

# Theodorus Maria Nieuwenhuizen

## List of Publications by Year in descending order

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133  
papers

4,751  
citations

94381

37  
h-index

106281

65  
g-index

137  
all docs

137  
docs citations

137  
times ranked

2255  
citing authors

#	ARTICLE	IF	CITATIONS
1	Multiple scattering of classical waves: microscopy, mesoscopy, and diffusion. <i>Reviews of Modern Physics</i> , 1999, 71, 313-371.	16.4	669
2	Maximal work extraction from finite quantum systems. <i>Europhysics Letters</i> , 2004, 67, 565-571.	0.7	301
3	Random Walks of Cytoskeletal Motors in Open and Closed Compartments. <i>Physical Review Letters</i> , 2001, 87, 108101.	2.9	240
4	Understanding quantum measurement from the solution of dynamical models. <i>Physics Reports</i> , 2013, 525, 1-166.	10.3	160
5	Extraction of Work from a Single Thermal Bath in the Quantum Regime. <i>Physical Review Letters</i> , 2000, 85, 1799-1802.	2.9	151
6	Exact Schwarzschild-de Sitter black holes in a family of massive gravity models. <i>Physical Review D</i> , 2011, 84, .	1.6	138
7	Statistical thermodynamics of quantum Brownian motion: Construction of perpetual mobile of the second kind. <i>Physical Review E</i> , 2002, 66, 036102.	0.8	134
8	Thermodynamics of the Glassy State: Effective Temperature as an Additional System Parameter. <i>Physical Review Letters</i> , 1998, 80, 5580-5583.	2.9	110
9	Ehrenfest Relations at the Glass Transition: Solution to an Old Paradox. <i>Physical Review Letters</i> , 1997, 79, 1317-1320.	2.9	100
10	Fluctuations of work from quantum subensembles: The case against quantum work-fluctuation theorems. <i>Physical Review E</i> , 2005, 71, 066102.	0.8	94
11	Is the Contextuality Loophole Fatal for the Derivation of Bell Inequalities?. <i>Foundations of Physics</i> , 2011, 41, 580-591.	0.6	92
12	Determining a Quantum State by Means of a Single Apparatus. <i>Physical Review Letters</i> , 2004, 92, 120402.	2.9	81
13	Wetting of a Disordered Substrate: Exact Critical Behavior in Two Dimensions. <i>Physical Review Letters</i> , 1986, 57, 2184-2187.	2.9	75
14	Minimal work principle: Proof and counterexamples. <i>Physical Review E</i> , 2005, 71, 046107.	0.8	72
15	Skin layer of diffusive media. <i>Physical Review E</i> , 1993, 48, 569-588.	0.8	69
16	Breakdown of the Landauer bound for information erasure in the quantum regime. <i>Physical Review E</i> , 2001, 64, 056117.	0.8	68
17	A sub-ensemble theory of ideal quantum measurement processes. <i>Annals of Physics</i> , 2017, 376, 324-352.	1.0	67
18	Trapping and Lifshitz Tails in Random Media, Self-Attracting Polymers, and the Number of Distinct Sites Visited: A Renormalized Instanton Approach in Three Dimensions. <i>Physical Review Letters</i> , 1989, 62, 357-360.	2.9	64

