47
45	Seasonal variation of ocean bottom pressure derived from Gravity Recovery and Climate Experiment (GRACE): Local validation and global patterns. Journal of Geophysical Research, 2005, 110, .	3.3	46
46	Submarine measurement of the Newtonian gravitational constant. Physical Review Letters, 1991, 67, 3051-3054.	7.8	42
47	Analysis of laser-induced breakdown spectroscopy spectra: The case for extreme value statistics. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 1370-1378.	2.9	40
48	Offshore electromagnetic surveying techniques. , 1986, , .		37
49	Electric and Magnetic Field Galvanic Distortion Decomposition of BC87 Data.. Journal of Geomagnetism and Geoelectricity, 1997, 49, 767-789.	0.9	37
50	The Fr�chet Derivatives of electromagnetic induction. Journal of Geophysical Research, 1984, 89, 3373-3380.	3.3	36
51	Some comments on seabed propagation of ULF/ELF electromagnetic fields. Radio Science, 1990, 25, 825-836.	1.6	36
52	Low�frequency, motionally induced electromagnetic fields in the ocean: 2. Electric field and Eulerian current comparison. Journal of Geophysical Research, 1991, 96, 12797-12814.	3.3	36
53	Detrital remanent magnetization: Viscosity theory of the lock�n zone. Journal of Geophysical Research, 1982, 87, 7126-7130.	3.3	35
54	Investigations of ambient light emission at deep-sea hydrothermal vents. Journal of Geophysical Research, 2002, 107, EPM 1-1-EPM 1-13.	3.3	34

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55	On the electromagnetic fields induced by oceanic internal waves. Journal of Geophysical Research, 1984, 89, 10519-10528.	3.3	33
56	The barotropic electromagnetic and pressure experiment: 1. Barotropic current response to atmospheric forcing. Journal of Geophysical Research, 1992, 97, 9565-9593.	3.3	33
57	Robust Processing of Magnetotelluric Data from the Auroral Zone. Journal of Geomagnetism and Geoelectricity, 1997, 49, 1451-1468.	0.9	30
58	Observations of motional electromagnetic fields during EMSLAB. Journal of Geophysical Research, 1989, 94, 14153-14166.	3.3	29
59	Lithospheric structure of the Walvis Ridge from Rayleigh wave dispersion. Journal of Geophysical Research, 1979, 84, 6840-6848.	3.3	28
60	Electromagnetic induction fields in the deep ocean north-east of Hawaii: implications for mantle conductivity and source fields. Geophysical Journal International, 1981, 66, 379-406.	2.4	28
61	Large-scale electric field measurements on the Earth's surface: A review. Journal of Geophysical Research, 1993, 98, 23525-23534.	3.3	28
62	Observations of the Boundary Current System at 26.5°N in the Subtropical North Atlantic Ocean*. Journal of Physical Oceanography, 1997, 27, 1827-1848.	1.7	28
63	Magnetotelluric data, stable distributions and impropriety: an existential combination. Geophysical Journal International, 2014, 198, 622-636.	2.4	28
64	Estimation of the Magnetotelluric Response Function: The Path from Robust Estimation to a Stable Maximum Likelihood Estimator. Surveys in Geophysics, 2017, 38, 837-867.	4.6	28
65	Electromagnetic induction fields in the deep ocean off California: oceanic and ionospheric sources. Geophysical Journal International, 1984, 77, 143-171.	2.4	27
66	Observation and interpretation of the seafloor vertical electric field in the eastern North Pacific. Geophysical Research Letters, 1985, 12, 793-796.	4.0	27
67	Electromagnetic induction studies. Reviews of Geophysics, 1987, 25, 989-1003.	23.0	27
68	Ocean mixing studied near Hawaiian Ridge. Eos, 2000, 81, 545.	0.1	27
69	The magnetotelluric response function. , 2012, , 122-164.		26
