Nikolai G Dokuchaev

List of Publications by Year
in descending order

116 papers	568 citations	933410 10 h-index	888047 17 g-index
122 all docs	122 docs citations	122 times ranked	147 citing authors

#	Article	IF	Citations
1	Stochastic Controls with Terminal Contingent Conditions. Journal of Mathematical Analysis and Applications, 1999, 238, 143-165.	1.0	79
2	Forecasting of Realised Volatility with the Random Forests Algorithm. Journal of Risk and Financial Management, 2018, 11, 61.	2.3	24
3	Dynamic Portfolio Strategies: Quantitative Methods and Empirical Rules for Incomplete Information. Profiles in Operations Research, 2002, , .	0.4	23
4	Discrete time market with serial correlations and optimal myopic strategies. European Journal of Operational Research, 2007, 177, 1090-1104.	5.7	22
5	On recovering parabolic diffusions from their time-averages. Calculus of Variations and Partial Differential Equations, 2019, 58, 1.	1.7	20
6	A bounded risk strategy for a market with non-observable parameters. Insurance: Mathematics and Economics, 2002, 30, 243-254.	1.2	15
7	Mathematical Finance. , 0, , .		15
8	Optimal investment strategies with bounded risks, general utilities, and goal achieving. Journal of Mathematical Economics, 2001, 35, 289-309.	0.8	14
9	Predictors for Discrete Time Processes With Energy Decay on Higher Frequencies. IEEE Transactions on Signal Processing, 2012, 60, 6027-6030.	5.3	14
10	Optimal Solution of Investment Problems Via Linear Parabolic Equations Generated by Kalman Filter. SIAM Journal on Control and Optimization, 2005, 44, 1239-1258.	2.1	13
11	Predictability on finite horizon for processes with exponential decrease of energy on higher frequencies. Signal Processing, 2010, 90, 696-701.	3.7	13
12	On predictors for band-limited and high-frequency time series. Signal Processing, 2012, 92, 2571-2575.	3.7	13
13	The pricing of options in a financial market model with transaction costs and uncertain volatility. Journal of Multinational Financial Management, 1998, 8, 353-364.	2.3	12
14	Estimates for distances between first exit times via parabolic equations in unbounded cylinders. Probability Theory and Related Fields, 2004, 129, 290-314.	1.8	12
15	Volatility estimation from short time series of stock prices. Journal of Nonparametric Statistics, 2014, 26, 373-384.	0.9	12
16	Two unconditionally implied parameters and volatility smiles and skews. Applied Economics Letters, 2006, 2, 199-204.	0.2	11
17	The predictability of band-limited, high-frequency and mixed processes in the presence of ideal low-pass filters. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 382002.	2.1	11
18	A FIRSTâ€ORDER BSPDE FOR SWING OPTION PRICING. Mathematical Finance, 2016, 26, 461-491.	1.8	11

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19	Parabolic Ito equations and second fundamental inequality. Stochastics, 2005, 77, 349-370.	1.1	9
20	Maximin investment problems for discounted and total wealth. IMA Journal of Management Mathematics, 2007, 19, 63-74.	1.6	9
21	Optimality of myopic strategies for multi-stock discrete time market with management costs. European Journal of Operational Research, 2010, 200, 551-556.	5.7	9
22	Backward parabolic Ito equations and theÂsecondÂfundamentalÂinequality. Random Operators and Stochastic Equations, 2012, 20, .	0.1	9
23	Near-ideal causal smoothing filters for the real sequences. Signal Processing, 2016, 118, 285-293.	3.7	9
24	Duality and semi-group property for backward parabolic ItÃ´ equations. Random Operators and Stochastic Equations, 2010, 18, .	0.1	8
25	Meanâ€Reverting Market Model: Speculative Opportunities and Nonâ€Arbitrage. Applied Mathematical Finance, 2007, 14, 319-337.	1.2	7
26	Instability and stability of solutions of systems of nonlinear stochastic difference equations with diagonal noise. Journal of Difference Equations and Applications, 2014, 20, 744-764.	1.1	7
27	Speculative opportunities for currency exchange under soft peg. Applied Economics Letters, 2006, 2, 371-374.	0.2	6
28	Parabolic Ito Equations with Mixed in Time Conditions. Stochastic Analysis and Applications, 2008, 26, 562-576.	1.5	6
29	On sub-ideal causal smoothing filters. Signal Processing, 2012, 92, 219-223.	3.7	6
30	Two Unconditionally Implied Parameters and Volatility Smiles and Skews. SSRN Electronic Journal, 0, , .	0.4	6
31	Regularity for some backward heat equations. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 085201.	2.1	5
32	Representation of functionals of Ito processes and their first exit times. Stochastics, 2011, 83, 45-66.	1.1	5
33	MODELING DEPENDENCY OF VOLATILITY ON SAMPLING FREQUENCY VIA DELAY EQUATIONS. Annals of Financial Economics, 2016, 11, 1650007.	1.4	5
34	SHORT RATE FORECASTING BASED ON THE INFERENCE FROM THE CIR MODEL FOR MULTIPLE YIELD CURVE DYNAMICS. Annals of Financial Economics, 2016, 11, 1650004.	1.4	5
35	A pathwise inference method for the parameters of diffusionÂterms. Journal of Nonparametric Statistics, 2017, 29, 731-743.	0.9	5
36	Saddle points for maximin investment problems with observable but non-predictable parameters: solution via heat equationâ€. IMA Journal of Management Mathematics, 2006, 17, 257-276.	1.6	4