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19	Quantum Description of Spherical Spins. <i>Physical Review Letters</i> , 1995, 74, 4293-4296.	2.9	60
20	Thermodynamic picture of the glassy state gained from exactly solvable models. <i>Physical Review E</i> , 2000, 61, 267-292.	0.8	59
21	A mathematical theorem as the basis for the second law: Thomson's formulation applied to equilibrium. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 305, 542-552.	1.2	56
22	Work extraction in the spin-boson model. <i>Physical Review E</i> , 2005, 71, 046106.	0.8	56
23	Self-Organized Density Patterns of Molecular Motors in Arrays of Cytoskeletal Filaments. <i>Biophysical Journal</i> , 2005, 88, 3118-3132.	0.2	56
24	Exactly Solvable Model of a Quantum Spin Glass. <i>Physical Review Letters</i> , 1995, 74, 4289-4292.	2.9	53
25	Theory for multiple light scattering from Rayleigh scatterers in magnetic fields. <i>Physical Review E</i> , 1996, 53, 2881-2908.	0.8	52
26	Testing the violation of the Clausius inequality in nanoscale electric circuits. <i>Physical Review B</i> , 2002, 66, .	1.1	52
27	Diffusion and Long-Time Tails in a Two-Dimensional Site-Percolation Model. <i>Physical Review Letters</i> , 1986, 57, 2477-2480.	2.9	51
28	Resonant point scatterers in multiple scattering of classical waves. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1992, 169, 191-194.	0.9	50
29	Curie-Weiss model of the quantum measurement process. <i>Europhysics Letters</i> , 2003, 61, 452-458.	0.7	49
30	Probability Distribution of Multiple Scattered Light Measured in Total Transmission. <i>Physical Review Letters</i> , 1994, 73, 2567-2570.	2.9	47
31	A Soluble Quasi-Crystalline Magnetic Model: The XY Quantum Spin Chain. <i>Europhysics Letters</i> , 1986, 2, 257-266.	0.7	45
32	Steady adiabatic state: Its thermodynamics, entropy production, energy dissipation, and violation of Onsager relations. <i>Physical Review E</i> , 2000, 62, 845-850.	0.8	42
33	Random walks of molecular motors arising from diffusional encounters with immobilized filaments. <i>Physical Review E</i> , 2004, 69, 061911.	0.8	42
34	Quantum phase transition in spin glasses with multi-spin interactions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 250, 8-45.	1.2	40
35	Walks of molecular motors in two and three dimensions. <i>Europhysics Letters</i> , 2002, 58, 468-474.	0.7	40
36	Objections to Handel's quantum theory of 1/f noise. <i>Physical Review A</i> , 1987, 35, 2750-2753.	1.0	38

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37	Multiple Rayleigh Scattering of Electromagnetic Waves. Journal De Physique, I, 1997, 7, 445-483.	1.2	38
38	Exact electronic spectra and inverse localization lengths in one-dimensional random systems. Physica A: Statistical Mechanics and Its Applications, 1983, 120, 468-514.	1.2	35
39	Quantum thermodynamics: Thermodynamics at the nanoscale. Journal of Modern Optics, 2004, 51, 2703-2711.	0.6	35
40	Exact solutions for spectra and Green's functions in random one-dimensional systems. Physica A: Statistical Mechanics and Its Applications, 1984, 125, 197-236.	1.2	29
41	Do non-relativistic neutrinos constitute the dark matter?. Europhysics Letters, 2009, 86, 59001.	0.7	29
42	A new approach to the problem of disordered harmonic chains. Physica A: Statistical Mechanics and Its Applications, 1982, 113, 173-202.	1.2	28
43	Singular behavior of the density of states and the Lyapunov coefficient in binary random harmonic chains. Journal of Statistical Physics, 1985, 41, 745-771.	0.5	27
44	Exact critical behavior of two-dimensional wetting problems with quenched disorder. Journal of Statistical Physics, 1988, 51, 29-56.	0.5	27
45	Brownian entanglement. Physical Review A, 2005, 72, .	1.0	27
46	Lifshitz tails and long-time decay in random systems with arbitrary disorder. Journal of Statistical Physics, 1988, 52, 1-22.	0.5	24
47	Movements of molecular motors: Ratchets, random walks and traffic phenomena. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 29, 380-389.	1.3	23
48	Role of a single scatterer in a multiple scattering medium. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 177, 102-106.	0.9	22
49	Deviations from the Gaussian distribution of mesoscopic conductance fluctuations. Physical Review B, 1997, 55, 4710-4716.	1.1	22
50	Thermodynamic picture of the glassy state. Journal of Physics Condensed Matter, 2000, 12, 6543-6552.	0.7	22
51	Excess noise in a hopping model for a resistor with quenched disorder. Journal of Statistical Physics, 1985, 41, 773-801.	0.5	21
52	Explanation of the Gibbs paradox within the framework of quantum thermodynamics. Physical Review E, 2006, 73, 066119.	0.8	21
53	Light propagation in a solid with resonant atoms at random positions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 184, 360-365.	0.9	20
54	Minimal-work principle and its limits for classical systems. Physical Review E, 2007, 75, 051124.	0.8	20

