Renguang Zuo

List of Publications by Year
in descending order

112 papers	5,543 citations	66315 42 h-index	88593 70 g-index
113 all docs	113 docs citations	113 times ranked	1316 citing authors

#	Article	IF	Citations
1	Support vector machine: A tool for mapping mineral prospectivity. Computers and Geosciences, 2011, 37, 1967-1975.	2.0	300
2	Fractal/multifractal modeling of geochemical data: A review. Journal of Geochemical Exploration, 2016, 164, 33-41.	1.5	231
3	Identifying geochemical anomalies associated with Cu and Pbâ€"Zn skarn mineralization using principal component analysis and spectrumâ€"area fractal modeling in the Gangdese Belt, Tibet (China). Journal of Geochemical Exploration, 2011, 111, 13-22.	1.5	219
4	Deep learning and its application in geochemical mapping. Earth-Science Reviews, 2019, 192, 1-14.	4.0	214
5	Application of singularity mapping technique to identify local anomalies using stream sediment geochemical data, a case study from Gangdese, Tibet, western China. Journal of Geochemical Exploration, 2009, 101, 225-235.	1.5	204
6	Recognition of geochemical anomalies using a deep autoencoder network. Computers and Geosciences, 2016, 86, 75-82.	2.0	171
7	A comparison study of the Câ€"A and Sâ€"A models with singularity analysis to identify geochemical anomalies in covered areas. Applied Geochemistry, 2013, 33, 165-172.	1.4	137
8	Compositional data analysis in the study of integrated geochemical anomalies associated with mineralization. Applied Geochemistry, 2013, 28, 202-211.	1.4	137
9	Application of fractal models to characterization of vertical distribution of geochemical element concentration. Journal of Geochemical Exploration, 2009, 102, 37-43.	1.5	127
10	Machine Learning of Mineralization-Related Geochemical Anomalies: A Review of Potential Methods. Natural Resources Research, 2017, 26, 457-464.	2.2	123
11	Mapping mineral prospectivity through big data analytics and a deep learning algorithm. Ore Geology Reviews, 2018, 102, 811-817.	1.1	115
12	Spatial analysis and visualization of exploration geochemical data. Earth-Science Reviews, 2016, 158, 9-18.	4.0	108
13	Decomposing of mixed pattern of arsenic using fractal model in Gangdese belt, Tibet, China. Applied Geochemistry, 2011, 26, S271-S273.	1.4	100
14	Big Data Analytics of Identifying Geochemical Anomalies Supported by Machine Learning Methods. Natural Resources Research, 2018, 27, 5-13.	2.2	100
15	Evaluation of uncertainty in mineral prospectivity mapping due to missing evidence: A case study with skarn-type Fe deposits in Southwestern Fujian Province, China. Ore Geology Reviews, 2015, 71, 502-515.	1.1	98
16	Geodata Science-Based Mineral Prospectivity Mapping: A Review. Natural Resources Research, 2020, 29, 3415-3424.	2.2	92
17	Fractal/multifractal modelling of geochemical exploration data. Journal of Geochemical Exploration, 2012, 122, 1-3.	1.5	90
18	Random-Drop Data Augmentation of Deep Convolutional Neural Network for Mineral Prospectivity Mapping. Natural Resources Research, 2021, 30, 27-38.	2.2	90

