

Thomas Guhr

List of Publications by Year in descending order

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82
papers

3,936
citations

304743

22
h-index

118850

62
g-index

82
all docs

82
docs citations

82
times ranked

1941
citing authors

#	ARTICLE	IF	CITATIONS
1	Random-matrix theories in quantum physics: common concepts. <i>Physics Reports</i> , 1998, 299, 189-425.	25.6	1,829
2	Random matrix approach to cross correlations in financial data. <i>Physical Review E</i> , 2002, 65, 066126.	2.1	758
3	Identifying States of a Financial Market. <i>Scientific Reports</i> , 2012, 2, 644.	3.3	160
4	Dyson's correlation functions and graded symmetry. <i>Journal of Mathematical Physics</i> , 1991, 32, 336-347.	1.1	86
5	Transitions toward Quantum Chaos: With Supersymmetry from Poisson to Gauss. <i>Annals of Physics</i> , 1996, 250, 145-192.	2.8	70
6	An Itzykson-Zuber-like integral and diffusion for complex ordinary and supermatrices. <i>Journal of Mathematical Physics</i> , 1996, 37, 6395-6413.	1.1	67
7	Impact of the tick-size on financial returns and correlations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 4828-4843.	2.6	45
8	Transition from Poisson Regularity to Chaos in a Time-Reversal NonInvariant System. <i>Physical Review Letters</i> , 1996, 76, 2258-2261.	7.8	44
9	Non-stationarity in financial time series: Generic features and tail behavior. <i>Europhysics Letters</i> , 2013, 103, 58003.	2.0	42
10	Semiclassical Identification of Periodic Orbits in a Quantum Many-Body System. <i>Physical Review Letters</i> , 2017, 118, 164101.	7.8	32
11	Recursive construction for a class of radial functions. I. Ordinary space. <i>Journal of Mathematical Physics</i> , 2002, 43, 2707.	1.1	31
12	Eigenvalue Densities of Real and Complex Wishart Correlation Matrices. <i>Physical Review Letters</i> , 2010, 105, 244101.	7.8	30
13	Gelfand-Tsetlin coordinates for the unitary supergroup. <i>Communications in Mathematical Physics</i> , 1996, 176, 555-576.	2.2	29
14	Arbitrary unitarily invariant random matrix ensembles and supersymmetry. <i>Journal of Physics A</i> , 2006, 39, 13191-13223.	1.6	28
15	Local normalization: Uncovering correlations in non-stationary financial time series. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 3856-3865.	2.6	28
16	Spectral correlations in the crossover between GUE and Poisson regularity: On the identification of scales. <i>Journal of Mathematical Physics</i> , 1997, 38, 1870-1887.	1.1	27
17	Power mapping with dynamical adjustment for improved portfolio optimization. <i>Quantitative Finance</i> , 2010, 10, 107-119.	1.7	27
18	Uncovering the dynamics of correlation structures relative to the collective market motion. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 103402.	2.3	26

