Karl Fabian

List of Publications by Year
in descending order

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107 papers	3,523 citations	126907 33 h-index	155660 55 g-index
120 all docs	120 docs citations	120 times ranked	3433 citing authors

#	Article	IF	Citations
1	The concept of compositional data analysis in practice â€” Total major element concentrations in agricultural and grazing land soils of Europe. Science of the Total Environment, 2012, 426, 196-210.	8.0	211
2	Three-dimensional micromagnetic calculations for magnetite using FFT. Geophysical Journal International, 1996, 124, 89-104.	2.4	147
3	Magnetic susceptibility and remanent coercive force in grown magnetite crystals from 0.1 Î¼m to 6 mm. Physics of the Earth and Planetary Interiors, 1996, 93, 239-256.	1.9	144
4	GEMAS: Establishing geochemical background and threshold for 53 chemical elements in European agricultural soil. Applied Geochemistry, 2018, 88, 302-318.	3.0	143
5	Magnetic states of small cubic particles with uniaxial anisotropy. Journal of Magnetism and Magnetic Materials, 1998, 190, 332-348.	2.3	136
6	Lead and lead isotopes in agricultural soils of Europe â€“ The continental perspective. Applied Geochemistry, 2012, 27, 532-542.	3.0	129
7	Paleomagnetic reconstruction of the global geomagnetic field evolution during the Matuyama/Brunhes transition: Iterative Bayesian inversion and independent verification. Earth and Planetary Science Letters, 2007, 253, 172-195.	4.4	109
8	Measuring the Curie temperature. Geochemistry, Geophysics, Geosystems, 2013, 14, 947-961.	2.5	106
9	Magnetic blocking temperatures of magnetite calculated with a three-dimensional micromagnetic model. Journal of Geophysical Research, 1997, 102, 22695-22709.	3.3	97
10	Northern Hemisphere Glaciation during the Globally Warm Early Late Pliocene. PLoS ONE, 2013, 8, e81508.	2.5	91
11	Some additional parameters to estimate domain state from isothermal magnetization measurements. Earth and Planetary Science Letters, 2003, 213, 337-345.	4.4	86
12	Multiple-specimen absolute paleointensity determination: An optimal protocol including pTRM normalization, domain-state correction, and alteration test. Earth and Planetary Science Letters, 2010, 297, 84-94.	4.4	79
13	Magnetic exchange bias of more than 1 Tesla in a natural mineral intergrowth. Nature Nanotechnology, 2007, 2, 631-634.	31.5	74
14	GEMAS: Spatial distribution of the pH of European agricultural and grazing land soil. Applied Geochemistry, 2014, 48, 207-216.	3.0	71
15	Effect of early Pliocene uplift on late Pliocene cooling in the Arcticâ€“Atlantic gateway. Earth and Planetary Science Letters, 2014, 387, 132-144.	4.4	71
16	A theoretical treatment of paleointensity determination experiments on rocks containing pseudo-single or multi domain magnetic particles. Earth and Planetary Science Letters, 2001, 188, 45-58.	4.4	67
17	A new 6ÂMyr stratigraphic framework for the Atlanticâ€“Arctic Gateway. Quaternary Science Reviews, 2014, 92, 170-178.	3.0	63
18	Stability of equidimensional pseudoâ€“single-domain magnetite over billion-year timescales. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10356-10360.	7.1	58

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19	Approach to saturation analysis of hysteresis measurements in rock magnetism and evidence for stress dominated magnetic anisotropy in young mid-ocean ridge basalt. Physics of the Earth and Planetary Interiors, 2006, 154, 299-307.	1.9	54
20	Automated paleomagnetic and rock magnetic data acquisition with an in-line horizontal â€œ2Gâ€•system. Geochemistry, Geophysics, Geosystems, 2016, 17, 3546-3559.	2.5	51
21	On the determination of magnetic grain-size distributions of superparamagnetic particle ensembles using the frequency dependence of susceptibility at different temperatures. Geophysical Journal International, 2005, 162, 736-746.	2.4	50
