Joseph L Kirschvink

List of Publications by Year
in descending order

133 papers	9,944 citations	20817 60 h-index	36028 97 g-index
137 all docs	137 docs citations	137 times ranked	6154 citing authors

#	Article	IF	Citations
1	Reexamination of 2.5-Ga â€œwhiffâ€•of oxygen interval points to anoxic ocean before GOE. Science Advances, 2022, 8, eabj7190.	10.3	42
2	A Late Cretaceous true polar wander oscillation. Nature Communications, 2021, 12, 3629.	12.8	15
3	Characterizing the Geomagnetic Field at High Southern Latitudes: Evidence From the Antarctic Peninsula. Journal of Geophysical Research: Solid Earth, 2021, 126, .	3.4	3
4	On the origin of microbial magnetoreception. National Science Review, 2020, 7, 472-479.	9.5	46
5	New evidence of a Campanian age for the Cretaceous fossil-bearing strata of Cape Marsh, Robertson Island, Antarctica. Cretaceous Research, 2020, 108, 104313.	1.4	3
6	Coniacian-Campanian magnetostratigraphy of the Marambio Group: The Santonian-Campanian boundary in the Antarctic Peninsula and the complete Upper Cretaceous â€“ Lowermost Paleogene chronostratigraphical framework for the James Ross Basin. Palaeogeography, Palaeoclimatology, Palaeoecology, 2020, 555, 109871.	2.3	11
7	Late Cretaceous paleogeography of the Antarctic Peninsula: New paleomagnetic pole from the James Ross Basin. Journal of South American Earth Sciences, 2019, 91, 131-143.	1.4	12
8	Midâ€Proterozoic Ferruginous Conditions Reflect Postdepositional Processes. Geophysical Research Letters, 2019, 46, 3114-3123.	4.0	7
9	Mid Campanianâ€Lower Maastrichtian magnetostratigraphy of the James Ross Basin, Antarctica: Chronostratigraphical implications. Basin Research, 2019, 31, 562-583.	2.7	13
10	Transduction of the Geomagnetic Field as Evidenced from alpha-Band Activity in the Human Brain. ENeuro, 2019, 6, ENEURO.0483-18.2019.	1.9	86
11	Paleomagnetic studies on single crystals separated from the middle Cretaceous Iritono granite. Earth, Planets and Space, 2018, 70, .	2.5	10
12	Magnetic control of heterogeneous ice nucleation with nanophase magnetite: Biophysical and agricultural implications. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5383-5388.	7.1	18
13	EASTERN GRAND CANYON PROVENANCE FOR ORTHOQUARTZITE CLASTS IN LOWER MIOCENE CONGLOMERATES OF THE SESPE FORMATION NEAR MALIBU, CA. , 2018, , .		0
14	Origin of microbial biomineralization and magnetotaxis during the Archean. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2171-2176.	7.1	98
15	Reply to Wang and Chen: An ancient origin of magnetotactic bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5019-E5020.	7.1	3
16	Magnetostratigraphy of the Rabot Formation, Upper Cretaceous, James Ross Basin, Antarctic Peninsula. Cretaceous Research, 2017, 72, 172-187.	1.4	7
17	Investigating the duration and termination of the Early Paleozoic Moyero Reversed Polarity Superchron: Middle Ordovician paleomagnetism from Estonia. Palaeogeography, Palaeoclimatology, Palaeoecology, 2017, 485, 673-686.	2.3	4
18	Iron mineralogy and redox conditions during deposition of the mid-Proterozoic Appekunny Formation, Belt Supergroup, Glacier National Park. Special Paper of the Geological Society of America, 2016, , 221-242.	0.5	8