#	ARTICLE	IF	CITATIONS
19	Supersymmetry Approach to Wishart Correlation Matrices: Exact Results. Journal of Statistical Physics, 2012, 148, 981-998.	1.2	25
20	Stability and hierarchy of quasi-stationary states: financial markets as an example. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P08011.	2.3	24
21	Quantization of HyperbolicN-Sphere Scattering Systems in Three Dimensions. Annals of Physics, 1997, 258, 286-319.	2.8	23
22	Distributions of off-diagonal scattering matrix elements: Exact results. Annals of Physics, 2014, 342, 103-132.	2.8	22
23	Recursive construction for a class of radial functions. II. Superspace. Journal of Mathematical Physics, 2002, 43, 2741.	1.1	21
24	Distribution of the Smallest Eigenvalue in the Correlated Wishart Model. Physical Review Letters, 2013, 111, 094101.	7.8	21
25	Dynamics of quasi-stationary systems: Finance as an example. Europhysics Letters, 2015, 110, 68003.	2.0	21
26	Microscopic understanding of heavy-tailed return distributions in an agent-based model. Europhysics Letters, 2012, 100, 38005.	2.0	20
27	Credit risk—A structural model with jumps and correlations. Physica A: Statistical Mechanics and Its Applications, 2007, 383, 533-569.	2.6	19
28	Between Poisson and GUE Statistics: Role of the Breit—Wigner Width. Annals of Physics, 1998, 270, 292-327.	2.8	17
29	A comparison of the superbosonization formula and the generalized Hubbard—Stratonovich transformation. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 275206.	2.1	17
30	Arbitrary rotation invariant random matrix ensembles and supersymmetry: orthogonal and unitary-symplectic case. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 275205.	2.1	17
31	A Random Matrix Approach to Credit Risk. PLoS ONE, 2014, 9, e98030.	2.5	17
32	Compensating asynchrony effects in the calculation of financial correlations. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 767-779.	2.6	16
33	Distribution of Off-Diagonal Cross Sections in Quantum Chaotic Scattering: Exact Results and Data Comparison. Physical Review Letters, 2017, 119, 244102.	7.8	16
34	STATISTICAL CAUSES FOR THE EPPS EFFECT IN MICROSTRUCTURE NOISE. International Journal of Theoretical and Applied Finance, 2011, 14, 1231-1246.	0.5	15
35	Credit risk and the instability of the financial system: An ensemble approach. Europhysics Letters, 2014, 105, 38004.	2.0	15
36	Zooming into market states. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P01029.	2.3	15

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37	On the level density of coupled gaussian unitary ensembles. Nuclear Physics A, 1993, 560, 223-252.	1.5	14
38	On the graded group $U(1/1)$. Journal of Mathematical Physics, 1993, 34, 2541-2553.	1.1	13
39	A new approach to derive Pfaffian structures for random matrix ensembles. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 135204.	2.1	13
40	Quasi-stationary states in temporal correlations for traffic systems: Cologne orbital motorway as an example. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 103404.	2.3	13
41	Impact and recovery process of mini flash crashes: An empirical study. PLoS ONE, 2018, 13, e0196920.	2.5	12
42	Eigenvalue density of the doubly correlated Wishart model: exact results. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 175204.	2.1	11
43	Fourier-Bessel analysis for ordinary and graded $2\tilde{A}-2$ Hermitian matrices. Journal of Mathematical Physics, 1993, 34, 2523-2540.	1.1	10
44	The supersymmetry method for chiral random matrix theory with arbitrary rotation-invariant weights. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 295201.	2.1	10
45	Correlated power time series of individual wind turbines: A data driven model approach. Journal of Renewable and Sustainable Energy, 2020, 12, .	2.0	10
46	Distribution of the smallest eigenvalue in complex and real correlated Wishart ensembles. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 075004.	2.1	9
47	PORTFOLIO RETURN DISTRIBUTIONS: SAMPLE STATISTICS WITH STOCHASTIC CORRELATIONS. International Journal of Theoretical and Applied Finance, 2015, 18, 1550012.	0.5	9
48	The importance of antipersistence for traffic jams. Europhysics Letters, 2017, 118, 38005.	2.0	9
49	Limiting statistics of the largest and smallest eigenvalues in the correlated Wishart model. Europhysics Letters, 2015, 109, 20005.	2.0	8
50	Spectral statistics in directed complex networks and universality of the Ginibre ensemble. Communications in Nonlinear Science and Numerical Simulation, 2015, 20, 1026-1032.	3.3	8
51	Credit risk: taking fluctuating asset correlations into account. Journal of Credit Risk, 2015, 11, 73-94.	0.2	8
52	Constructing analytically tractable ensembles of stochastic covariances with an application to financial data. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P11025.	2.3	7
53	Semiclassical prediction of large spectral fluctuations in interacting kicked spin chains. Annals of Physics, 2018, 389, 250-282.	2.8	7
54	Derivation of the supersymmetric Harish-Chandra integral for $UOSp(k_1/2k_2)$. Journal of Mathematical Physics, 2004, 45, 3636-3644.	1.1	6

