Xavier Emery

List of Publications by Year
in descending order

130 papers	2,209 citations

279778

23 h-index	

315719

38 g-index

133 all docs	133 docs citations	133 times ranked	1052 citing authors

#	Article	IF	Citations
1	TBSIM: A computer program for conditional simulation of three-dimensional Gaussian random fields via the turning bands method. Computers and Geosciences, 2006, 32, 1615-1628.	4.2	165
2	Simulation of geological domains using the plurigaussian model: New developments and computer programs. Computers and Geosciences, 2007, 33, 1189-1201.	4.2	77
3	Simple and Ordinary Multigaussian Kriging for Estimating Recoverable Reserves. Mathematical Geosciences, 2005, 37, 295-319.	0.9	71
4	Iterative algorithms for fitting a linear model of coregionalization. Computers and Geosciences, 2010, 36, 1150-1160.	4.2	62
5	A turning bands program for conditional co-simulation of cross-correlated Gaussian random fields. Computers and Geosciences, 2008, 34, 1850-1862.	4.2	60
6	Testing the correctness of the sequential algorithm for simulating Gaussian random fields. Stochastic Environmental Research and Risk Assessment, 2004, 18, 401-413.	4.0	57
7	An improved spectral turning-bands algorithm for simulating stationary vector Gaussian random fields. Stochastic Environmental Research and Risk Assessment, 2016, 30, 1863-1873.	4.0	54
8	Properties and limitations of sequential indicator simulation. Stochastic Environmental Research and Risk Assessment, 2004, 18, 414-424.	4.0	52
9	The kriging update equations and their application to the selection of neighboring data. Computational Geosciences, 2009, 13, 269-280.	2.4	51
10	Geostatistical modeling of the geological uncertainty in an iron ore deposit. Ore Geology Reviews, 2017, 88, 336-351.	2.7	48
11	Joint Simulation of Grade and Rock Type in a Stratabound Copper Deposit. Mathematical Geosciences, 2015, 47, 471-495.	2.4	43
12	Conditional co-simulation of continuous and categorical variables for geostatistical applications. Computers and Geosciences, 2009, 35, 1234-1246.	4.2	42
13	Assessing the accuracy of sequential Gaussian simulation and cosimulation. Computational Geosciences, 2011, 15, 673-689.	2.4	39
14	Variograms of Order ï‰: A Tool to Validate a Bivariate Distribution Model. Mathematical Geosciences, 2005, 37, 163-181.	0.9	38
15	Can a Training Image Be a Substitute for a Random Field Model?. Mathematical Geosciences, 2014, 46, 133-147.	2.4	37
16	Comparing sequential Gaussian and turning bands algorithms for cosimulating grades in multi-element deposits. Comptes Rendus - Geoscience, 2015, 347, 84-93.	1.2	36
17	Ordinary multigaussian kriging for mapping conditional probabilities of soil properties. Geoderma, 2006, 132, 75-88.	5.1	33
18	Geostatistical simulation to map the spatial heterogeneity of geomechanical parameters: A case study with rock mass rating. Engineering Geology, 2016, 205, 93-103.	6.3	33