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19	A first test of the hypothesis of biogenic magnetite-based heterogeneous ice-crystal nucleation in cryopreservation. Cryobiology, 2016, 72, 216-224.	0.7	13
20	Timescales of Oxygenation Following the Evolution of Oxygenic Photosynthesis. Origins of Life and Evolution of Biospheres, 2016, 46, 51-65.	1.9	72
21	REDOX CONDITIONS IN ENVIRONMENTS WITH EARLY EUKARYOTES FROM THE 1.4 GA BELT BASIN, USA DETERMINED FROM IRON MINERALOGY. , 2016, , .		0
22	Was the Cambrian explosion both an effect and an artifact of true polar wander?. Numerische Mathematik, 2015, 315, 945-957.	1.4	15
23	Challenging the sensitivity limits of Paleomagnetism: Magnetostratigraphy of weakly magnetized Guadalupianâ€“Lopingian (Permian) Limestone from Kyushu, Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 2015, 418, 75-89.	2.3	29
24	Pervasive remagnetization of detrital zircon host rocks in the Jack Hills, Western Australia and implications for records of the early geodynamo. Earth and Planetary Science Letters, 2015, 430, 115-128.	4.4	44
25	SQUIDâ€“SIMS is a useful approach to uncover primary signals in the Archean sulfur cycle. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5468-5473.	7.1	62
26	Radio waves zap the biomagnetic compass. Nature, 2014, 509, 296-297.	27.8	13
27	A ferromagnetic model for the action of electric and magnetic fields in cryopreservation. Cryobiology, 2014, 68, 163-165.	0.7	30
28	Manganese-oxidizing photosynthesis before the rise of cyanobacteria. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 11238-11243.	7.1	189
29	Reply to Jones and Crowe: Correcting mistaken views of sedimentary geology, Mn-oxidation rates, and molecular clocks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E4119-20.	7.1	8
30	Extinction patterns, Î´18 O trends, and magnetostratigraphy from a southern high-latitude Cretaceousâ€“Paleogene section: Links with Deccan volcanism. Palaeogeography, Palaeoclimatology, Palaeoecology, 2012, 350-352, 180-188.	2.3	96
31	Kirschvink receives 2011 William Gilbert Award: Response. Eos, 2012, 93, 158-158.	0.1	0
32	Evolution of a Habitable Planet. , 2012, , 115-131.		2
33	Magnetic characterization of isolated candidate vertebrate magnetoreceptor cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12022-12027.	7.1	98
34	Manganese enrichment in the Gowganda Formation of the Huronian Supergroup: A highly oxidizing shallow-marine environment after the last Huronian glaciation. Earth and Planetary Science Letters, 2011, 307, 201-210.	4.4	29
35	Anomalous negative excursion of carbon isotope in organic carbon after the last Paleoproterozoic glaciation in North America. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	7
36	Biophysics of magnetic orientation: strengthening the interface between theory and experimental design. Journal of the Royal Society Interface, 2010, 7, S179-91.	3.4	77

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37	A quantitative assessment of torque-transducer models for magnetoreception. Journal of the Royal Society Interface, 2010, 7, S273-89.	3.4	95
38	Gigantism in unique biogenic magnetite at the Paleoceneâ€“Eocene Thermal Maximum. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17648-17653.	7.1	69
39	The identification and biogeochemical interpretation of fossil magnetotactic bacteria. Earth-Science Reviews, 2008, 86, 42-61.	9.1	293
40	Rapid, precise, and highâ€sensitivity acquisition of paleomagnetic and rockâ€magnetic data: Development of a lowâ€noise automatic sample changing system for superconducting rock magnetometers. Geochemistry, Geophysics, Geosystems, 2008, 9, .	2.5	115
41	Palaeoproterozoic ice houses and the evolution of oxygen-mediating enzymes: the case for a late origin of photosystem II. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2755-2765.	4.0	105
42	Bats Use Magnetite to Detect the Earth's Magnetic Field. PLoS ONE, 2008, 3, e1676.	2.5	113
43	Sedimentary iron cycling and the origin and preservation of magnetization in platform carbonate muds, Andros Island, Bahamas. Earth and Planetary Science Letters, 2007, 259, 581-598.	4.4	47
44	Magnetofossil spike during the Paleoceneâ€Eocene thermal maximum: Ferromagnetic resonance, rock magnetic, and electron microscopy evidence from Ancora, New Jersey, United States. Paleoceanography, 2007, 22, .	3.0	72
45	Magnetoreception. Fish Physiology, 2006, 25, 337-376.	0.8	3
46	Ferromagnetic resonance spectroscopy for assessment of magnetic anisotropy and magnetostatic interactions: A case study of mutant magnetotactic bacteria. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	61
47	Sclerite formation in the hydrothermal-vent â€œscaly-footâ€gastropodâ€”possible control of iron sulfide biomineralization by the animal. Earth and Planetary Science Letters, 2006, 242, 39-50.	4.4	60
48	Experimental observation of magnetosome chain collapse in magnetotactic bacteria: Sedimentological, paleomagnetic, and evolutionary implications. Earth and Planetary Science Letters, 2006, 245, 538-550.	4.4	86
49	Chains, clumps, and strings: Magnetofossil taphonomy with ferromagnetic resonance spectroscopy. Earth and Planetary Science Letters, 2006, 247, 10-25.	4.4	91
50	Production of hydrogen peroxide in the atmosphere of a Snowball Earth and the origin of oxygenic photosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18896-18899.	7.1	98
51	The Paleoproterozoic snowball Earth: A climate disaster triggered by the evolution of oxygenic photosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11131-11136.	7.1	474
52	Abrupt and Gradual Extinction Among Late Permian Land Vertebrates in the Karoo Basin, South Africa. Science, 2005, 307, 709-714.	12.6	281
53	A negative fold test on the Lorrain Formation of the Huronian Supergroup: Uncertainty on the paleolatitude of the Paleoproterozoic Gowganda glaciation and implications for the great oxygenation event. Earth and Planetary Science Letters, 2005, 232, 315-332.	4.4	28
54	Magnetic tests for magnetosome chains in Martian meteorite ALH84001. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8281-8284.	7.1	81