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55	Semiclassical limits for the QCD Dirac operator. <i>Annals of Physics</i> , 2007, 322, 287-314.	2.8	6
56	Collective versus single-particle motion in quantum many-body systems from the perspective of an integrable model. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 265101.	2.1	6
57	Compounding approach for univariate time series with nonstationary variances. <i>Physical Review E</i> , 2015, 92, 062901.	2.1	5
58	Exact spectral densities of complex noise-plus-structure random matrices. <i>Physical Review E</i> , 2016, 94, 042130.	2.1	5
59	Concurrent credit portfolio losses. <i>PLoS ONE</i> , 2018, 13, e0190263.	2.5	5
60	Spatial dependence in stock returns: local normalization and VaR forecasts. <i>Empirical Economics</i> , 2016, 50, 1091-1109.	3.0	4
61	Equilibrium pricing in an order book environment: Case study for a spin model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 453, 228-235.	2.6	4
62	Spreading in integrable and non-integrable many-body systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 461, 683-693.	2.6	3
63	Regularities and irregularities in order flow data. <i>European Physical Journal B</i> , 2017, 90, 1.	1.5	3
64	Collective behavior in the North Rhine-Westphalia motorway network. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2021, 2021, 123401.	2.3	3
65	Winding number statistics of a parametric chiral unitary random matrix ensemble*. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2022, 55, 224011.	2.1	3
66	Spectral correlations in the crossover transition from a superposition of harmonic oscillators to the Gaussian unitary ensemble. <i>Physical Review E</i> , 1999, 59, 330-336.	2.1	2
67	QUANTILE CORRELATIONS: UNCOVERING TEMPORAL DEPENDENCIES IN FINANCIAL TIME SERIES. <i>International Journal of Theoretical and Applied Finance</i> , 2015, 18, 1550044.	0.5	2
68	Credit Risk Meets Random Matrices: Coping with Non-Stationary Asset Correlations. <i>Risks</i> , 2018, 6, 42.	2.4	2
69	Special issue in honour of the life and work of Fritz Haake. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2021, 54, 130301.	2.1	2
70	Comment on: The Itzykson-Zuber integral for $U(m n)$ [<i>J. Math. Phys.</i> 36, 3085-3093 (1995)]. <i>Journal of Mathematical Physics</i> , 1996, 37, 3099-3099.	1.1	1
71	Exact results for chaotic scattering and applications to microwave experiments. , 2016, , .		1
72	Asymptotic coincidence of the statistics for degenerate and non-degenerate correlated real Wishart ensembles. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 235203.	2.1	1

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73	Exact multivariate amplitude distributions for non-stationary Gaussian or algebraic fluctuations of covariances or correlations. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 125002.	2.1	1
74	Is quantum chromodynamics on the lattice a disordered system?. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 9, 418-423.	2.7	0
75	Angular Gelfand-Tsetlin coordinates for the supergroup $UOSp(k_1/2k_2)$. Journal of Mathematical Physics, 2003, 44, 4267.	1.1	0
76	Regularities and Irregularities in Order Flow Data. SSRN Electronic Journal, 2017, , .	0.4	0
77	Extreme Portfolio Loss Correlations in Credit Risk. Risks, 2018, 6, 72.	2.4	0
78	Matrix moments in a real, doubly correlated algebraic generalization of the Wishart model. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 125203.	2.1	0
79	A mapping between the spin and fermion algebra. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 345201.	2.1	0
80	Generic features in the spectral decomposition of correlation matrices. Journal of Mathematical Physics, 2021, 62, 083505.	1.1	0
81	Credit Risk Meets Random Matrices: Coping with Non-Stationary Asset Correlations. SSRN Electronic Journal, 0, , .	0.4	0
82	Two price regimes in limit order books: liquidity cushion and fragmented distant field. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 023401.	2.3	0