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19	Simulating Large Gaussian Random Vectors Subject to Inequality Constraints by Gibbs Sampling. Mathematical Geosciences, 2014, 46, 265-283.	2.4	31
20	A stochastic approach for measuring bubble size distribution via image analysis. International Journal of Mineral Processing, 2013, 121, 6-11.	2.6	30
21	Conditioning Simulations of Gaussian Random Fields by Ordinary Kriging. Mathematical Geosciences, 2007, 39, 607-623.	0.9	26
22	Statistical tests for validating geostatistical simulation algorithms. Computers and Geosciences, 2008, 34, 1610-1620.	4.2	26
23	Geological Modelling and Validation of Geological Interpretations via Simulation and Classification of Quantitative Covariates. Minerals (Basel, Switzerland), 2018, 8, 7.	2.0	24
24	Conditional Simulation of Nongaussian Random Functions. Mathematical Geosciences, 2002, 34, 79-100.	0.9	23
25	A comparison of search strategies to design the cokriging neighborhood for predicting coregionalized variables. Stochastic Environmental Research and Risk Assessment, 2019, 33, 183-199.	4.0	23
26	Using the Gibbs sampler for conditional simulation of Gaussian-based random fields. Computers and Geosciences, 2007, 33, 522-537.	4.2	22
27	Risk quantification with combined use of lithological and grade simulations: Application to a porphyry copper deposit. Ore Geology Reviews, 2016, 75, 42-51.	2.7	22
28	Weighted sample variograms as a tool to better assess the spatial variability of soil properties. Geoderma, 2007, 140, 81-89.	5.1	21
29	Uncertainty modeling and spatial prediction by multi-Gaussian kriging: Accounting for an unknown mean value. Computers and Geosciences, 2008, 34, 1431-1442.	4.2	21
30	Simulation of geo-domains accounting for chronology and contact relationships: application to the RÃo Blanco copper deposit. Stochastic Environmental Research and Risk Assessment, 2015, 29, 2173-2191.	4.0	21
31	Truncated Gaussian simulation of discrete-valued, ordinal coregionalized variables. Computers and Geosciences, 2010, 36, 1325-1338.	4.2	20
32	Plurigaussian modeling of geological domains based on the truncation of non-stationary Gaussian random fields. Stochastic Environmental Research and Risk Assessment, 2017, 31, 893-913.	4.0	20
33	Simulating isotropic vector-valued Gaussian random fields on the sphere through finite harmonics approximations. Stochastic Environmental Research and Risk Assessment, 2019, 33, 1659-1667.	4.0	20
34	Quantifying Uncertainty in Mineral Resources by Use of Classification Schemes and Conditional Simulations. Mathematical Geosciences, 2006, 38, 445-464.	0.9	19
35	Geostatistics in the presence of geological boundaries: Application to mineral resources modeling. Ore Geology Reviews, 2019, 114, 103124.	2.7	19
36	Histogram and variogram inference in the multigaussian model. Stochastic Environmental Research and Risk Assessment, 2005, 19, 48-58.	4.0	18

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37	Stochastic Open-Pit Mine Production Scheduling: A Case Study of an Iron Deposit. Minerals (Basel,) Tj ETQq1 1 0.784314 rgBT /Overl...	2.0	18
38	Multigaussian kriging for point-support estimation: incorporating constraints on the sum of the kriging weights. Stochastic Environmental Research and Risk Assessment, 2006, 20, 53-65.	4.0	17
39	Simulation of mineral grades with hard and soft conditioning data: application to a porphyry copper deposit. Computational Geosciences, 2009, 13, 79-89.	2.4	17
40	An enhanced Gibbs sampler algorithm for non-conditional simulation of Gaussian random vectors. Computers and Geosciences, 2012, 46, 138-148.	4.2	17
41	Simulation of mineral grades and classification of mineral resources by using hard and soft conditioning data: application to Sungun porphyry copper deposit. Arabian Journal of Geosciences, 2013, 6, 3773-3781.	1.3	17
42	Fast Update of Conditional Simulation Ensembles. Mathematical Geosciences, 2015, 47, 771-789.	2.4	16
43	Stochastic rock type modeling in a porphyry copper deposit and its application to copper grade evaluation. Journal of Geochemical Exploration, 2015, 157, 162-168.	3.2	16
44	Spectral simulation of vector random fields with stationary Gaussian increments in d-dimensional Euclidean spaces. Stochastic Environmental Research and Risk Assessment, 2017, 31, 1583-1592.	4.0	16
45	Spatial modeling of discontinuity intensity from borehole observations at El Teniente mine, Chile. Engineering Geology, 2017, 228, 97-106.	6.3	16
46	On Some Consistency Conditions for Geostatistical Change-of-Support Models. Mathematical Geosciences, 2007, 39, 205-223.	0.9	15
47	A disjunctive kriging program for assessing point-support conditional distributions. Computers and Geosciences, 2006, 32, 965-983.	4.2	14
48	Two approaches to direct block-support conditional co-simulation. Computers and Geosciences, 2011, 37, 1015-1025.	4.2	14
49	Assessing the accuracy of sequential gaussian simulation through statistical testing. Stochastic Environmental Research and Risk Assessment, 2017, 31, 523-533.	4.0	14
50	Robust estimation of the fracture diameter distribution from the true trace length distribution in the Poisson-disc discrete fracture network model. Computers and Geotechnics, 2018, 95, 137-146.	4.7	14
51	Admissible nested covariance models over spheres cross time. Stochastic Environmental Research and Risk Assessment, 2018, 32, 3053-3066.	4.0	14
52	Models for Support and Information Effects: A Comparative Study. Mathematical Geosciences, 2005, 37, 49-68.	0.9	13
53	On the Existence of Mosaic and Indicator Random Fields with Spherical, Circular, and Triangular Variograms. Mathematical Geosciences, 2010, 42, 969-984.	2.4	13
54	Cokriging random fields with means related by known linear combinations. Computers and Geosciences, 2012, 38, 136-144.	4.2	13