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37	Parabolic equations with the second-order Cauchy conditions on the boundary. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 12409-12413.	2.1	4
38	Estimates for first exit times of non-Markovian Itô processes. Stochastics, 2008, 80, 397-406.	1.1	4
39	Mean variance and goal achieving portfolio for discrete-time market with currently observable source of correlations. ESAIM - Control, Optimisation and Calculus of Variations, 2010, 16, 635-647.	1.3	4
40	Mutual Fund Theorem for continuous time markets with random coefficients. Theory and Decision, 2014, 76, 179-199.	1.0	4
41	On forward and backward SPDEs with non-local boundary conditions. Discrete and Continuous Dynamical Systems, 2015, 35, 5335-5351.	0.9	4
42	Computation of the implied discount rate and volatility for an overdefined system using stochastic optimization. IMA Journal of Management Mathematics, 2016, 27, 505-527.	1.6	4
43	A FIRST‐ORDER BSPDE FOR SWING OPTION PRICING: CLASSICAL SOLUTIONS. Mathematical Finance, 2017, 27, 902-925.	1.8	4
44	On exact and optimal recovering of missing values for sequences. Signal Processing, 2017, 135, 81-86.	3.7	4
45	On recovery of discrete time signals from their periodic subsequences. Signal Processing, 2019, 162, 180-188.	3.7	4
46	Mean-reverting Market Model: Speculative Opportunities and Non-arbitrage. SSRN Electronic Journal, 0, , .	0.4	4
47	Dimension reduction and Mutual Fund Theorem in maximin setting for bond market. Discrete and Continuous Dynamical Systems - Series B, 2011, 16, 1039-1053.	0.9	4
48	MULTIPLE RESCINDABLE OPTIONS AND THEIR PRICING. International Journal of Theoretical and Applied Finance, 2009, 12, 545-575.	0.5	3
49	OPTION PRICING VIA MAXIMIZATION OVER UNCERTAINTY AND CORRECTION OF VOLATILITY SMILE. International Journal of Theoretical and Applied Finance, 2011, 14, 507-524.	0.5	3
50	Optimal replication of random vectors by ordinary integrals. Systems and Control Letters, 2013, 62, 43-47.	2.3	3
51	CONTINUOUSLY CONTROLLED OPTIONS: DERIVATIVES WITH ADDED FLEXIBILITY. International Journal of Theoretical and Applied Finance, 2013, 16, 1350003.	0.5	3
52	On limit periodicity of discrete time stochastic processes. Stochastics and Dynamics, 2014, 14, 1450011.	1.2	3
53	On causal extrapolation of sequences with applications to forecasting. Applied Mathematics and Computation, 2018, 328, 276-286.	2.2	3
54	Optimal energy storing and selling in continuous time stochastic multi-battery setting. Sustainable Energy, Grids and Networks, 2020, 22, 100340.	3.9	3