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55	Formation of tabular single-domain magnetite induced by Geobacter metallireducens GS-15. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 16121-16126.	7.1	97
56	Ferromagnetic resonance and low-temperature magnetic tests for biogenic magnetite. Earth and Planetary Science Letters, 2004, 224, 73-89.	4.4	147
57	A methane fuse for the Cambrian explosion: carbon cycles and true polar wander. Comptes Rendus - Geoscience, 2003, 335, 65-78.	1.2	65
58	Detection and Use of the Earthâ€™s Magnetic Field by Aquatic Vertebrates. , 2003, , 53-74.		21
59	Magnetofossils from Ancient Mars: a Robust Biosignature in the Martian Meteorite ALH84001. Applied and Environmental Microbiology, 2002, 68, 3663-3672.	3.1	126
60	Crystal morphology of MV-1 magnetite. American Mineralogist, 2002, 87, 1727-1730.	1.9	50
61	Records of an ancient Martian magnetic field in ALH84001. Earth and Planetary Science Letters, 2002, 201, 449-463.	4.4	159
62	The magnetic sense and its use in long-distance navigation by animals. Current Opinion in Neurobiology, 2002, 12, 735-744.	4.2	157
63	Magnetite-based magnetoreception in birds: the effect of a biasing field and a pulse on migratory behavior. Journal of Experimental Biology, 2002, 205, 3031-3037.	1.7	66
64	`Fixed-axis' magnetic orientation by an amphibian: non-shoreward-directed compass orientation, misdirected homing or positioning a magnetite-based map detector in a consistent alignment relative to the magnetic field?. Journal of Experimental Biology, 2002, 205, 3903-3914.	1.7	53
65	Magnetite-based magnetoreception in birds: the effect of a biasing field and a pulse on migratory behavior. Journal of Experimental Biology, 2002, 205, 3031-7.	1.7	54
66	Magnetic microscopy promises a leap in sensitivity and resolution. Eos, 2001, 82, 513-513.	0.1	10
67	Physical and genetic characterization of the genome of Magnetospirillum magnetotacticum , strain MS-1. Gene, 2001, 264, 257-263.	2.2	27
68	Magnetite-based magnetoreception. Current Opinion in Neurobiology, 2001, 11, 462-467.	4.2	332
69	Earthquake Prediction by Animals: Evolution and Sensory Perception. Bulletin of the Seismological Society of America, 2000, 90, 312-323.	2.3	91
70	A high-quality mid-Neoproterozoic paleomagnetic pole from South China, with implications for ice ages and the breakup configuration of Rodinia. Precambrian Research, 2000, 100, 313-334.	2.7	138
71	Elongated prismatic magnetite crystals in ALH84001 carbonate globules:. Geochimica Et Cosmochimica Acta, 2000, 64, 4049-4081.	3.9	284
72	A sea-level test for inertial interchange true polar wander events. Geophysical Journal International, 1999, 136, F5-F10.	2.4	37