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55	Simulation of the lately injected dykes in an Iranian porphyry copper deposit using the plurigaussian model. Arabian Journal of Geosciences, 2014, 7, 2771-2780.	1.3	13
56	Quantifying the uncertainty in the spatial layout of rock type domains in an iron ore deposit. Computational Geosciences, 2016, 20, 1013-1028.	2.4	13
57	Joint simulation of stationary grade and non-stationary rock type for quantifying geological uncertainty in a copper deposit. Computers and Geosciences, 2017, 109, 258-267.	4.2	13
58	Indicator Variograms as an Aid for Geological Interpretation and Modeling of Ore Deposits. Minerals (Basel, Switzerland), 2017, 7, 241.	2.0	13
59	The turning arcs: a computationally efficient algorithm to simulate isotropic vector-valued Gaussian random fields on the d-sphere. Statistics and Computing, 2020, 30, 1403-1418.	1.5	13
60	Conditional Simulation of Random Fields with Bivariate Gamma Isofactorial Distributions. Mathematical Geosciences, 2005, 37, 419-445.	0.9	12
61	Co-simulating Total and Soluble Copper Grades in an Oxide Ore Deposit. Mathematical Geosciences, 2012, 44, 27-46.	2.4	12
62	Geostatistics applied to cross-well reflection seismic for imaging carbonate aquifers. Journal of Applied Geophysics, 2013, 92, 68-75.	2.1	12
63	Modelling Geotechnical Heterogeneities Using Geostatistical Simulation and Finite Differences Analysis. Minerals (Basel, Switzerland), 2018, 8, 52.	2.0	12
64	A semiparametric class of axially symmetric random fields on the sphere. Stochastic Environmental Research and Risk Assessment, 2019, 33, 1863-1874.	4.0	12
65	Nonparametric Geostatistical Simulation of Subsurface Facies: Tools for Validating the Reproduction of, and Uncertainty in, Facies Geometry. Natural Resources Research, 2019, 28, 1163-1182.	4.7	12
66	Geostatistics for the Mining Industry. , 0, , .		12
67	A spectral approach to simulating intrinsic random fields with power and spline generalized covariances. Computational Geosciences, 2008, 12, 121-132.	2.4	11
68	A geostatistical approach to optimize sampling designs for local forest inventories. Canadian Journal of Forest Research, 2009, 39, 1465-1474.	1.7	11
69	Change-of-support models and computer programs for direct block-support simulation. Computers and Geosciences, 2009, 35, 2047-2056.	4.2	11
70	A geostatistical approach to measure the consistency between geological logs and quantitative covariates. Ore Geology Reviews, 2017, 82, 160-169.	2.7	11
71	Geostatistics in the presence of geological boundaries: Exploratory tools for contact analysis. Ore Geology Reviews, 2020, 120, 103397.	2.7	11
72	Using Two-Point Set Statistics to Estimate the Diameter Distribution in Boolean Models with Circular Grains. Mathematical Geosciences, 2012, 44, 805-822.	2.4	10