70	Variability of the wind stress curl over the North Pacific: Implications for the oceanic response. Journal of Geophysical Research, 1991, 96, 18361-18379.	3.3	25
71	BEMPEX: A study of barotropic ocean currents and lithospheric electrical conductivity. Eos, 1987, 68, 618-629.	0.1	24
72	The Walvis Ridge transect, Deep Sea Drilling Project Leg 74: The geologic evolution of an oceanic plateau in the south Atlantic Ocean. Bulletin of the Geological Society of America, 1983, 94, 907.	3.3	23

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73	Introduction to the special section on the EMSLABâ€™ Juan de Fuca Experiment. Journal of Geophysical Research, 1989, 94, 14093-14098.	3.3	23
74	A Regional Slocum Glider Network in the Mid-Atlantic Bight Leverages Broad Community Engagement. Marine Technology Society Journal, 2010, 44, 185-195.	0.4	22
75	Geoelectric field measurements on a planetary scale: Oceanographic and geophysical applications. Geophysical Research Letters, 1992, 19, 1411-1414.	4.0	21
76	Comment on â€œThe electrical conductivity of the oceanic upper mantleâ€™ by G. Heinson and S. Constable. Geophysical Journal International, 1993, 114, 711-716.	2.4	21
77	On the estimation of magnetotelluric response functions using the singular value decomposition. Geophysical Journal International, 1984, 77, 683-709.	2.4	19
78	Experiment investigates magma in the mantle beneath mid-ocean ridges. Eos, 1994, 75, 537.	0.1	19
79	Combining Inverted Echo Sounder and Horizontal Electric Field Recorder Measurements to Obtain Absolute Velocity Profiles. Journal of Atmospheric and Oceanic Technology, 2002, 19, 1653-1664.	1.3	19
80	Ambient light emission from hydrothermal vents on the Mid-Atlantic Ridge. Geophysical Research Letters, 2002, 29, 34-1-34-4.	4.0	19
81	Variations in ambient light emission from black smokers and flange pools on the Juan De Fuca Ridge. Geophysical Research Letters, 2000, 27, 1151-1154.	4.0	18
82	Mean stream coordinates structure of the Subantarctic Front: Temperature, salinity, and absolute velocity. Journal of Geophysical Research, 2003, 108, .	3.3	18
83	Instrumentation and field procedures. , 2012, , 421-479.		18
84	Electrical structure beneath the northern MELT line on the East Pacific Rise at 15Â°45â€²S. Geophysical Research Letters, 2006, 33, .	4.0	17
85	Estimation of the magnetotelluric response function. , 2012, , 165-218.		14
86	Polar ice test of the scale dependence of G. Nature, 1987, 326, 250-251.	27.8	13
87	On the importance of offshore data for magnetotelluric studies of ocean-continent subduction systems. Geophysical Research Letters, 2002, 29, 16-1-16-4.	4.0	13
88	Correction of shallow-water electromagnetic data for noise induced by instrument motion. Geophysics, 2005, 70, G127-G133.	2.6	13
89	On the physics of frequency-domain controlled source electromagnetics in shallow water. 1: isotropic conductivity. Geophysical Journal International, 2017, 208, 1026-1042.	2.4	13
90	A moving finite element method for magnetotelluric modeling. Physics of the Earth and Planetary Interiors, 1989, 53, 432-443.	1.9	12

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91	The statistical distribution of magnetotelluric apparent resistivity and phase. Geophysical Journal International, 2007, 171, 127-132.	2.4	12
92	On the physical principles underlying electromagnetic induction. Geophysics, 2019, 84, W21-W32.	2.6	12
93	Magnetotelluric Experiment probes deep physical state of southeastern United States. Eos, 1996, 77, 329.	0.1	11
94	A Look at Galvanic Distortion in the Tasman Sea and the Juan de Fuca Plate. Journal of Geomagnetism and Geoelectricity, 1997, 49, 1373-1386.	0.9	11