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73	Paleomagnetic constraints on fault motion in the Hilina Fault System, south flank of Kilauea Volcano, Hawaii. Journal of Volcanology and Geothermal Research, 1999, 94, 233-249.	2.1	20
74	Studies of Inorganic Crystals in Biological Tissue: Magnetic in Human Tumor.. Funtai Oyobi Fummatsu Yakin/Journal of the Japan Society of Powder and Powder Metallurgy, 1997, 44, 294-300.	0.2	32
75	<title>Formation of magnetite and iron-rich carbonates by thermophilic iron-reducing bacteria</title>. , 1997, 3111, 61.		2
76	Evidence for two types of subunits in the bacterioferritin of Magnetospirillum magnetotacticum. Gene, 1997, 201, 31-36.	2.2	26
77	Sensitivity and evolution of sea-turtle magnetoreception: observations, modelling and constraints from geomagnetic secular variation. Terra Nova, 1997, 9, 203-207.	2.1	49
78	Homing in on vertebrates. Nature, 1997, 390, 339-340.	27.8	75
79	From Mesmer to animal magnetism. Nature, 1997, 390, 340-340.	27.8	2
80	Geomagnetic field inclinations for the past 400 kyr from the 1-km core of the Hawaii Scientific Drilling Project. Journal of Geophysical Research, 1996, 101, 11655-11663.	3.3	45
81	Microwave absorption by magnetite: A possible mechanism for coupling nonthermal levels of radiation to biological systems. Bioelectromagnetics, 1996, 17, 187-194.	1.6	83
82	Ferromagnetism and EMFs. Nature, 1995, 374, 123-123.	27.8	49
83	Magnetoreception and Electromagnetic Field Effects: Sensory Perception of the Geomagnetic Field in Animals and Humans. Advances in Chemistry Series, 1995, , 367-394.	0.6	33
84	The upper Olduvai geomagnetic field reversal from Death Valley, California: a fold test of transitional directions. Earth and Planetary Science Letters, 1995, 133, 475-491.	4.4	17
85	Rock magnetism linked to human brain magnetite. Eos, 1994, 75, 178.	0.1	9
86	Early dolomitization of platform carbonates and the preservation of magnetic polarity. Journal of Geophysical Research, 1993, 98, 7977-7986.	3.3	37
87	Comment on â€˜â€˜Constraints on biological effects of weak extremely-low-frequency electromagnetic fieldsâ€™â€™. Physical Review A, 1992, 46, 2178-2184.	2.5	81
88	Magnetite biomineralization in the human brain.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 7683-7687.	7.1	541
89	Paleomagnetic measurement of nonbrittle coseismic deformation across the San Andreas Fault at Pallett Creek. Journal of Geophysical Research, 1992, 97, 12457-12470.	3.3	66
90	Magnetic domain state and coercivity predictions for biogenic greigite (Fe₃S₄): A comparison of theory with magnetosome observations. Journal of Geophysical Research, 1992, 97, 17309-17315.	3.3	63

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91	A Paleogeographic Model for Vendian and Cambrian Time. , 1992, , 567-582.		25
92	Uniform magnetic fields and double-wrapped coil systems: Improved techniques for the design of bioelectromagnetic experiments. Bioelectromagnetics, 1992, 13, 401-411.	1.6	304
93	Magnetite in human tissues: A mechanism for the biological effects of weak ELF magnetic fields. Bioelectromagnetics, 1992, 13, 101-113.	1.6	125
94	Atoll magnetostratigraphy: calibration of their eustatic records. Terra Nova, 1991, 3, 35-40.	2.1	13
95	Is Geomagnetic Sensitivity Real? Replication of the Walker-Bitterman Magnetic Conditioning Experiment in Honey Bees. American Zoologist, 1991, 31, 169-186.	0.7	68
96	Precambrian/Cambrian boundary problem: Carbon isotope correlations for Vendian and Tommotian time between Siberia and Morocco. Geology, 1991, 19, 847.	4.4	99
97	Observations of Magnetosome Organization, Surface Structure, and Iron Biomineralization of Undescribed Magnetic Bacteria: Evolutionary Speculations. , 1991, , 97-115.		36
98	Alteration of the Magnetic Properties of Aquaspirillum magnetotacticum by a Pulse Magnetization Technique. Applied and Environmental Microbiology, 1991, 57, 3248-3254.	3.1	15
99	Geomagnetic Sensitivity in Cetaceans: An Update With Live Stranding Records in the United States. , 1990, , 639-649.		10
100	The Effect of Magnetotactic Bacteria on the Magnetic Properties of Marine Sediments. , 1989, , 497-506.		7
101	Magnetite biomineralization and geomagnetic sensitivity in higher animals: An update and recommendations for future study. Bioelectromagnetics, 1989, 10, 239-259.	1.6	101
102	Magnetofossil dissolution in a palaeomagnetically unstable deep-sea sediment. Nature, 1989, 339, 203-206.	27.8	89
103	Biogenic magnetite in stromatolites. II. Occurrence in ancient sedimentary environments. Precambrian Research, 1989, 43, 305-315.	2.7	68
104	Biogenic magnetite in stromatolites. I. Occurrence in modern sedimentary environments. Precambrian Research, 1989, 43, 295-304.	2.7	25
105	Paleomagnetism of sedimentary rocks from and near the DOSECC Cajon Pass Well, southern California. Geophysical Research Letters, 1988, 15, 1065-1068.	4.0	4
106	Magnetostratigraphic dating of shallow-water carbonates from San Salvador, Bahamas. Geology, 1988, 16, 8.	4.4	81
107	Biogenic magnetite as a primary remanence carrier in limestone deposits. Physics of the Earth and Planetary Interiors, 1987, 46, 289-303.	1.9	75
108	Magnetic Stratigraphy and a Test for Block Rotation of Sedimentary Rocks within the San Andreas Fault Zone, Mecca Hills, Southeastern California. Quaternary Research, 1987, 27, 30-40.	1.7	14

