

Fabio Benatti

List of Publications by Year in descending order

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158
papers

3,538
citations

159358

30
h-index

161609

54
g-index

159
all docs

159
docs citations

159
times ranked

1834
citing authors

#	ARTICLE	IF	CITATIONS
1	Environment Induced Entanglement in Markovian Dissipative Dynamics. <i>Physical Review Letters</i> , 2003, 91, 070402.	2.9	347
2	Quantum-enhanced measurements without entanglement. <i>Reviews of Modern Physics</i> , 2018, 90, .	16.4	257
3	Describing the macroscopic world: Closing the circle within the dynamical reduction program. <i>Foundations of Physics</i> , 1995, 25, 5-38.	0.6	207
4	OPEN QUANTUM DYNAMICS: COMPLETE POSITIVITY AND ENTANGLEMENT. <i>International Journal of Modern Physics B</i> , 2005, 19, 3063-3139.	1.0	128
5	Entanglement generation in uniformly accelerating atoms: Reexamination of the Unruh effect. <i>Physical Review A</i> , 2004, 70, .	1.0	114
6	Entangling oscillators through environment noise. <i>Journal of Physics A</i> , 2006, 39, 2689-2699.	1.6	93
7	Open system approach to neutrino oscillations. <i>Journal of High Energy Physics</i> , 2000, 2000, 032-032.	1.6	88
8	Entangling two unequal atoms through a common bath. <i>Physical Review A</i> , 2010, 81, .	1.0	76
9	Sub-shot-noise quantum metrology with entangled identical particles. <i>Annals of Physics</i> , 2010, 325, 924-935.	1.0	69
10	Quantum mechanics with spontaneous localization and the quantum theory of measurement. <i>Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods</i> , 1987, 100, 27-41.	0.2	68
11	Operations involving momentum variables in non-Hamiltonian evolution equations. <i>Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods</i> , 1988, 101, 333-355.	0.2	68
12	Completely positive dynamical maps and the neutral kaon system. <i>Nuclear Physics B</i> , 1997, 488, 335-363.	0.9	68
13	Massless neutrino oscillations. <i>Physical Review D</i> , 2001, 64, .	1.6	68
14	Entanglement in fermion systems and quantum metrology. <i>Physical Review A</i> , 2014, 89, .	1.0	60
15	Entanglement and squeezing with identical particles: ultracold atom quantum metrology. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011, 44, 091001.	0.6	57
16	Completely positive dynamics of correlated neutral kaons. <i>Nuclear Physics B</i> , 1998, 511, 550-576.	0.9	56
17	Correlations in quantum thermodynamics: Heat, work, and entropy production. <i>Scientific Reports</i> , 2016, 6, 35568.	1.6	56
18	Controlling entanglement generation in external quantum fields. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2005, 7, S429-S434.	1.4	54

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19	Bipartite entanglement in systems of identical particles: The partial transposition criterion. <i>Annals of Physics</i> , 2012, 327, 1304-1319.	1.0	54
20	Entanglement in indistinguishable particle systems. <i>Physics Reports</i> , 2020, 878, 1-27.	10.3	52
21	Entropy behaviour under completely positive maps. <i>Letters in Mathematical Physics</i> , 1988, 15, 325-334.	0.5	45
22	Entanglement robustness and geometry in systems of identical particles. <i>Physical Review A</i> , 2012, 85, .	1.0	45
23	Entanglement of Identical Particles. <i>Open Systems and Information Dynamics</i> , 2014, 21, 1440003.	0.5	44
24	Deterministic Chaos in Infinite Quantum Systems. , 1993, , .		43
25	Entropy production and non-Markovian dynamical maps. <i>Scientific Reports</i> , 2017, 7, 12447.	1.6	41
26	Complete positivity and correlated neutral kaons. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1999, 468, 287-293.	1.5	39
27	Environment-induced entanglement in a refined weak-coupling limit. <i>Europhysics Letters</i> , 2009, 88, 20011.	0.7	36
28	Two-qubit quantum probes for the temperature of an Ohmic environment. <i>Physical Review A</i> , 2020, 101, .	1.0	36
29	A non-commutative version of the Arnold cat map. <i>Letters in Mathematical Physics</i> , 1991, 21, 157-172.	0.5	35
30	Experimental limits on complete positivity from the system. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1997, 401, 337-346.	1.5	32
31	Non-standard Neutral Kaon Dynamics from Infinite Statistics. <i>Annals of Physics</i> , 1999, 273, 58-71.	1.0	32
32	Non-Decomposable Quantum Dynamical Semigroups and Bound Entangled States. <i>Open Systems and Information Dynamics</i> , 2004, 11, 325-338.	0.5	29
33	Dissipative neutrino oscillations in randomly fluctuating matter. <i>Physical Review D</i> , 2005, 71, .	1.6	28
34	Optimal decompositions of quantum states with respect to entropy. <i>Reports on Mathematical Physics</i> , 1996, 38, 123-141.	0.4	27
35	Entropy and Quantum Kolmogorov Complexity: A Quantum Brudno's Theorem. <i>Communications in Mathematical Physics</i> , 2006, 265, 437-461.	1.0	26
36	Violations of the second law of thermodynamics by a non-completely positive dynamics. <i>Europhysics Letters</i> , 2014, 107, 50007.	0.7	26