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55	On linear weak predictability with single point spectrum degeneracy. Applied and Computational Harmonic Analysis, 2021, 53, 116-131.	2.2	3
56	Mean Variance and Goal Achieving Portfolio for Discrete-Time Market With Currently Observable Source of Correlations. SSRN Electronic Journal, 0, , .	0.4	3
57	On Statistical Indistinguishability of the Complete and Incomplete Markets. SSRN Electronic Journal, 0, , .	0.4	3
58	Universal estimate of the gradient for parabolic equations. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 215202.	2.1	2
59	Price matching for multiple rescindable options and European options. Applied Economics Letters, 2008, 4, 319-325.	0.2	2
60	Optimal gradual liquidation of equity from a risky asset. Applied Economics Letters, 2010, 17, 1305-1308.	1.8	2
61	Degenerate backward SPDEs in bounded domains and applications to barrier options. Discrete and Continuous Dynamical Systems, 2015, 35, 5317-5334.	0.9	2
62	On asymptotic optimality of Merton's myopic portfolio strategies under time discretization. IMA Journal of Mathematical Control and Information, 2016, 33, 979-996.	1.7	2
63	First Order BSPDEs in Higher Dimension for Optimal Control Problems. SIAM Journal on Control and Optimization, 2017, 55, 818-834.	2.1	2
64	On the implied market price of risk under the stochastic numéraire. Annals of Finance, 2018, 14, 223-251.	0.8	2
65	On strong causal binomial approximation for stochastic processes. Discrete and Continuous Dynamical Systems - Series B, 2014, 19, 1549-1562.	0.9	2
66	Speculative Opportunities for Currency Exchange Under Soft Peg. SSRN Electronic Journal, 0, , .	0.4	2
67	Limited memory predictors based on polynomial approximation of periodic exponentials. Journal of Forecasting, 2022, 41, 1037-1045.	2.8	2
68	Maximin Investment Problems for Discounted and Total Wealth. SSRN Electronic Journal, 0, , .	0.4	1
69	Bond pricing and two unconditionally implied parameters inferred from option prices. Applied Economics Letters, 2007, 3, 109-113.	0.2	1
70	On prescribed change of profile for solutions of parabolic equations. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 225204.	2.1	1
71	ANALYSIS OF MARKET VOLATILITY VIA A DYNAMICALLY PURIFIED OPTION PRICE PROCESS. Annals of Financial Economics, 2014, 09, 1450006.	1.4	1
72	On the implied volatility layers under the future risk-free rate uncertainty. International Journal of Financial Markets and Derivatives, 2014, 3, 392.	0.2	1

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73	On detecting predictability of one-sided sequences. , 2017, 62, 26-29.		1
74	A Closed Equation in Time Domain for Band-Limited Extensions of One-Sided Sequences. IEEE Transactions on Signal Processing, 2018, 66, 215-223.	5.3	1
75	On the structure of multifactor optimal portfolio strategies. ESAIM - Control, Optimisation and Calculus of Variations, 2018, 24, 1043-1058.	1.3	1
76	On degenerate backward SPDEs in bounded domains under non-local conditions. Stochastics, 2018, 90, 1170-1189.	1.1	1
77	On statistical indistinguishability of complete and incomplete market models. Studies in Economics and Finance, 2021, 38, 114-125.	2.1	1
78	On recovering missing values for discrete time signals with finite sets of spectrum degeneracy. , 2021, 111, 102992.		1
79	Pricing Rule for Random Volatility with Uncertainty and a Correction of the Volatility Smile. SSRN Electronic Journal, 0, , .	0.4	1
80	Optimal Solution of Investment Problems Via Linear Parabolic Equations Generated by Kalman Filter. SSRN Electronic Journal, 0, , .	0.4	1
81	Optimal Strategy for Gradual Liquidation of Equity from a Risky Asset. SSRN Electronic Journal, 0, , .	0.4	1
82	On Estimation of Volatility for Short Time Series of Stock Prices. SSRN Electronic Journal, 0, , .	0.4	1
83	On the Dynamics of the HKD Exchange Rate Under Convertibility Undertakings. SSRN Electronic Journal, 0, , .	0.4	1
84	On the Implied Volatility Layers Under the Future Risk-Free Rate Uncertainty. SSRN Electronic Journal, 0, , .	0.4	1
85	An Analysis of Volatility Spread via the Risk-Free Rate Proxy. SSRN Electronic Journal, 0, , .	0.4	1
86	A Bounded Risk Strategy for A Market with Non-Observable Parameters. SSRN Electronic Journal, 2002, , .	0.4	0
87	Explicit Optimal Solution in Maximin Setting for Investment Problems with Totally Unhedgeable Coefficients. SSRN Electronic Journal, 2003, , .	0.4	0
88	Options with Added Flexibility: Irish Options and their Pricing. SSRN Electronic Journal, 2006, , .	0.4	0
89	Controlled Options: Derivatives with Added Flexibility. SSRN Electronic Journal, 2010, , .	0.4	0
90	On Detecting the Dependence of Time Series. Communications in Statistics - Theory and Methods, 2012, 41, 934-942.	1.0	0