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19	A comparative study of fuzzy weights of evidence and random forests for mapping mineral prospectivity for skarn-type Fe deposits in the southwestern Fujian metallogenic belt, China. Science China Earth Sciences, 2016, 59, 556-572.	2.3	87
20	Identification of weak anomalies: A multifractal perspective. Journal of Geochemical Exploration, 2015, 148, 12-24.	1.5	80
21	GIS-based rare events logistic regression for mineral prospectivity mapping. Computers and Geosciences, 2018, 111, 18-25.	2.0	79
22	Mapping mineral prospectivity for Cu polymetallic mineralization in southwest Fujian Province, China. Ore Geology Reviews, 2016, 75, 16-28.	1.1	75
23	Identification of geochemical anomalies associated with mineralization in the Fanshan district, Fujian, China. Journal of Geochemical Exploration, 2014, 139, 170-176.	1.5	67
24	Identifying geochemical anomalies associated with Auâ€“Cu mineralization using multifractal and artificial neural network models in the Ningqiang district, Shaanxi, China. Journal of Geochemical Exploration, 2016, 164, 54-64.	1.5	67
25	The processing methods of geochemical exploration data: past, present, and future. Applied Geochemistry, 2021, 132, 105072.	1.4	67
26	Fractal characterization of the spatial distribution of geological point processes. International Journal of Applied Earth Observation and Geoinformation, 2009, 11, 394-402.	1.4	64
27	Recognition of geochemical anomalies using a deep variational autoencoder network. Applied Geochemistry, 2020, 122, 104710.	1.4	63
28	Recognizing multivariate geochemical anomalies for mineral exploration by combining deep learning and one-class support vector machine. Computers and Geosciences, 2020, 140, 104484.	2.0	63
29	Mapping Mineral Prospectivity via Semi-supervised Random Forest. Natural Resources Research, 2020, 29, 189-202.	2.2	62
30	Effects of Random Negative Training Samples on Mineral Prospectivity Mapping. Natural Resources Research, 2020, 29, 3443-3455.	2.2	62
31	Application of a hybrid method combining multilevel fuzzy comprehensive evaluation with asymmetric fuzzy relation analysis to mapping prospectivity. Ore Geology Reviews, 2009, 35, 101-108.	1.1	56
32	Mapping complexity of spatial distribution of faults using fractal and multifractal models: vectoring towards exploration targets. Computers and Geosciences, 2011, 37, 1958-1966.	2.0	55
33	Detection of the multivariate geochemical anomalies associated with mineralization using a deep convolutional neural network and a pixel-pair feature method. Applied Geochemistry, 2021, 130, 104994.	1.4	54
34	Uncertainties in GIS-Based Mineral Prospectivity Mapping: Key Types, Potential Impacts and Possible Solutions. Natural Resources Research, 2021, 30, 3059-3079.	2.2	53
35	Exploring the effects of cell size in geochemical mapping. Journal of Geochemical Exploration, 2012, 112, 357-367.	1.5	52
36	A comparative study of trend surface analysis and spectrumâ€“area multifractal model to identify geochemical anomalies. Journal of Geochemical Exploration, 2015, 155, 84-90.	1.5	52