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37	Dissipative quantum metrology in manybody systems of identical particles. <i>New Journal of Physics</i> , 2014, 16, 015023.	1.2	26
38	Complete positivity and entangled degrees of freedom. <i>Journal of Physics A</i> , 2002, 35, 4955-4972.	1.6	25
39	Sub-“shot-noise sensitivities without entanglement. <i>Physical Review A</i> , 2013, 87, .	1.0	25
40	Tensor power of dynamical maps and positive versus completely positive divisibility. <i>Physical Review A</i> , 2017, 95, .	1.0	25
41	Testing Complete Positivity. <i>Modern Physics Letters A</i> , 1997, 12, 1465-1472.	0.5	24
42	Irreversibility and dissipation in neutral B-meson decays. <i>Nuclear Physics B</i> , 2001, 602, 541-571.	0.9	23
43	Photon number statistics uncover the fluctuations in non-equilibrium lattice dynamics. <i>Nature Communications</i> , 2015, 6, 10249.	5.8	23
44	Complete positivity and the system. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1996, 389, 100-106.	1.5	22
45	Complete positivity and neutron interferometry. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1999, 451, 422-429.	1.5	22
46	ENTANGLED IDENTICAL PARTICLES AND NOISE. <i>International Journal of Quantum Information</i> , 2011, 09, 1745-1755.	0.6	22
47	Nonpositive evolutions in open system dynamics. <i>Physical Review A</i> , 2003, 67, .	1.0	21
48	Quantum spin chain dissipative mean-field dynamics. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 325001.	0.7	21
49	Quantum dynamical semigroups and non-decomposable positive maps. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2004, 326, 187-198.	0.9	20
50	Environment induced bipartite entanglement. <i>Journal of Mathematical Physics</i> , 2008, 49, .	0.5	19
51	Complete positivity and dissipative factorized dynamics. <i>Journal of Physics A</i> , 2002, 35, L551-L556.	1.6	18
52	ASYMPTOTIC ENTANGLEMENT OF TWO INDEPENDENT SYSTEMS IN A COMMON BATH. <i>International Journal of Quantum Information</i> , 2006, 04, 395-404.	0.6	18
53	Quantum Algorithmic Complexities and Entropy. <i>Open Systems and Information Dynamics</i> , 2009, 16, 1-28.	0.5	18
54	Remarks on Entanglement and Identical Particles. <i>Open Systems and Information Dynamics</i> , 2017, 24, 1740004.	0.5	18

