Dorje C Brody

List of Publications by Year
in descending order

126 papers	5,495 citations	136950 32 h-index	82547 72 g-index
130 all docs	130 docs citations	130 times ranked	2431 citing authors

#	Article	IF	Citations
1	Complex Extension of Quantum Mechanics. Physical Review Letters, 2002, 89, 270401.	7.8	1,416
2	Faster than Hermitian Quantum Mechanics. Physical Review Letters, 2007, 98, 040403.	7.8	320
3	Must a Hamiltonian be Hermitian?. American Journal of Physics, 2003, 71, 1095-1102.	0.7	318
4	Biorthogonal quantum mechanics. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 035305.	2.1	302
5	Geometric quantum mechanics. Journal of Geometry and Physics, 2001, 38, 19-53.	1.4	254
6	Quantum mechanical Carnot engine. Journal of Physics A, 2000, 33, 4427-4436.	1.6	205
7	Extension ofPT-symmetric quantum mechanics to quantum field theory with cubic interaction. Physical Review D, 2004, 70, .	4.7	200
8	Scalar Quantum Field Theory with a Complex Cubic Interaction. Physical Review Letters, 2004, 93, 251601.	7.8	117
9	Mixed-State Evolution in the Presence of Gain and Loss. Physical Review Letters, 2012, 109, 230405.	7.8	113
10	Geometrical aspects of statistical mechanics. Physical Review E, 1995, 51, 1006-1011.	2.1	102
11	Equivalence of a complexPT-symmetric quartic Hamiltonian and a Hermitian quartic Hamiltonian with an anomaly. Physical Review D, 2006, 74, .	4.7	75
12	Elementary derivation for passage times. Journal of Physics A, 2003, 36, 5587-5593.	1.6	74
13	Statistical geometry in quantum mechanics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 1998, 454, 2445-2475.	2.1	72
14	Entropy and temperature of a quantum Carnot engine. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2002, 458, 1519-1526.	2.1	70
15	On optimum Hamiltonians for state transformations. Journal of Physics A, 2006, 39, L167-L170.	1.6	69
16	INFORMATION-BASED ASSET PRICING. International Journal of Theoretical and Applied Finance, 2008, 11, 107-142.	0.5	69
17	Hamiltonian for the Zeros of the Riemann Zeta Function. Physical Review Letters, 2017, 118, 130201.	7.8	69
18	Information geometry in vapour–liquid equilibrium. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 023001.	2.1	65

#	Article	IF	Citations
19	Minimum Decision Cost for Quantum Ensembles. Physical Review Letters, 1996, 76, 1-5.	7.8	54
20	Geometrization of statistical mechanics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 1999, 455, 1683-1715.	2.1	54
21	Geometry of Quantum Statistical Inference. Physical Review Letters, 1996, 77, 2851-2854.	7.8	51
22	Consistency of PT-symmetric quantum mechanics. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 10LT03.	2.1	50
23	-symmetric extension of the Korteweg-de Vries equation. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F153-F160.	2.1	48
24	Quantum effects in classical systems having complex energy. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 352003.	2.1	46
25	Time-optimal navigation through quantum wind. New Journal of Physics, 2015, 17, 033048.	2.9	42
26	On complexified mechanics and coquaternions. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 072001.	2.1	41
27	Solution to the Quantum Zermelo Navigation Problem. Physical Review Letters, 2015, 114, 100502.	7.8	38
28	Chaos and coherence: a new framework for interest–rate modelling. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 85-110.	2.1	37
29	The quantum canonical ensemble. Journal of Mathematical Physics, 1998, 39, 6502-6508.	1.1	36
30	Interest rates and information geometry. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2001, 457, 1343-1363.	2.1	36
31	Dam rain and cumulative gain. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1801-1822.	2.1	35
32	Beyond Hazard Rates: A New Framework for Credit-Risk Modelling. Applied and Numerical Harmonic Analysis, 2007, , 231-257.	0.3	35
33	Information geometry of finite Ising models. Journal of Geometry and Physics, 2003, 47, 207-220.	1.4	34
34	An upper bound for entropy production. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 204, 93-98.	2.1	32
35	Information Geometry of Complex Hamiltonians and Exceptional Points. Entropy, 2013, 15, 3361-3378.	2.2	30
36	Informed traders. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 1103-1122.	2.1	29