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37	Geodata science and geochemical mapping. Journal of Geochemical Exploration, 2020, 209, 106431.	1.5	48
38	The mineralization age of the Makeng Fe deposit, South China: implications from Uâ€"Pb and Smâ€"Nd geochronology. International Journal of Earth Sciences, 2015, 104, 663-682.	0.9	47
39	Identification of geochemical anomalies through combined sequential Gaussian simulation and grid-based local singularity analysis. Computers and Geosciences, 2018, 118, 52-64.	2.0	47
40	Robust Feature Extraction for Geochemical Anomaly Recognition Using a Stacked Convolutional Denoising Autoencoder. Mathematical Geosciences, 2022, 54, 623-644.	1.4	47
41	Srâ€"Ndâ€"Pb isotope systematics of magnetite: Implications for the genesis of Makeng Fe deposit, southern China. Ore Geology Reviews, 2014, 57, 53-60.	1.1	45
42	Detection of geochemical anomalies related to mineralization using the GANomaly network. Applied Geochemistry, 2021, 131, 105043.	1.4	44
43	A nonlinear controlling function of geological features on magmaticâ€"hydrothermal mineralization. Scientific Reports, 2016, 6, 27127.	1.6	42
44	Effects of misclassification costs on mapping mineral prospectivity. Ore Geology Reviews, 2017, 82, 1-9.	1.1	42
45	Selection of an elemental association related to mineralization using spatial analysis. Journal of Geochemical Exploration, 2018, 184, 150-157.	1.5	42
46	Mapping Geochemical Anomalies Through Integrating Random Forest and Metric Learning Methods. Natural Resources Research, 2019, 28, 1285-1298.	2.2	42
47	ArcFractal: An ArcGIS Add-In for Processing Geoscience Data Using Fractal/Multifractal Models. Natural Resources Research, 2020, 29, 3-12.	2.2	42
48	Mapping geochemical anomalies related to Feâ€"polymetallic mineralization using the maximum margin metric learning method. Ore Geology Reviews, 2019, 107, 258-265.	1.1	39
49	A positive and unlabeled learning algorithm for mineral prospectivity mapping. Computers and Geosciences, 2021, 147, 104667.	2.0	39
50	Mapping of district-scale potential targets using fractal models. Journal of Geochemical Exploration, 2012, 122, 34-46.	1.5	38
51	A Monte Carlo-based framework for risk-return analysis in mineral prospectivity mapping. Geoscience Frontiers, 2020, 11, 2297-2308.	4.3	37
52	A Comparison of Modified Fuzzy Weights of Evidence, Fuzzy Weights of Evidence, and Logistic Regression for Mapping Mineral Prospectivity. Mathematical Geosciences, 2014, 46, 869-885.	1.4	36
53	Recognition of multivariate geochemical anomalies associated with mineralization using an improved generative adversarial network. Ore Geology Reviews, 2021, 136, 104264.	1.1	35
54	Application of Fractal Models to Distinguish betweenÂDifferent Mineral Phases. Mathematical Geosciences, 2009, 41, 71-80.	1.4	34

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55	Identification of weak geochemical anomalies using robust neighborhood statistics coupled with GIS in covered areas. Journal of Geochemical Exploration, 2014, 136, 93-101.	1.5	34
56	Discovering geochemical patterns by factor-based cluster analysis. Journal of Geochemical Exploration, 2017, 181, 106-115.	1.5	34
57	A Geologically Constrained Variational Autoencoder for Mineral Prospectivity Mapping. Natural Resources Research, 2022, 31, 1121-1133.	2.2	34
58	Evaluation of the uncertainty in estimation of metal resources of skarn tin in Southern China. Ore Geology Reviews, 2009, 35, 415-422.	1.1	33
59	A MATLAB-based program for processing geochemical data using fractal/multifractal modeling. Earth Science Informatics, 2015, 8, 937-947.	1.6	33
60	An extended local gap statistic for identifying geochemical anomalies. Journal of Geochemical Exploration, 2016, 164, 86-93.	1.5	33
61	Geological Features and Formation Processes of the <scp>M</scp>akeng <scp>F</scp>e Deposit, <scp>C</scp>hina. Resource Geology, 2015, 65, 266-284.	0.3	31
62	Spatial characteristics of geochemical patterns related to Fe mineralization in the southwestern Fujian province (China). Journal of Geochemical Exploration, 2015, 148, 259-269.	1.5	31
63	Spatial analysis of Fe deposits in Fujian Province, China: Implications for mineral exploration. Journal of Earth Science (Wuhan, China), 2015, 26, 813-820.	1.1	30
64	Recognizing geochemical anomalies via stochastic simulation-based local singularity analysis. Journal of Geochemical Exploration, 2019, 198, 29-40.	1.5	30
65	Visualization and interpretation of geochemical exploration data using GIS and machine learning methods. Applied Geochemistry, 2021, 134, 105111.	1.4	30
66	Application of the tectono-geochemistry method to mineral prospectivity mapping: a case study of the Gaosong tin-polymetallic deposit, Gejiu district, SW China. Ore Geology Reviews, 2015, 71, 719-734.	1.1	29
67	Identifying gravity anomalies caused by granitic intrusions in Nanling mineral district, China: a multifractal perspective. Geophysical Prospecting, 2015, 63, 256-270.	1.0	27
68	Mapping prospectivity for regolith-hosted REE deposits via convolutional neural network with generative adversarial network augmented data. Ore Geology Reviews, 2022, 142, 104693.	1.1	26
69	Quantifying the spatial characteristics of geochemical patterns via GIS-based geographically weighted statistics. Journal of Geochemical Exploration, 2015, 157, 110-119.	1.5	25
70	Mineral Prospectivity Mapping via Gated Recurrent Unit Model. Natural Resources Research, 2022, 31, 2065-2079.	2.2	24
71	Exploring uni-element geochemical data under a compositional perspective. Applied Geochemistry, 2018, 91, 174-184.	1.4	23
72	Knowledge discovery of geochemical patterns from a data-driven perspective. Journal of Geochemical Exploration, 2021, 231, 106872.	1.5	23