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55	Non-divisibility and non-Markovianity in a Gaussian dissipative dynamics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 2951-2954.	0.9	17
56	On the decay law for unstable open systems. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1998, 428, 149-156.	1.5	16
57	On some recent proposals for testing macrorealism versus quantum mechanics. Foundations of Physics Letters, 1994, 7, 105-126.	0.6	15
58	Pulsed homodyne Gaussian quantum tomography with low detection efficiency. New Journal of Physics, 2014, 16, 043004.	1.2	15
59	Non-markovian mesoscopic dissipative dynamics of open quantum spin chains. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 381-389.	0.9	15
60	Dissipative entanglement of quantum spin fluctuations. Journal of Mathematical Physics, 2016, 57, 062208.	0.5	13
61	Entropy of a subalgebra and quantum estimation. Journal of Mathematical Physics, 1996, 37, 5244-5258.	0.5	12
62	Additivity of the entanglement of formation. Physical Review A, 2001, 63, .	1.0	12
63	Quantum dynamical entropies in discrete classical chaos. Journal of Physics A, 2004, 37, 105-130.	1.6	12
64	Redfield reduced dynamics and entanglement. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 1625-1632.	0.7	12
65	Quantum model for impulsive stimulated Raman scattering. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 145502.	0.6	12
66	Bath-assisted transport in a three-site spin chain: Global versus local approach. Physical Review A, 2020, 102, .	1.0	12
67	Strong asymptotic abelianness for entropic systems. Communications in Mathematical Physics, 1991, 136, 231-250.	1.0	11
68	Effective dissipative dynamics for polarized photons. Physical Review D, 2000, 62, .	1.6	11
69	Asymptotic entanglement and Lindblad dynamics: a perturbative approach. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 155303.	0.7	11
70	Properties of subentropy. Journal of Mathematical Physics, 2014, 55, .	0.5	11
71	Complete positivity and the neutral kaon system. Banach Center Publications, 1998, 43, 71-85.	0.1	11
72	Three qubits in a symmetric environment: Dissipatively generated asymptotic entanglement. Annals of Physics, 2011, 326, 740-753.	1.0	10

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73	Vibrational coherent control of localized dâ€™d electronic excitation. Nature Physics, 2021, 17, 368-373.	6.5	10
74	Dissipative effects in semileptonic B- decays. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 465, 260-270.	1.5	9
75	Cooper pair boxes weakly coupled to external environments. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 235304.	0.7	9
76	Entanglement and entropy rates in open quantum systems. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 045304.	0.7	9
77	Damped harmonic oscillators in the holomorphic representation. Journal of Physics A, 2000, 33, 8139-8153.	1.6	8
78	CLASSICAL LIMIT OF QUANTUM DYNAMICAL ENTROPIES. Reviews in Mathematical Physics, 2003, 15, 847-875.	0.7	8
79	Continuous limit of discrete sawtooth maps and its algebraic framework. Journal of Mathematical Physics, 2005, 46, 062702.	0.5	8
80	Dissipative dynamics of quantum fluctuations. Annalen Der Physik, 2015, 527, 639-655.	0.9	8
81	Entanglement in algebraic quantum mechanics: Majorana fermion systems. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 305303.	0.7	8
82	Quantum fluctuations in mesoscopic systems. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 423001.	0.7	8
83	Quantum detailed balance conditions and fluctuation relations for thermalizing quantum dynamics. Physical Review E, 2018, 98, .	0.8	8
84	Quasi-inversion of qubit channels. Physical Review A, 2020, 101, .	1.0	8
85	The evolution of the harmonic oscillator in Quantum Mechanics with Spontaneous Localization. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1989, 103, 511-536.	0.2	7
86	On the weak-coupling limit and complete positivity. Chaos, Solitons and Fractals, 2001, 12, 2631-2638.	2.5	7
87	Multi-distributed entanglement in finitely correlated chains. Europhysics Letters, 2005, 72, 28-34.	0.7	7
88	Entropy and algorithmic complexity in quantum information theory. Natural Computing, 2007, 6, 133-150.	1.8	7
89	Loss of coherence and memory effects in quantum dynamics. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 150201.	0.6	7
90	Environment induced entanglement in many-body mesoscopic systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 1700-1703.	0.9	7