#	ARTICLE	IF	CITATIONS
37	*PT* -symmetric quantum state discrimination. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120160.	3.4	28
38	Quantum phase transitions without thermodynamic limits. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 2021-2030.	2.1	27
39	Option price calibration from RÃ©nyi entropy. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 366, 298-307.	2.1	27
40	On the symmetry of real-space renormalisation. Nuclear Physics B, 1998, 522, 588-604.	2.5	24
41	Efficient simulation of quantum state reduction. Journal of Mathematical Physics, 2002, 43, 5254-5261.	1.1	24
42	Evolution speed of open quantum dynamics. Physical Review Research, 2019, 1, .	3.6	24
43	Information geometry of density matrices and state estimation. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 252002.	2.1	23
44	Quantum noise and stochastic reduction. Journal of Physics A, 2006, 39, 833-876.	1.6	21
45	Generalised Heisenberg relations for quantum statistical estimation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 236, 257-262.	2.1	20
46	Quantum field theory of partitions. Journal of Mathematical Physics, 1999, 40, 3239-3245.	1.1	19
47	Unusual quantum states: nonâ€"locality, entropy, Maxwell's demon and fractals. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 733-753.	2.1	19
48	General theory of geometric LÃ©vy models for dynamic asset pricing. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 1778-1798.	2.1	19
49	Unitarity, ergodicity and quantum thermodynamics. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F503-F509.	2.1	17
50	On powers of Bessel functions. Journal of Mathematical Physics, 2003, 44, 309-314.	1.1	16
51	Solvable model of quantum microcanonical states. Journal of Physics A, 2005, 38, L607-L613.	1.6	16
52	Six-dimensional space-time from quaternionic quantum mechanics. Physical Review D, 2011, 84, .	4.7	16
53	Finite-time stochastic reduction models. Journal of Mathematical Physics, 2005, 46, 082101.	1.1	15
54	Symplectic approach to quantum constraints. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 475301.	2.1	15

#	Article	IF	Citations
55	Thermodynamics of quantum heat bath. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 425302.	2.1	15
56	Thermalization of quantum states. Journal of Mathematical Physics, 1999, 40, 12-18.	1.1	14
57	Optimal Time Evolution for Hermitian and Non-Hermitian Hamiltonians. Lecture Notes in Physics, 2009, , 341-361.	0.7	14
58	Coherent states and rational surfaces. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 255205.	2.1	14
59	Stochastic reduction in nonlinear quantum mechanics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2002, 458, 1117-1127.	2.1	13
60	SOCIAL DISCOUNTING AND THE LONG RATE OF INTEREST. Mathematical Finance, 2018, 28, 306-334.	1.8	13
61	Information content for quantum states. Journal of Mathematical Physics, 2000, 41, 2586-2592.	1.1	12
62	Entanglement of three-qubit geometry. Journal of Physics: Conference Series, 2007, 67, 012044.	0.4	12
63	Modelling Information Flows in Financial Markets. , 2011, , 133-153.		10
64	Entropic calibration revisited. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 337, 257-264.	2.1	9
65	Metric approach to quantum constraints. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 295303.	2.1	9
66	Elementary solution to the time-independent quantum navigation problem. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 055302.	2.1	9
67	On quantum microcanonical equilibrium. Journal of Physics: Conference Series, 2007, 67, 012025.	0.4	8
68	Geometry of thermodynamic states. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 245, 73-78.	2.1	7
69	Relaxation of quantum states under energy perturbations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2003, 459, 2297-2316.	2.1	7
70	Nonlinearity and constrained quantum motion. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 082003.	2.1	7
71	Rational term structure models with geometric Lévy martingales. Stochastics, 2012, 84, 719-740.	1.1	7
72	Quantum Splines. Physical Review Letters, 2012, 109, 100501.	7.8	7

#	Article	IF	Citations
73	Modelling election dynamics and the impact of disinformation. Information Geometry, 2019, 2, 209-230.	1.2	7
74	Discrete uncertainty relations. Journal of Physics A, 1999, 32, 4921-4930.	1.6	6
75	Preposterior analysis for option pricing. Quantitative Finance, 2004, 4, 465-477.	1.7	6
76	Theory of quantum space-time. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 2679-2699.	2.1	6
77	Semiclassical analysis of a complex quartic Hamiltonian. Physical Review D, 2006, 73, .	4.7	6
78	A note on exponential families of distributions. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F691-F695.	2.1	6
79	Hamiltonian statistical mechanics. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 502002.	2.1	6
80	Informational inefficiency in financial markets. Mathematics and Financial Economics, 2012, 6, 249-259.	1.7	6
81	Signal processing with Lévy information. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120433.	2.1	6
82	Restoration of isotropy for spin models. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 233, 430-436.	2.1	5
83	PT-symmetry, indefinite metric, and nonlinear quantum mechanics. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 485202.	2.1	5
84	Mathematical Models for Fake News. , 2022, , 405-423.		5
85	Bayesian inference in quantum systems. Physica A: Statistical Mechanics and Its Applications, 1996, 223, 348-364.	2.6	4
86	Exactly solvable quantum state reduction models with time-dependent coupling. Journal of Physics A, 2006, 39, 11029-11051.	1.6	4
87	Comment on "Typicality for Generalized Microcanonical Ensembles". Physical Review Letters, 2008, 100, 148901; discussion 148902.	7.8	4
88	A Riemannian approach to Randers geodesics. Journal of Geometry and Physics, 2016, 106, 98-101.	1.4	4
89	Asymptotic analysis on a pseudo-Hermitian Riemann-zeta Hamiltonian. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 135203.	2.1	4
90	Quantum measurement of space-time events. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 235304.	2.1	4