22	Norwegian fjord sediments reveal NAO related winter temperature and precipitation changes of the past 2800 years. Earth and Planetary Science Letters, 2016, 435, 84-93.	4.4	48
23	Isothermal magnetization of samples with stable Preisach function: A survey of hysteresis, remanence, and rock magnetic parameters. Journal of Geophysical Research, 1997, 102, 17659-17677.	3.3	47
24	Geomagnetic field evolution during the Laschamp excursion. Earth and Planetary Science Letters, 2009, 278, 87-95.	4.4	47
25	MERRILL: Micromagnetic Earth Related Robust Interpreted Language Laboratory. Geochemistry, Geophysics, Geosystems, 2018, 19, 1080-1106.	2.5	47
26	Three-dimensional micromagnetic calculations for naturally shaped magnetite: Octahedra and magnetosomes. Earth and Planetary Science Letters, 2005, 233, 311-324.	4.4	46
27	Crustal Magnetism, Lamellar Magnetism and Rocks That Remember. Elements, 2009, 5, 241-246.	0.5	45
28	Thermochemical remanence acquisition in singleâ€domain particle ensembles: A case for possible overestimation of the geomagnetic paleointensity. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	43
29	Biogeochemical plantâ€“soil interaction: Variable element composition in leaves of four plant species collected along a southâ€“north transect at the southern tip of Norway. Science of the Total Environment, 2015, 506-507, 480-495.	8.0	40
30	A low-temperature phase diagram for ilmenite-rich compositions in the system Fe2O3-FeTiO3. American Mineralogist, 2008, 93, 1260-1272.	1.9	37
31	Exchange bias identifies lamellar magnetism as the origin of the natural remanent magnetization in titanohematite with ilmenite exsolution from Modum, Norway. Earth and Planetary Science Letters, 2008, 268, 339-353.	4.4	35
32	Multi-scale three-dimensional characterization of iron particles in dusty olivine: Implications for paleomagnetism of chondritic meteorites. American Mineralogist, 2016, 101, 2070-2084.	1.9	35
33	Acquisition of thermoremanent magnetization in weak magnetic fields. Geophysical Journal International, 2000, 142, 478-486.	2.4	33
34	A strong enrichment of potentially toxic elements (PTEs) in Nord-TrÃ¸ndelag (central Norway) forest soil. Science of the Total Environment, 2015, 536, 130-141.	8.0	33
35	Does size matter? Statistical limits of paleomagnetic field reconstruction from small rock specimens. Journal of Geophysical Research: Solid Earth, 2016, 121, 15-26.	3.4	33
36	The HISTMAG database: combining historical, archaeomagnetic and volcanic data. Geophysical Journal International, 2017, 210, 1347-1359.	2.4	33

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37	A Bayesian iterative geomagnetic model with universal data input: Self-consistent spherical harmonic evolution for the geomagnetic field over the last 4000â€¯years. Physics of the Earth and Planetary Interiors, 2019, 290, 57-75.	1.9	33
38	Magnetic properties of terrestrial moss (Hylocomium splendens) along a northâ€“south profile crossing the city of Oslo, Norway. Science of the Total Environment, 2011, 409, 2252-2260.	8.0	32
39	Impact of an iron mine and a nickel smelter at the Norwegian/Russian border close to the Barents Sea on surface soil magnetic susceptibility and content of potentially toxic elements. Chemosphere, 2018, 195, 48-62.	8.2	30
40	A stratigraphic network across the Subtropical Front in the central South Atlantic: Multi-parameter correlation of magnetic susceptibility, density, X-ray fluorescence and Î´18O records. Earth and Planetary Science Letters, 2005, 240, 694-709.	4.4	28
41	Magnetic domain structure of multidomain magnetite as a function of temperature: observation by Kerr microscopy. Physics of the Earth and Planetary Interiors, 1999, 112, 55-80.	1.9	24
42	Shape-induced pseudo-single-domain remanence. Geophysical Journal International, 1999, 138, 717-726.	2.4	23
43	Forward modeling magnetic fields of induced and remanent magnetization in the lithosphere using tesseroids. Computers and Geosciences, 2016, 96, 124-135.	4.2	23