95	Electromagnetic induction by ocean currents and the conductivity of the oceanic lithosphere.. Journal of Geomagnetism and Geoelectricity, 1983, 35, 491-499.	0.9	10
96	Electromagnetic induction by ocean currents: BEMPEX. Physics of the Earth and Planetary Interiors, 1989, 53, 350-359.	1.9	9
97	Correction of Motional Electric Field Measurements for Galvanic Distortion*. Journal of Atmospheric and Oceanic Technology, 2004, 21, 317-330.	1.3	9
98	Electromagnetic constraints on a melt region beneath the central Mariana back-arc spreading ridge. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	9
99	The theoretical basis for electromagnetic induction. , 2012, , 19-49.		9
100	Constraints on the resistivity of the oceanic lithosphere and asthenosphere from seafloor ocean tidal electromagnetic measurements. Geophysical Journal International, 2019, 219, 464-478.	2.4	9
101	Comments on "An inverse approach to signal correlation" by D. G. Martinson, W. Menke, and P. Stoffa. Journal of Geophysical Research, 1984, 89, 2497-2499.	3.3	8
102	The Newtonian gravitational constant on the feasibility of an oceanic measurement. Eos, 1988, 69, 769.	0.1	8
103	Motional induction effect on the planetary-scale geoelectric potential in the eastern North Pacific. Journal of Geophysical Research, 1999, 104, 1343-1359.	3.3	7
104	An Integrated Approach to Ocean Observatory Data Acquisition/Management and Infrastructure Control Using Web Services. Marine Technology Society Journal, 2004, 38, 155-163.	0.4	7
105	A multitaper spectral estimator for time-series with missing data. Geophysical Journal International, 2019, 218, 2165-2178.	2.4	7
106	Source field effects in the auroral zone: Evidence from the Slave craton (NW Canada). Physics of the Earth and Planetary Interiors, 2007, 164, 21-35.	1.9	6
107	On the statistics of magnetotelluric rotational invariants. Geophysical Journal International, 2014, 196, 111-130.	2.4	6
108	High-Q Spectral Peaks and Nonstationarity in the Deep Ocean Infragravity Wave Band: Tidal Harmonics and Solar Normal Modes. Journal of Geophysical Research: Oceans, 2019, 124, 2072-2087.	2.6	6

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109	Seafloor Electromagnetic Exploration Methods. , 1990, , 191-200.		5
110	Robust magnetotelluric inversion. Geophysical Journal International, 2014, 196, 1365-1374.	2.4	5
111	On the physics of frequency domain controlled source electromagnetics in shallow water, 2: transverse anisotropy. Geophysical Journal International, 2017, 211, 1046-1061.	2.4	5
112	Case histories and geological applications. , 2012, , 480-544.		4
113	A note about Gaussian statistics on a sphere. Geophysical Journal International, 2015, 203, 893-895.	2.4	3
114	The Approach to Cyberinfrastructure for the Ocean Observatories Initiative. , 2007, , .		2
115	Energy flow in terrestrial controlled-source electromagnetic geophysics. European Journal of Physics, 2019, 40, 065202.	0.6	2
116	Comment on "Robust error on magnetotelluric impedance estimates" by P. Wawrzyniak, P. Sailhac and G. Marquis, Geophysical Prospecting, 61, 533-546. Geophysical Prospecting, 2016, 64, 247-249.	1.9	1
117	Sea floor conductivity mapping using transient EM systems. , 1986, , .		0
118	On the Physics of Towed Streamer Controlled Source Electromagnetics in Shallow Water in the Presence of Transverse Anisotropy. , 2017, , .		0
119	A Characterization of Periodicity in the Voltage Time Series of a Riometer. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027160.	2.4	0
120	3D inversion of natural-source electromagnetic data from distributed-acquisition systems. , 2018, , .		0
121	Reply by the author to W. L. Anderson. Geophysics, 1984, 49, 1813-1813.	2.6	0