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73	Boreholes plans optimization methodology combining geostatistical simulation and simulated annealing. Tunnelling and Underground Space Technology, 2017, 70, 65-75.	6.2	10
74	A turning bands method for simulating isotropic Gaussian random fields on the sphere. Statistics and Probability Letters, 2019, 144, 9-15.	0.7	10
75	Adaptive open-pit mining planning under geological uncertainty. Resources Policy, 2021, 72, 102086.	9.6	10
76	An enhanced direct sampling (DS) approach to model the geological domain with locally varying proportions: Application to Golgohar iron ore mine, Iran. Ore Geology Reviews, 2021, 139, 104452.	2.7	10
77	Shortcomings of multiple indicator kriging for assessing local distributions. Transactions of the Institution of Mining and Metallurgy Section B-Applied Earth Science, 2004, 113, 249-259.	0.8	9
78	Two Ordinary Kriging Approaches to Predicting Block Grade Distributions. Mathematical Geosciences, 2007, 38, 801-819.	0.9	9
79	Reducing fluctuations in the sample variogram. Stochastic Environmental Research and Risk Assessment, 2007, 21, 391-403.	4.0	9
80	Enhanced coregionalization analysis for simulating vector Gaussian random fields. Computers and Geosciences, 2012, 42, 126-135.	4.2	9
81	5D geostatistics for directional variables: Application in geotechnics to the simulation of the linear discontinuity frequency. Computers and Geosciences, 2019, 133, 104325.	4.2	9
82	Assessing the Impact of Geologic Contact Dilution in Ore/Waste Classification in the Gol-Gohar Iron Ore Mine, Southeastern Iran. Minerals (Basel, Switzerland), 2020, 10, 336.	2.0	9
83	Multi-Gaussian kriging and simulation in the presence of an uncertain mean value. Stochastic Environmental Research and Risk Assessment, 2010, 24, 211-219.	4.0	8
84	On a continuous spectral algorithm for simulating non-stationary Gaussian random fields. Stochastic Environmental Research and Risk Assessment, 2018, 32, 905-919.	4.0	8
85	Regionalized Classification of Geochemical Data with Filtering of Measurement Noises for Predictive Lithological Mapping. Natural Resources Research, 2021, 30, 1033-1052.	4.7	8
86	Geostatistical modeling of Rock Quality Designation (RQD) and geotechnical zoning accounting for directional dependence and scale effect. Engineering Geology, 2021, 293, 106338.	6.3	8
87	A Comparison of Random Field Models Beyond Bivariate Distributions. Mathematical Geosciences, 2011, 43, 183-202.	2.4	7
88	Application of plurigaussian simulation to delineate the layout of alteration domains in Sungun copper deposit. Open Geosciences, 2013, 5, 514-522.	1.7	7
89	Soil gas geochemical exploration in covered terrains of northern Chile: data processing techniques and interpretation of contrast anomalies. Geochemistry: Exploration, Environment, Analysis, 2015, 15, 222-233.	0.9	7
90	A geostatistical approach to estimating the parameters of a 3D Cox-Boolean discrete fracture network from 1D and 2D sampling observations. International Journal of Rock Mechanics and Minings Sciences, 2019, 113, 183-190.	5.8	7

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91	Simulating space-time random fields with nonseparable Gneiting-type covariance functions. Statistics and Computing, 2020, 30, 1479-1495.	1.5	7
92	Investigating the impact of the estimation error of fracture intensity (P32) on the evaluation of in-situ rock fragmentation and potential of blocks forming around tunnels. Tunnelling and Underground Space Technology, 2020, 106, 103596.	6.2	7
93	Using cokriging to predict metal recovery accounting for non-additivity and preferential sampling designs. Minerals Engineering, 2021, 170, 106923.	4.3	7
94	Twenty-two families of multivariate covariance kernels on spheres, with their spectral representations and sufficient validity conditions. Stochastic Environmental Research and Risk Assessment, 2022, 36, 1447-1467.	4.0	7
95	Substitution Random Fields with Gaussian and Gamma Distributions: Theory and Application to a Pollution Data Set. Mathematical Geosciences, 2008, 40, 83-99.	2.4	6
96	Geometric Covariograms, Indicator Variograms and Boundaries of Planar Closed Sets. Mathematical Geosciences, 2011, 43, 905-927.	2.4	6
97	Integration of crosswell seismic data for simulating porosity in a heterogeneous carbonate aquifer. Journal of Applied Geophysics, 2013, 98, 254-264.	2.1	6
98	Application of joint conditional simulation to uncertainty quantification and resource classification. Arabian Journal of Geosciences, 2015, 8, 455-463.	1.3	6
99	Comparing linear and non-linear kriging for grade prediction and ore/waste classification in mineral deposits. International Journal of Mining, Reclamation and Environment, 2019, 33, 247-264.	2.8	6
100	Geostatistical simulation of rock physical and geochemical properties with spatial filtering and its application to predictive geological mapping. Journal of Geochemical Exploration, 2021, 220, 106661.	3.2	6
101	Modeling the Uncertainty in the Layout of Geological Units by Implicit Boundary Simulation Accounting for a Preexisting Interpretive Geological Model. Natural Resources Research, 2021, 30, 4123-4145.	4.7	6
102	The Gauss hypergeometric covariance kernel for modeling second-order stationary random fields in Euclidean spaces: its compact support, properties and spectral representation. Stochastic Environmental Research and Risk Assessment, 2022, 36, 2819-2834.	4.0	6
103	New Validity Conditions for the Multivariate Matérn Coregionalization Model, with an Application to Exploration Geochemistry. Mathematical Geosciences, 2022, 54, 1043-1068.	2.4	6
104	On the consistency of the indirect lognormal correction. Stochastic Environmental Research and Risk Assessment, 2004, 18, 258.	4.0	5
105	Simulation of Intrinsic Random Fields of Order $$k$$ k with Gaussian Generalized Increments by Gibbs Sampling. Mathematical Geosciences, 2015, 47, 955-974.	2.4	5
106	Fracture network modeling using petrophysical data, an approach based on geostatistical concepts. Journal of Natural Gas Science and Engineering, 2016, 31, 758-768.	4.4	5
107	Truncated Gaussian Simulation to Map the Spatial Heterogeneity of Rock Mass Rating. Rock Mechanics and Rock Engineering, 2016, 49, 3371-3376.	5.4	5
108	Algorithm 1013. ACM Transactions on Mathematical Software, 2021, 47, 1-25.	2.9	5