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73	A Physically Constrained Variational Autoencoder for Geochemical Pattern Recognition. Mathematical Geosciences, 2022, 54, 783-806.	1.4	23
74	Fusion of Geochemical and Remote-Sensing Data for Lithological Mapping Using Random Forest Metric Learning. Mathematical Geosciences, 2021, 53, 1125-1145.	1.4	22
75	A geologically-constrained deep learning algorithm for recognizing geochemical anomalies. Computers and Geosciences, 2022, 162, 105100.	2.0	22
76	Identification of geochemical anomalies via local RX anomaly detector. Journal of Geochemical Exploration, 2018, 189, 64-71.	1.5	21
77	Mineral prospectivity mapping using a joint singularity-based weighting method and long short-term memory network. Computers and Geosciences, 2022, 158, 104974.	2.0	21
78	Assessing geochemical anomalies using geographically weighted lasso. Applied Geochemistry, 2020, 119, 104668.	1.4	20
79	Weathering reactions and isometric log-ratio coordinates: Do they speak to each other?. Applied Geochemistry, 2016, 75, 189-199.	1.4	19
80	Regional Exploration Targeting Model for Gangdese Porphyry Copper Deposits. Resource Geology, 2011, 61, 296-303.	0.3	16
81	Reprint of â€œIdentification of weak anomalies: A multifractal perspectiveâ€• Journal of Geochemical Exploration, 2015, 154, 200-212.	1.5	16
82	Mapping spatial distribution characteristics of lineaments extracted from remote sensing image using fractal and multifractal models. Journal of Earth Science (Wuhan, China), 2017, 28, 507-515.	1.1	16
83	Mapping Himalayan leucogranites using a hybrid method of metric learning and support vector machine. Computers and Geosciences, 2020, 138, 104455.	2.0	16
84	Application of improved bi-dimensional empirical mode decomposition (BEMD) based on Peronaâ€“Malik to identify copper anomaly association in the southwestern Fujian (China). Journal of Geochemical Exploration, 2016, 164, 65-74.	1.5	14
85	A fractal measure of spatial association between landslides and conditioning factors. Journal of Earth Science (Wuhan, China), 2017, 28, 588-594.	1.1	14
86	Mineral Exploration Using Subtle or Negative Geochemical Anomalies. Journal of Earth Science (Wuhan, China), 2021, 32, 439-454.	1.1	14
87	ITRAX: A potential tool to explore the physical and chemical properties of mineralized rocks in mineral resource exploration. Journal of Geochemical Exploration, 2013, 132, 149-155.	1.5	13
88	Fractal analysis of geochemical landscapes using scaling noise model. Journal of Geochemical Exploration, 2016, 161, 62-71.	1.5	13
89	The relationships between magnetic susceptibility and elemental variations for mineralized rocks. Journal of Geochemical Exploration, 2014, 146, 17-26.	1.5	12
90	Identification and mapping of lithogeochemical signatures using staged factor analysis and fractal/multifractal models. Geochemistry: Exploration, Environment, Analysis, 2017, 17, 239-251.	0.5	12