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109	Carbon-isotope events across the Precambrian/Cambrian boundary on the Siberian Platform. Nature, 1986, 320, 258-259.	27.8	200
110	Magnetotactic bacteria and single-domain magnetite in hemipelagic sediments. Nature, 1986, 321, 849-851.	27.8	219
111	Electrostatic enhancement of industrial drying processes. Industrial & Engineering Chemistry Process Design and Development, 1986, 25, 1027-1030.	0.6	26
112	New superconducting-quantum-interference-device-based constraints on the abundance of magnetic monopoles trapped in matter: An investigation of deeply buried rocks. Physical Review A, 1986, 33, 1183-1187.	2.5	16
113	Evidence From Strandings for Geomagnetic Sensitivity in Cetaceans. Journal of Experimental Biology, 1986, 120, 1-24.	1.7	105
114	Iron Biomineralization. Topics in Geobiology, 1985, , 3-15.	0.5	12
115	Possible Biogenic Magnetite Fossils from the Late Miocene Potamida Clays of Crete. Topics in Geobiology, 1985, , 647-669.	0.5	28
116	Detection, Extraction, and Characterization of Biogenic Magnetite. Topics in Geobiology, 1985, , 155-166.	0.5	13
117	Particle-Size Considerations for Magnetite-Based Magnetoreceptors. Topics in Geobiology, 1985, , 243-254.	0.5	62
118	Magnetoreception and Biomineralization of Magnetite Fish. Topics in Geobiology, 1985, , 417-437.	0.5	14
119	An Attempt to Replicate the Spinning Chair Experiment. Topics in Geobiology, 1985, , 605-608.	0.5	1
120	Rock and Mineral Magnetism. Physics of the Earth and Planetary Interiors, 1985, 40, 71-72.	1.9	1
121	Ultrafine-grained magnetite in deep-sea sediments: Possible bacterial magnetofossils. Geology, 1984, 12, 559.	4.4	144
122	A Candidate Magnetic Sense Organ in the Yellowfin Tuna, Thunnus albacares. Science, 1984, 224, 751-753.	12.6	134
123	Magnetostratigraphy of lower Cambrian strata from the Siberian Platform: a palaeomagnetic pole and a preliminary polarity time-scale. Geological Magazine, 1984, 121, 189-203.	1.5	75
124	Biomagnetic geomagnetism. Reviews of Geophysics, 1983, 21, 672-675.	23.0	8
125	Paleomagnetic evidence for fossil biogenic magnetite in western Crete. Earth and Planetary Science Letters, 1982, 59, 388-392.	4.4	66
126	Birds, bees and magnetism. Trends in Neurosciences, 1982, 5, 160-167.	8.6	47

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127	Biogenic Magnetite (Fe3O4): A Ferromagnetic Mineral in Bacteria, Animals, and Man. , 1982, , 135-138.		2
128	Biogenic magnetite as a basis for magnetic field detection in animals. BioSystems, 1981, 13, 181-201.	2.0	388
129	The horizontal magnetic dance of the honeybee is compatible with a single-domain ferromagnetic magnetoreceptor. BioSystems, 1981, 14, 193-203.	2.0	53
130	4. Rock and Paleomagnetism. , 1981, , 109-132.		0
131	Pigeons have magnets. Science, 1979, 205, 1027-1029.	12.6	273
132	The Precambrian-Cambrian boundary problem: paleomagnetic directions from the Amadeus Basin, Central Australia. Earth and Planetary Science Letters, 1978, 40, 91-100.	4.4	83
133	Bees Have Magnetic Remanence. Science, 1978, 201, 1026-1028.	12.6	320