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91	On the dependence of the first exit times on the fluctuations of the domain boundary. Electronic Communications in Probability, 2015, 20, .	0.4	0
92	On Transmission of a Continuous Signal via a Noiseless Binary Channel. IEEE Signal Processing Letters, 2015, 22, 1171-1174.	3.6	0
93	CONSTRUCTION OF MODELS FOR BOUNDED PRICE PROCESSES: THE CASE OF THE HKD EXCHANGE RATE. Annals of Financial Economics, 2015, 10, 1550011.	1.4	0
94	A gap between rational annuitization price for producer and price for customer. Journal of Revenue and Pricing Management, 2019, 18, 147-154.	1.1	0
95	On backward SPDEs without proper Cauchy condition. Stochastics, 2021, 93, 1141-1155.	1.1	0
96	Regularity of complexified hyperbolic equations with integral conditions. Complex Variables and Elliptic Equations, 0, , 1-13.	0.8	0
97	Properties of Implied Volatility and Risk-free Rate for Market Models with Risk-neutral Valuation. SSRN Electronic Journal, 0, , .	0.4	0
98	On Myopic Strategies for Discrete Time Market with Serial Correlation. SSRN Electronic Journal, 0, , .	0.4	0
99	Mean-Revering Discrete Time Market Models. SSRN Electronic Journal, 0, , .	0.4	0
100	Price Matching for Multiple Rescindable Options and European Options. SSRN Electronic Journal, 0, , .	0.4	0
101	A Technical Note on Myopic Strategies and Discretization of Continuous Time Market Models. SSRN Electronic Journal, 0, , .	0.4	0
102	Mutual Funds Theorem for Continuous Time Markets. SSRN Electronic Journal, 0, , .	0.4	0
103	On Martingale Measures and Pricing for Continuous Bond-Stock Market with Stochastic Bond. SSRN Electronic Journal, 0, , .	0.4	0
104	On Mean-Variance Selection of Payment Size and Price for Annuities. SSRN Electronic Journal, 0, , .	0.4	0
105	Mutual Fund Theorem for Continuous Time Markets with Random Coefficients. SSRN Electronic Journal, 0, , .	0.4	0
106	Weighted in time energy estimates for parabolic equations with applications to non-linear and non-local problems. Dynamics of Partial Differential Equations, 2012, 9, 369-381.	0.9	0
107	On Models for Portfolio Selection with Short-Term Forecasting. SSRN Electronic Journal, 0, , .	0.4	0
108	A Statistical Analysis of Dynamically Purified Option Price Process. SSRN Electronic Journal, 0, , .	0.4	0

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109	Optimal Replication of Random Claims by Ordinary Integrals with Applications In Finance. SSRN Electronic Journal, 0, , .	0.4	0
110	Reducing the Impact of the Stock Price Movements on the Implied Parameters. SSRN Electronic Journal, 0, , .	0.4	0
111	On Strong Binomial Approximation for Stochastic Processes and Applications for Financial Modelling. SSRN Electronic Journal, 0, , .	0.4	0
112	Modelling Dependency of Volatility on Sampling Frequency via Delay Equations. SSRN Electronic Journal, 0, , .	0.4	0
113	Forecasting of the Convexity Adjustment and the Short Rate Based on the Inference from the CIR Model. SSRN Electronic Journal, 0, , .	0.4	0
114	On Recovery of Discrete Time Signals with Single-Point Spectrum Degeneracy. Circuits, Systems, and Signal Processing, 0, , 1.	2.0	0
115	Optimal portfolio and certainty equivalence estimator for the appreciation rate. Mathematics of Control, Signals, and Systems, 0, , 1.	2.3	0
116	Extrapolation and sampling for processes on spatial graphs. Sampling Theory, Signal Processing, and Data Analysis, 2022, 20, .	1.1	0