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91	Spatial modelling of hydrothermal mineralization-related geochemical patterns using INLA+SPDE and local singularity analysis. Computers and Geosciences, 2021, 154, 104822.	2.0	12
92	Analysis of Temporal and Spatial Characteristics of Urban Expansion in Xiaonan District from 1990 to 2020 Using Time Series Landsat Imagery. Remote Sensing, 2021, 13, 4299.	1.8	12
93	Visual Interpretable Deep Learning Algorithm for Geochemical Anomaly Recognition. Natural Resources Research, 2022, 31, 2211-2223.	2.2	12
94	A fractal measure of mass transfer in fluidâ€“rock interaction. Ore Geology Reviews, 2018, 95, 569-574.	1.1	11
95	Mapping of Himalaya Leucogranites Based on ASTER and Sentinel-2A Datasets Using a Hybrid Method of Metric Learning and Random Forest. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 1925-1936.	2.3	11
96	Lithological Mapping Based on Fully Convolutional Network and Multi-Source Geological Data. Remote Sensing, 2021, 13, 4860.	1.8	11
97	Quantifying the Distribution Characteristics of Geochemical Elements and Identifying Their Associations in Southwestern Fujian Province, China. Minerals (Basel, Switzerland), 2020, 10, 183.	0.8	10
98	Model averaging for identification of geochemical anomalies linked to mineralization. Ore Geology Reviews, 2022, 146, 104955.	1.1	10
99	A comparative study of two modes for mapping felsic intrusions using geoinformatics. Applied Geochemistry, 2016, 75, 277-283.	1.4	8
100	Lithological Mapping Using a Convolutional Neural Network based on Stream Sediment Geochemical Survey Data. Natural Resources Research, 2022, 31, 2397-2412.	2.2	8
101	Geoinformatics in Applied Geochemistry. Journal of Geochemical Exploration, 2016, 164, 1-2.	1.5	6
102	Introduction to the thematic issue: analysis of exploration geochemical data for mapping of anomalies. Geochemistry: Exploration, Environment, Analysis, 2017, 17, 183-185.	0.5	6
103	Controls on and prospectivity mapping of volcanic-type uranium mineralization in the Pucheng district, NW Fujian, China. Ore Geology Reviews, 2019, 112, 103028.	1.1	5
104	GIS, Geostatistics, and Machine Learning in Medical Geology. , 2021, , 215-234.		5
105	In situ monitoring of elemental losses and gains during weathering using the spatial element patterns obtained by portable XRF. Journal of Geochemical Exploration, 2021, 229, 106842.	1.5	5
106	Modeling singular mineralization processes due to fluid pressure fluctuations. Chemical Geology, 2020, 535, 119458.	1.4	4
107	Google Earth-aided visualization and interpretation of geochemical survey data. Geochemistry: Exploration, Environment, Analysis, 2022, 22, geochem2021-079.	0.5	4
108	A fractal model of granitic intrusion and variability based on cellular automata. Computers and Geosciences, 2019, 129, 40-48.	2.0	3

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109	Preface to the Special Issue on Digital Geosciences and Quantitative Exploration of Mineral Resources. Journal of Earth Science (Wuhan, China), 2021, 32, 267-268.	1.1	3
110	Investigating fluid-rock interaction at the hand-specimen scale via ITRAX. Journal of Geochemical Exploration, 2019, 204, 57-65.	1.5	2
111	Construction Land Information Extraction and Expansion Analysis of Xiaogan City Using One-Class Support Vector Machine. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 3519-3532.	2.3	1
112	Response to comment by Helmut Schaeben on â€œA Comparison of Modified Fuzzy Weights of Evidence, Fuzzy Weights of Evidence, and Logistic Regression for Mapping Mineral Prospectivityâ€• Mathematical Geosciences, 2014, 46, 895-900.	1.4	0