#	Article	IF	Citations
91	Topological variants of lattice field models. Physica A: Statistical Mechanics and Its Applications, 1995, 213, 315-336.	2.6	3
92	Social Discounting and the Long Rate of Interest. SSRN Electronic Journal, 0, , .	0.4	3
93	Pricing of Defaultable Bonds with Random Information Flow. Applied Mathematical Finance, 2015, 22, 399-420.	1.2	3
94	LÃ‰VYâ€"VASICEK MODELS AND THE LONG-BOND RETURN PROCESS. International Journal of Theoretical and Applied Finance, 2018, 21, 1850026.	0.5	3
95	One-dimensional spherical model with a phase transition. Physical Review E, 1994, 49, 3665-3669.	2.1	2
96	Random Hamiltonian in thermal equilibrium. Journal of Physics: Conference Series, 2009, 174, 012041.	0.4	2
97	INFORMATION-BASED ASSET PRICING. , 2012, , 115-150.		2
98	Biorthogonal systems on unit interval and zeta dilation operators. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 285202.	2.1	2
99	Operator-valued zeta functions and Fourier analysis. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 345201.	2.1	2
100	Theory of Cryptocurrency Interest Rates. SIAM Journal on Financial Mathematics, 2020, 11, 148-168.	1.3	2
101	PT symmetry and the evolution speed in open quantum systems [1]. Journal of Physics: Conference Series, 2021, 2038, 012005.	0.4	2
102	Noise, Fake News, and Tenacious Bayesians. Frontiers in Psychology, 2022, 13, .	2.1	2
103	Differential renormalisation flow in random lattice gauge theories. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 485, 422-428.	4.1	1
104	Shapes of quantum states. Journal of Physics A, 2004, 37, 251-257.	1.6	1
105	TERM STRUCTURE OF VANILLA OPTIONS. International Journal of Theoretical and Applied Finance, 2007, 10, 1323-1337.	0.5	1
106	Effects of quantum entanglement in phase transitions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 2424-2428.	2.1	1
107	Geometry of the complex extension of Wigner's theorem. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 395301.	2.1	1
108	LÃ©vy information and the aggregation of risk aversion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20130024.	2.1	1

#	ARTICLE	IF	CITATIONS
109	Fragile entanglement statistics. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 425301.	2.1	1
110	Geometric Aspects of Space-Time Reflection Symmetry in Quantum Mechanics. Springer Proceedings in Physics, 2016, , 185-199.	0.2	1
111	Higher-order uncertainty bounds for mixed states. Journal of Physics A: Mathematical and Theoretical, 0, , .	2.1	1
112	Noise, Risk Premium, and Bubble. SSRN Electronic Journal, 0, , .	0.4	1
113	Informed traders. , 2022, , 87-106.		1
114	Open quantum dynamics for plant motions. Scientific Reports, 2022, 12, 3042.	3.3	1
115	On the Pricing of Storable Commodities. , 2022, , 393-404.		1
116	Applications of information geometry to interest rate theory. AIP Conference Proceedings, 2001, , .	0.4	0
117	Dequantization of the Dirac monopole. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 3047-3068.	2.1	0
118	Universal Quantum Measurements. Journal of Physics: Conference Series, 2015, 624, 012002.	0.4	0
119	COHERENT CHAOS INTEREST-RATE MODELS. International Journal of Theoretical and Applied Finance, 2015, 18, 1550016.	0.5	0
120	Information and asset pricing. , 2010, , .		0
121	General Theory of Geometric LÃ©vy Models for Dynamic Asset Pricing. SSRN Electronic Journal, 0, , .	0.4	0
122	Modelling Information Flows in Financial Markets. , 2022, , 157-177.		0
123	Beyond Hazard Rates: A New Framework for Credit-Risk Modelling. , 2022, , 1-27.		0
124	Dam rain and cumulative gain. , 2022, , 65-86.		0
125	INFORMATION-BASED ASSET PRICING. , 2022, , 29-64.		0
126	Credit Risk, Market Sentiment and Randomly-Timed Default. , 2022, , 113-126.		0