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55	Transport and spectral properties of strongly disordered chains. <i>Physical Review B</i> , 1985, 31, 3518-3533.	1.1	19
56	Bath-Assisted Cooling of Spins. <i>Physical Review Letters</i> , 2004, 93, 260404.	2.9	19
57	Solution to the nonlinear boltzmann equation for maxwell models for nonisotropic initial conditions. <i>Journal of Statistical Physics</i> , 1982, 29, 591-615.	0.5	18
58	Kovacs effect in a model for a fragile glass. <i>Physical Review B</i> , 2006, 73, .	1.1	18
59	Griffiths singularities in two-dimensional random-bond Ising models: Relation with Lifshitz band tails. <i>Physical Review Letters</i> , 1989, 63, 1760-1763.	2.9	17
60	Influence of skin layers on speckle correlations of light transmitted through disordered media. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 177, 452-458.	0.9	17
61	Quantum spherical spin models. <i>Physical Review E</i> , 2004, 69, 056119.	0.8	17
62	Simultaneous measurement of two noncommuting quantum variables: Solution of a dynamical model. <i>Physical Review A</i> , 2017, 95, .	1.0	17
63	The Contextuality Loophole is Fatal for the Derivation of Bell Inequalities: Reply to a Comment by I. Schmelzer. <i>Foundations of Physics</i> , 2017, 47, 316-319.	0.6	17
64	Singularities in Spectra of Disordered Systems: An Instanton Approach for Arbitrary Dimension and Randomness. <i>Europhysics Letters</i> , 1989, 9, 407-413.	0.7	16
65	To Maximize or Not to Maximize the Free Energy of Glassy Systems. <i>Physical Review Letters</i> , 1995, 74, 3463-3466.	2.9	16
66	Thermodynamics of Black Holes: An Analogy with Glasses. <i>Physical Review Letters</i> , 1998, 81, 2201-2204.	2.9	16
67	Quantum measurement as a driven phase transition: An exactly solvable model. <i>Physical Review A</i> , 2001, 64, .	1.0	16
68	Formulation of thermodynamics for the glassy state: Configurational energy as a modest source of energy. <i>Journal of Chemical Physics</i> , 2001, 115, 8083-8088.	1.2	16
69	Exactly soluble diluted random one-dimensional lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1984, 103, 333-336.	0.9	15
70	Singularities in spectra of disordered systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1990, 167, 43-65.	1.2	15
71	Molecular Layering on a Fluid Substrate. <i>Europhysics Letters</i> , 1992, 20, 235-239.	0.7	15
72	Competition between glassiness and order in a multispin glass. <i>Physical Review E</i> , 1999, 60, R2460-R2463.	0.8	15