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91	Generation and detection of squeezed phonons in lattice dynamics by ultrafast optical excitations. <i>New Journal of Physics</i> , 2017, 19, 023032.	1.2	7
92	DISSIPATIVE CONTRIBUTIONS TO $\hat{\mu}^2/\hat{\mu}$. <i>Modern Physics Letters A</i> , 1999, 14, 1519-1529.	0.5	6
93	Planck-scale dissipative effects in atom interferometry. <i>Physical Review A</i> , 2002, 66, .	1.0	6
94	Slipped nonpositive reduced dynamics and entanglement. <i>Laser Physics</i> , 2006, 16, 1395-1405.	0.6	6
95	Quantum Entropies. <i>Theoretical and Mathematical Physics (United States)</i> , 2009, , .	0.0	6
96	Entanglement and algebraic independence in fermion systems. <i>International Journal of Quantum Information</i> , 2014, 12, 1461002.	0.6	6
97	Complete Positivity and Thermodynamics in a Driven Open Quantum System. <i>Journal of Statistical Physics</i> , 2015, 159, 1127-1153.	0.5	6
98	Exact Steady State of the Open $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"} \langle \text{mml:mi} \rangle X \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle X \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Spin Chain: Entanglement and Transport Properties. <i>PRX Quantum</i> , 2021, 2, .	3.5	6
99	Testing macroscopic quantum coherence. <i>Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods</i> , 1995, 110, 593-610.	0.2	5
100	Noise effects in perfect transmission of quantum states. <i>Physical Review A</i> , 2012, 86, .	1.0	5
101	Gacs quantum algorithmic entropy in infinite dimensional Hilbert spaces. <i>Journal of Mathematical Physics</i> , 2014, 55, 082205.	0.5	5
102	Entanglement and Non-Locality in Quantum Protocols with Identical Particles. <i>Entropy</i> , 2021, 23, 479.	1.1	5
103	Entropic dimension for completely positive maps. <i>Journal of Statistical Physics</i> , 1988, 53, 1273-1298.	0.5	4
104	On the mixing-enhancing structure of a class of quantum dynamical semigroups. <i>Journal of Mathematical Physics</i> , 1990, 31, 2399-2405.	0.5	4
105	Continuity equation in quantum mechanics with spontaneous localization. <i>Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods</i> , 1991, 106, 1125-1136.	0.2	4
106	Statistics and quantum chaos. <i>Journal of Physics A</i> , 1998, 31, 9123-9130.	1.6	4
107	MULTI-TIME CORRELATIONS IN RELAXING QUANTUM DYNAMICAL SYSTEMS. <i>Reviews in Mathematical Physics</i> , 2000, 12, 921-944.	0.7	4
108	Neutral kaons in random media. <i>Physical Review D</i> , 2003, 68, .	1.6	4

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109	Broken symmetries in the entanglement of formation. <i>Journal of Mathematical Physics</i> , 2003, 44, 2402.	0.5	4
110	Tests of Complete Positivity in Fiber Optics. <i>Open Systems and Information Dynamics</i> , 2006, 13, 229-238.	0.5	4
111	Extended reduction criterion and lattice states. <i>Journal of Mathematical Physics</i> , 2007, 48, 052103.	0.5	4
112	Classical limits of quantum mechanics on a non-commutative configuration space. <i>Journal of Mathematical Physics</i> , 2013, 54, 063508.	0.5	4
113	Continuous variable quantum perceptron. <i>International Journal of Quantum Information</i> , 2019, 17, 1941009.	0.6	4
114	Optimal Decompositions with Respect to Entropy and Symmetries. <i>Letters in Mathematical Physics</i> , 1999, 47, 237-253.	0.5	3
115	Charge oscillations in superconducting nanodevices coupled to external environments. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 1968-1971.	0.9	3
116	Quantum measuring processes for trapped ultracold bosonic gases. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 035306.	0.7	3
117	Noisy effects in interferometric quantum gravity tests. <i>International Journal of Quantum Information</i> , 2017, 15, 1740014.	0.6	3
118	Hadamard Completely Positive Semigroups. <i>Open Systems and Information Dynamics</i> , 2019, 26, 1950020.	0.5	3
119	Qubit entanglement generation by Gaussian non-Markovian dynamics. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 035305.	0.7	3
120	Pattern capacity of a single quantum perceptron. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2022, 55, 155301.	0.7	3
121	Entropy divergence in the Ghirardi-Rimini-Weber model. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1988, 132, 13-19.	0.9	2
122	Bell-like inequality and spontaneous reduction processes. <i>Foundations of Physics Letters</i> , 1992, 5, 399-423.	0.6	2
123	Strong clustering in type III entropic K-systems. <i>Monatshefte Fur Mathematik</i> , 1997, 124, 287-307.	0.5	2
124	Multi-time correlations in quantized toral automorphisms. <i>Reports on Mathematical Physics</i> , 1999, 44, 413-434.	0.4	2
125	Dissipation and decoherence in photon interferometry. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2002, 4, S238-S244.	1.4	2
126	NON-POSITIVE SEMIGROUP DYNAMICS IN CONTINUOUS VARIABLE MODELS. <i>International Journal of Quantum Information</i> , 2007, 05, 189-198.	0.6	2