44	The oldest magnetic record in our solar system identified using nanometric imaging and numerical modeling. Nature Communications, 2018, 9, 1173.	12.8	23
45	Graphical statistics to explore the natural and anthropogenic processes influencing the inorganic quality of drinking water, ground water and surface water. Applied Geochemistry, 2018, 88, 133-148.	3.0	23
46	Quantifying Diffuse Contamination: Method and Application to Pb in Soil. Environmental Science & Technology, 2017, 51, 6719-6726.	10.0	22
47	GEMAS: CNS concentrations and C/N ratios in European agricultural soil. Science of the Total Environment, 2018, 627, 975-984.	8.0	22
48	Cadmium enrichment in topsoil: Separating diffuse contamination from biosphere-circulation signals. Science of the Total Environment, 2019, 651, 1344-1355.	8.0	22
49	High efficiency of natural lamellar remanent magnetisation in single grains of ilmeno-hematite calculated using MÃ¶ssbauer spectroscopy. Earth and Planetary Science Letters, 2009, 288, 268-278.	4.4	20
50	Geosphere-biosphere circulation of chemical elements in soil and plant systems from a 100â€¯km transect from southern central Norway. Science of the Total Environment, 2018, 639, 129-145.	8.0	20
51	Twinning control of magnetic properties of multidomain magnetite below the Verwey transition revealed by measurements on individual particles. Geophysical Journal International, 2008, 174, 93-106.	2.4	19
52	Magnetic force microscopy reveals meta-stable magnetic domain states that prevent reliable absolute palaeointensity experiments. Nature Communications, 2014, 5, 4548.	12.8	19
53	A regional-scale geochemical survey of soil O and C horizon samples in Nord-TrÃ¸ndelag, Central Norway: Geology and mineral potential. Applied Geochemistry, 2015, 61, 192-205.	3.0	19
54	Remanent magnetization, magnetic coupling, and interface ionic configurations of intergrown rhombohedral and cubic Fe-Ti oxides: A short survey. American Mineralogist, 2016, 101, 518-530.	1.9	19

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55	Energy barriers in three-dimensional micromagnetic models and the physics of thermoviscous magnetization. Geophysical Journal International, 2018, 215, 314-324.	2.4	19
56	Hysteresis of Natural Magnetite Ensembles: Micromagnetics of Silicateâ€Hosted Magnetite Inclusions Based on Focusedâ€Ionâ€Beam Nanotomography. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC009389.	2.5	19
57	How to include magnetostriction in micromagnetic models of titanomagnetite grains. Geophysical Research Letters, 1996, 23, 2839-2842.	4.0	18
58	Correcting relative paleointensity records for variations in sediment composition: Results from a South Atlantic stratigraphic network. Earth and Planetary Science Letters, 2009, 284, 34-43.	4.4	18
59	Statistical theory of weak field thermoremanent magnetization in multidomain particle ensembles. Geophysical Journal International, 2003, 155, 479-488.	2.4	17
60	Determining Individual Particle Magnetizations in Assemblages of Micrograins. Geophysical Research Letters, 2018, 45, 2995-3000.	4.0	17
61	Chemical and magnetic properties of rapidly cooled metastable ferri-ilmenite solid solutions: implications for magnetic self-reversal and exchange bias-I. Fe-Ti order transition in quenched synthetic ilmenite 61. Geophysical Journal International, 2011, 186, 997-1014.	2.4	16
62	Nonlinear Preisach maps: Detecting and characterizing separate remanent magnetic fractions in complex natural samples. Journal of Geophysical Research: Solid Earth, 2016, 121, 8373-8395.	3.4	16
63	Pb concentrations and isotope ratios of soil O and C horizons in Nord-TrÃ¸ndelag, central Norway: Anthropogenic or natural sources?. Applied Geochemistry, 2016, 74, 56-66.	3.0	16
64	Influence of lattice-preferred orientation with respect to magnetizing field on intensity of remanent magnetization in polycrystalline hemo-ilmenite. Geophysical Journal International, 2013, 192, 514-536.	2.4	15