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73	1/fnoise in a hopping model with trapping. Physical Review B, 1985, 31, 7636-7642.	1.1	14
74	Optical conductance fluctuations: Diagrammatic analysis in the Landauer approach and nonuniversal effects. Physical Review E, 1995, 51, 6158-6176.	0.8	13
75	Simulation of the Hydrogen Ground State in Stochastic Electrodynamics-2: Inclusion of Relativistic Corrections. Foundations of Physics, 2015, 45, 1190-1202.	0.6	13
76	How Zwicky already ruled out modified gravity theories without dark matter. Fortschritte Der Physik, 2017, 65, 1600050.	1.5	13
77	Solvable Glassy System: Static versus Dynamical Transition. Physical Review Letters, 1997, 78, 3491-3494.	2.9	12
78	Optimizing the Classical Heat Engine. Physical Review Letters, 2000, 85, 232-235.	2.9	12
79	How adsorption influences DNA denaturation. Physical Review E, 2009, 79, 031903.	0.8	12
80	Lifshitz singularities in random harmonic chains: Periodic amplitudes near the band edge and near special frequencies. Journal of Statistical Physics, 1987, 48, 393-424.	0.5	11
81	Diffusion and survival in a medium with imperfect traps. Journal of Statistical Physics, 1990, 59, 53-72.	0.5	11
82	Density of states of disordered systems. Physical Review B, 1994, 49, 13377-13382.	1.1	11
83	The marriage problem and the fate of bachelors. Physica A: Statistical Mechanics and Its Applications, 1998, 252, 178-198.	1.2	11
84	Effective temperatures in an exactly solvable model for a fragile glass. Physical Review E, 2001, 64, 011508.	0.8	11
85	On the Stability of Classical Orbits of the Hydrogen Ground State in Stochastic Electrodynamics. Entropy, 2016, 18, 135.	1.1	11
86	1/fnoise in ad-dimensional hopping model with static disorder. Physical Review B, 1986, 33, 2824-2827.	1.1	10
87	Field Theory for Site-Disordered Spin Glasses. Europhysics Letters, 1993, 24, 797-802.	0.7	10
88	Thermodynamics and small quantum systems. Journal of Modern Optics, 2003, 50, 2433-2441.	0.6	10
89	Simultaneous measurement of non-commuting observables. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 339-342.	1.3	10
90	Special frequencies and Lifshitz singularities in binary random harmonic chains. Journal of Statistical Physics, 1986, 45, 395-417.	0.5	9

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91	Lifshitz singularities in the total and the wavenumber-dependent spectral density of random harmonic chains. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1987, 145, 161-189.	1.2	9
92	Semi-Ballistic Transport in Disordered Narrow Devices. <i>Europhysics Letters</i> , 1993, 24, 269-274.	0.7	9
93	Model glasses coupled to two different heat baths. <i>European Physical Journal B</i> , 2000, 16, 317-335.	0.6	9
94	Physics at the FQMT <sup>TM</sup> 04 conference. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2005, 29, 1-28.	1.3	9
95	Gravitational hydrodynamics of large-scale structure formation. <i>Europhysics Letters</i> , 2009, 88, 49001.	0.7	9
96	Spherical spin-glass models with short-range ferromagnetic interaction: Thermodynamics and correlation functions. <i>Physical Review B</i> , 1985, 31, 7487-7490.	1.1	8
97	Theory of semiballistic wave propagation. <i>Physical Review B</i> , 1996, 53, 15914-15931.	1.1	8
98	Light scattering from mesoscopic objects in diffusive media. <i>European Physical Journal B</i> , 1999, 7, 483-500.	0.6	8
99	Inherent structures in models for fragile and strong glass. <i>Physical Review E</i> , 2001, 64, 066125.	0.8	8
100	Concentration dependence of the transition temperature in metallic spin glasses. <i>Europhysics Letters</i> , 2004, 66, 419-422.	0.7	8
101	Thermally Activated Flux Creep in High-Temperature Superconductors: a Stochastic Model. <i>Europhysics Letters</i> , 1990, 11, 457-462.	0.7	7
102	Universal fluctuations in a simple disordered system. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991, 160, 461-464.	0.9	7
103	Dynamics of a quantum measurement. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2005, 29, 261-271.	1.3	7
104	Supermassive black holes as giant Bose-Einstein condensates. <i>Europhysics Letters</i> , 2008, 83, 10008.	0.7	7
105	Thermodynamics of Ising models with layered randomness: Exact solutions on square and triangular lattices. <i>Physical Review B</i> , 1989, 40, 5094-5108.	1.1	6
106	Polymer Adsorption in Random Environment. <i>Europhysics Letters</i> , 1991, 15, 837-842.	0.7	6
107	Quantum-state tomography using a single apparatus. <i>Physical Review A</i> , 2008, 77, .	1.0	6
108	Are observations of the galaxy cluster A1689 consistent with a neutrino dark matter scenario?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 434, 2679-2683.	1.6	6