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127	Noise Induced Current in a Double-Well Trap. <i>Open Systems and Information Dynamics</i> , 2008, 15, 143-153.	0.5	2
128	Quantum measures for density correlations in optical lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2009, 373, 3516-3521.	0.9	2
129	Quantum contextuality in N -boson systems. <i>Physical Review A</i> , 2011, 84, .	1.0	2
130	Quantum Dynamical Entropies and Gács Algorithmic Entropy. <i>Entropy</i> , 2012, 14, 1259-1273.	1.1	2
131	Quantum interferences reconstruction with low homodyne detection efficiency. <i>EPJ Quantum Technology</i> , 2016, 3, .	2.9	2
132	Long-Lived Mesoscopic Entanglement Between Two Damped Infinite Harmonic Chains. <i>Journal of Statistical Physics</i> , 2017, 168, 620-651.	0.5	2
133	Impact of nonideal cycles on the efficiency of quantum heat engines. <i>European Physical Journal D</i> , 2019, 73, 1.	0.6	2
134	Quasi-Entropies and Non-Markovianity. <i>Entropy</i> , 2019, 21, 1020.	1.1	2
135	Quantum Mechanics with Spontaneous Localization and Experiments. <i>NATO ASI Series Series B: Physics</i> , 1995, , 263-279.	0.2	2
136	Histories, Bell-like inequalities, and QMSL evolution. <i>Foundations of Physics Letters</i> , 1993, 6, 109-118.	0.6	1
137	Discrete dynamical systems embedded in Cantor sets. <i>Journal of Mathematical Physics</i> , 2006, 47, 022705.	0.5	1
138	POLARIZATION ENTANGLEMENT THROUGH NOISE. <i>International Journal of Quantum Information</i> , 2008, 06, 589-595.	0.6	1
139	Noise-induced interference fringes in trapped ultracold bosonic gases. <i>Physical Review A</i> , 2008, 78, .	1.0	1
140	DISSIPATIVELY INDUCED BIPARTITE ENTANGLEMENT. <i>Lecture Notes Series, Institute for Mathematical Sciences</i> , 2010, , 133-146.	0.2	1
141	Translation invariant states on twisted algebras on a lattice. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 115301.	0.7	1
142	Entanglement Witnesses for a Class of Bipartite States of n Qubits. <i>Open Systems and Information Dynamics</i> , 2013, 20, 1350005.	0.5	1
143	Semi-Classical Localisation Properties of Quantum Oscillators on a Noncommutative Configuration Space. <i>Open Systems and Information Dynamics</i> , 2015, 22, 1550021.	0.5	1
144	Complete Positivity in Dissipative Quantum Dynamics. <i>Lecture Notes in Physics</i> , 2002, , 283-304.	0.3	1

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145	Deterministic quantum noise and Kolmogorov systems. Letters in Mathematical Physics, 1992, 24, 31-40.	0.5	0
146	Complete positivity and neutral kaon decay. , 1998, , 124-147.		0
147	On Deciding Whether a Boolean Function is Constant or Not. International Journal of Quantum Information, 2003, 01, 237-246.	0.6	0
148	Entangled finitely correlated quantum spin chains. Laser Physics, 2006, 16, 723-729.	0.6	0
149	The GRW model and Bell-like inequalities. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 2959-2970.	0.7	0
150	A non-Markovian Dissipative Maryland Model. Open Systems and Information Dynamics, 2013, 20, 1340001.	0.5	0
151	Dissipatively Generated Entanglement. Springer INdAM Series, 2017, , 33-45.	0.4	0
152	Bound on dissipative effects from semileptonic neutral B-meson decays. European Physical Journal C, 2017, 77, 1.	1.4	0
153	Quantum Entropy and Complexity. Open Systems and Information Dynamics, 2017, 24, 1750005.	0.5	0
154	Time-dependent spontaneous localization processes. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126356.	0.9	0
155	Quantum dynamical entropies and quantum algorithmic complexities. , 2006, , .		0
156	Bipartite Quantum Entanglement. Lecture Notes in Physics, 2010, , 109-149.	0.3	0
157	Asymptotic entanglement in open quantum systems. , 2010, , .		0
158	On the Complete Positivity of the Ghirardi-Rimini-Weber Model. Fundamental Theories of Physics, 2021, , 135-149.	0.1	0