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109	Disjunctive Kriging with Hard and Imprecise Data. Mathematical Geosciences, 2003, 35, 699-718.	0.9	4
110	Geostatistical simulation of random fields with bivariate isofactorial distributions by adding mosaic models. Stochastic Environmental Research and Risk Assessment, 2005, 19, 348-360.	4.0	4
111	Reducing the number of orthogonal factors in linear coregionalization modeling. Computers and Geosciences, 2012, 46, 149-156.	4.2	4
112	A spectral algorithm to simulate nonstationary random fields on spheres and multifractal star-shaped random sets. Stochastic Environmental Research and Risk Assessment, 2020, 34, 2301-2311.	4.0	4
113	Change of Support for Estimating Local Block Grade Distributions. Mathematical Geosciences, 2008, 40, 671-688.	2.4	3
114	Predictive lithological mapping based on geostatistical joint modeling of lithology and geochemical element concentrations. Journal of Geochemical Exploration, 2021, 227, 106810.	3.2	3
115	Internal Consistency and Inference of Change-of-support Isofactorial Models. Quantitative Geology and Geostatistics, 2005, , 1057-1066.	0.1	3
116	Simulation of intrinsic random fields of order k with a continuous spectral algorithm. Stochastic Environmental Research and Risk Assessment, 2018, 32, 3245-3255.	4.0	2
117	Iterative algorithms for non-conditional and conditional simulation of Gaussian random vectors. Stochastic Environmental Research and Risk Assessment, 2020, 34, 1523-1541.	4.0	2
118	Operational mine planning in block cave mining: a simulation-optimisation approach. International Journal of Mining, Reclamation and Environment, 2021, 35, 199-218.	2.8	2
119	Using geotechnical scenarios for underground structure analysis: A case study in a hydroelectric complex in northern Portugal. Tunnelling and Underground Space Technology, 2021, 111, 103855.	6.2	2
120	A hybrid approach to predict hang-up frequency in real scale block cave mining at El Teniente mine, Chile. Tunnelling and Underground Space Technology, 2021, 118, 104160.	6.2	2
121	Criteria and characterizations for spatially isotropic and temporally symmetric matrix-valued covariance functions. Computational and Applied Mathematics, 2022, 41, .	2.2	2
122	Sequential Simulation with Iterative Methods. Quantitative Geology and Geostatistics, 2012, , 3-14.	0.1	1
123	Multivariate simulation of block-support grades at Mehdiabad deposit, Iran. Transactions of the Institution of Mining and Metallurgy Section B-Applied Earth Science, 2017, 126, 146-157.	0.8	1
124	Covariance Models and Simulation Algorithm for Stationary Vector Random Fields on Spheres Crossed with Euclidean Spaces. SIAM Journal of Scientific Computing, 2021, 43, A3114-A3134.	2.8	1
125	A Plurigaussian Model for Simulating Regionalized Compositions. Quantitative Geology and Geostatistics, 2012, , 39-50.	0.1	1
126	Dimension walks on hyperspheres. Computational and Applied Mathematics, 2022, 41, .	2.2	1

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127	A computer package for modeling and simulating regionalized count variables. Computers and Geosciences, 2010, 36, 24-33.	4.2	0
128	Simultaneous multi-sector block cave mine production scheduling considering operational uncertainties. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2021, 130, 36-51.	0.5	0
129	Constructing Branching Trees of Geostatistical Simulations. Mathematical Geosciences, 0, , 1.	2.4	0
130	Nonparametric Bayesian modelling of longitudinally integrated covariance functions on spheres. Computational Statistics and Data Analysis, 2022, , 107555.	1.2	0