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109	Theory of site-disordered magnets. <i>European Physical Journal B</i> , 1999, 7, 191-209.	0.6	5
110	Einstein vs. Maxwell: Is gravitation a curvature of space, a field in flat space, or both?. <i>Europhysics Letters</i> , 2007, 78, 10010.	0.7	5
111	Dirac neutrino mass from a neutrino dark matter model for the galaxy cluster Abell 1689. <i>Journal of Physics: Conference Series</i> , 2016, 701, 012022.	0.3	5
112	Modified Gravity and its test on galaxy clusters. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 476, 3393-3398.	1.6	5
113	Stochastic Electrodynamics: Lessons from Regularizing the Harmonic Oscillator. <i>Atoms</i> , 2019, 7, 59.	0.7	5
114	Exact Solutions for One-Dimensional Systems with Short-Range Order. <i>Europhysics Letters</i> , 1987, 4, 1109-1114.	0.7	4
115	Dynamical properties of 2D systems with site disorder. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1989, 157, 1101-1138.	1.2	4
116	Scattering from objects immersed in a diffusive medium. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 256, 417-438.	1.2	4
117	Walks of molecular motors interacting with immobilized filaments. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2005, 350, 122-130.	1.2	4
118	A Puzzle on Fluctuations of Weights in Spin Glasses. <i>Journal De Physique, I</i> , 1996, 6, 109-117.	1.2	4
119	A generalized Thouless formula as a criterion for Anderson localization in two- and three-dimensional systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1985, 131, 131-156.	1.2	3
120	Third cumulant of the total transmission of diffuse waves. <i>Physical Review E</i> , 1995, 52, 2053-2065.	0.8	3
121	Lectures on dynamical models for quantum measurements. <i>International Journal of Modern Physics B</i> , 2014, 28, 1430014.	1.0	3
122	Variational Approach to Interfaces in Random Media: Negative Variances and Replica Symmetry Breaking. <i>Journal De Physique, I</i> , 1997, 7, 1513-1521.	1.2	3
123	Adiabatic processes need not correspond to optimal work. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2005, 29, 74-81.	1.3	2
124	An Overview on Single Apparatus Quantum Measurements. <i>Journal of Computational and Theoretical Nanoscience</i> , 2011, 8, 937-948.	0.4	2
125	Subjecting Dark Matter Candidates to the Cluster Test. <i>Fluctuation and Noise Letters</i> , 2020, 19, 2050016.	1.0	2
126	Interference phenomena in radiation of a charged particle moving in a system with one-dimensional randomness. <i>Physical Review E</i> , 2000, 61, 4656-4658.	0.8	1



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127	Boseâ€Einstein condensed supermassive black holes: A case of renormalized quantum field theory in curved spaceâ€time. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 256-268.	1.3	1
128	Physics at the FMQTâ€™08 conference. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 207-227.	1.3	1
129	Model for common growth of supermassive black holes, bulges and globular star clusters: Ripping off Jeans clusters. <i>Europhysics Letters</i> , 2012, 97, 39001.	0.7	1
130	The Standard Model of Particle Physics with Diracian Neutrino Sector. <i>Symmetry</i> , 2019, 11, 994.	1.1	1
131	Mean-field theory of quantum Brownian motion. <i>European Physical Journal B</i> , 2001, 23, 87-96.	0.6	0
132	Dynamics of quantum measurements employing two Curieâ€Weiss apparatuses. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160386.	1.6	0
133	A partially occulting MACHOâ€microlensing event in the Twin Quasar Q0957+561. <i>Fortschritte Der Physik</i> , 2017, 65, 1600107.	1.5	0