65	The magnetic structure and palaeomagnetic recording fidelity of sub-micron greigite (Fe3S4). Earth and Planetary Science Letters, 2018, 483, 76-89.	4.4	15
66	The role of magnetostatic interactions in sediment suspensions. Geophysical Journal International, 2006, 165, 775-785.	2.4	14
67	Rock magnetic properties and relative paleointensity stack for the last 300Âka based on a stratigraphic network from the subtropical and subantarctic South Atlantic. Earth and Planetary Science Letters, 2007, 260, 297-312.	4.4	14
68	Domain state stabilization by iterated thermal magnetization processes. Geophysical Journal International, 2004, 159, 486-494.	2.4	12
69	Element distribution in Lactarius rufus in comparison to the underlying substrate along a transect in southern Norway. Applied Geochemistry, 2018, 97, 61-70.	3.0	12
70	The large-scale distribution of Cu and Zn in sub- and topsoil: Separating topsoil bioaccumulation and natural matrix effects from diffuse and regional contamination. Science of the Total Environment, 2019, 655, 730-740.	8.0	12
71	Chemical and magnetic properties of rapidly cooled metastable ferri-ilmenite solid solutions: implications for magnetic self-reversal and exchange bias-II. Chemical changes during quench and annealing. Geophysical Journal International, 2012, 188, 447-472.	2.4	11
72	Lamellar magnetism and exchange bias in billion-year-old titanohematite with nanoscale ilmenite exsolution lamellae: I. Mineral and magnetic characterization. Geophysical Journal International, 2016, 206, 470-486.	2.4	11

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73	Dipole and Nondipole Evolution of the Historical Geomagnetic Field From Instrumental, Archeomagnetic, and Volcanic Data. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022565.	3.4	11
74	Geometry of ionic arrangements and magnetic interactions in ordered ferriâ€ilmenite solid solutions and its effect on lowâ€T magnetic behavior. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	10
75	Mechanism of exchange bias for isolated nanoparticles embedded in an antiferromagnetic matrix. Physical Review B, 2009, 80, .	3.2	9
76	A uniqueness theorem for tomography-assisted potential-field inversion. Geophysical Journal International, 2019, 216, 760-766.	2.4	9
77	The geodynamo as a random walker: A view on reversal statistics. Journal of Geophysical Research, 2012, 117, .	3.3	8
78	Dating and palaeoenvironmental reconstruction of the sediments around the Miocene/Pliocene boundary in Yermak Plateau ODP Hole 911A using marine palynology. Palaeogeography, Palaeoclimatology, Palaeoecology, 2014, 414, 382-402.	2.3	8
79	Separating Geometryâ€•From Stressâ€Induced Remanent Magnetization in Magnetite With Ilmenite Lamellae From the Stardalur Basalts, Iceland. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008761.	2.5	8
80	Experimental Study of the Magnetic Signature of Basal-Plane Anisotropy in Hematite. , 2011, , 311-320.		8
81	Quantifying diffuse contamination: Comparing silver and mercury in organogenic and minerogenic soil. Science of the Total Environment, 2022, 832, 155065.	8.0	8
82	Records of Paleomagnetic Field Variations. Advances in Geophysical and Environmental Mechanics and Mathematics, 2009, , 65-106.	0.2	7
83	Chemical and magnetic properties of rapidly cooled metastable ferri-ilmenite solid solutions â€“ IV: the fine structure of self-reversed thermoremanent magnetization. Geophysical Journal International, 2014, 196, 1375-1396.	2.4	7
84	Magnetic mean-field modelling of solid solutions: theoretical foundations and application to the hematiteâ€“ilmenite system. Geophysical Journal International, 2015, 202, 1029-1040.	2.4	7
85	Geochemical characterisation of northern Norwegian fjord surface sediments: A baseline for further paleo-environmental investigations. Continental Shelf Research, 2017, 148, 104-115.	1.8	7
86	The magnetization of the ocean floor: stress and fracturing of titanomagnetite particles by low-temperature oxidation. Geophysical Journal International, 2020, 221, 2104-2112.	2.4	7
87	Single Particle Multipole Expansions From Micromagnetic Tomography. Geochemistry, Geophysics, Geosystems, 2021, 22, e2021GC009663.	2.5	7
88	Physical interpretation of isothermal remanent magnetization endâ€members: New insights into the environmental history of Lake Hovsgul, Mongolia. Geochemistry, Geophysics, Geosystems, 2016, 17, 4669-4683.	2.5	6
89	Mean-field modelling of magnetic nanoparticles: The effect of particle size and shape on the Curie temperature. Physical Review B, 2019, 99, .	3.2	6
90	Mineral Magnetic Characterization of Highâ€Latitude Sediments From Lake Levinsonâ€Lessing, Siberia. Geophysical Research Letters, 2021, 48, e2021GL093026.	4.0	6

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91	Demagnetization Energy and Internal Stress in Magnetite From Temperatureâ€Dependent Hysteresis Measurements. Geophysical Research Letters, 2021, 48, e2021GL096147.	4.0	6
92	Hysteresis parameters and magnetic anisotropy of silicate-hosted magnetite exsolutions. Geophysical Journal International, 2022, 229, 1695-1717.	2.4	6
93	Excess Cr and Ni in top soil: Comparing the effect of geology, diffuse contamination, and biogenic influence. Science of the Total Environment, 2022, 843, 157059.	8.0	6
94	Micromagnetic Tomography for Paleomagnetism and Rockâ€Magnetism. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022364.	3.4	5
95	Comment on â€˜Detecting uniaxial single domain grains with a modified IRM techniqueâ€™ by R. Mitra, L. Tauxe and J. S. Gee. Geophysical Journal International, 2012, 191, 42-45.	2.4	3
96	Ferroan geikielite and coupled spinel-rutile exsolution from titanohematite: Interface characterization and magnetic properties. American Mineralogist, 2014, 99, 1694-1712.	1.9	3
97	A Firstâ€Order Statistical Exploration of the Mathematical Limits of Micromagnetic Tomography. Geochemistry, Geophysics, Geosystems, 2022, 23, .	2.5	3
98	Mapping Magnetic Signals of Individual Magnetite Grains to Their Internal Magnetic Configurations Using Micromagnetic Models. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	3
99	Variations of magnetic properties in thin lava flow profiles: Implications for the recording of the Laschamp Excursion. Physics of the Earth and Planetary Interiors, 2012, 200-201, 10-27.	1.9	2
100	Spherical magnetic field gradients and lithospheric magnetization (Part 1) : finite difference calculation and depth sensitivity to lithospheric magnetization. Geophysical Journal International, 2018, 215, 1747-1765.	2.4	2
101	Lamellar magnetism and exchange bias in billion-year-old metamorphic titanohematite with nanoscale ilmenite exsolution lamellae â€“ III. Atomic-magnetic basis for experimental results. Geophysical Journal International, 2021, 226, 1348-1367.	2.4	2
102	A linear theory of physical properties in inhomogeneous sediments and its application to relative paleointensity determination. EEarth Discussions, 2006, 1, 51-62.	0.3	2
103	A 62â€‰kyr geomagnetic palaeointensity record from the Taymyr Peninsula, Russian Arctic. Geochronology, 2022, 4, 87-107.	2.5	2
104	An Enigma in Rock Magnetism: Can Microstructures in Magnetite Cause a Threefold Increase in the Efficiency of NRM Acquisition in the Stardalur Basalts?. Geophysical Journal International, 0, , .	2.4	2
105	On the possibility of recovering palaeo-diurnal magnetic variations in transitional lava flows. Physics of the Earth and Planetary Interiors, 2008, 169, 117-130.	1.9	1
106	On the possibility of recovering paleo-diurnal magnetic variations in transitional lava flows. Physics of the Earth and Planetary Interiors, 2008, 169, 108-116.	1.9	1
107	Focused Ion Beam Nanotomography of Chondritic Meteorites: Closing the Mesoscale Length Gap in Paleomagnetic Studies. Microscopy and Microanalysis, 2015, 21, 2261-2262.	0.4	0