Stefan Rotter

List of Publications by Citations

126 papers	6,152 citations	36 h-index	77 g-index
161 ext. papers	7,343 ext. citations	10.1 avg, IF	6.27 L-index

#	Paper	IF	Citations
126	Non-Hermitian physics and PT symmetry. *Nature Physics*, **2018**, 14, 11-19	15.8	776
125	Loss-induced suppression and revival of lasing. *Science*, **2014**, 346, 328-32	31.9	530
124	Dynamically encircling an exceptional point for asymmetric mode switching. *Nature*, **2016**, 537, 76-79	47.1	397
123	Parity-time symmetry and exceptional points in photonics. *Nature Materials*, **2019**, 18, 783-798	26.4	377
122	Pump-induced exceptional points in lasers. *Physical Review Letters*, **2012**, 108, 173901	7.3	310
121	Strong interactions in multimode random lasers. *Science*, **2008**, 320, 643-6	31.9	295
120	Reversing the pump dependence of a laser at an exceptional point. *Nature Communications*, **2014**, 5, 4034	16.7	298
119	Chiral modes and directional lasing at exceptional points. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 6845-50	11	244
118	Light fields in complex media: Mesoscopic scattering meets wave control. *Reviews of Modern Physics*, **2017**, 89,	39.4	231
117	Cavity QED with magnetically coupled collective spin states. *Physical Review Letters*, **2011**, 107, 060502	7.3	221
116	A phonon laser operating at an exceptional point. *Nature Photonics*, **2018**, 12, 479-484	33.2	131
115	General description of quasiadiabatic dynamical phenomena near exceptional points. *Physical Review A*, **2015**, 92,	2.6	109
114	Gravity resonance spectroscopy constrains dark energy and dark matter scenarios. *Physical Review Letters*, **2014**, 112, 151105	7.3	106
113	Protecting a spin ensemble against decoherence in the strong-coupling regime of cavity QED. *Nature Physics*, **2014**, 10, 720-724	15.8	87
112	Modular recursive Green□ function method for ballistic quantum transport. *Physical Review B*, **2000** , 62, 1950-1960	3.3	85
111	Unconventional modes in lasers with spatially varying gain and loss. *Physical Review A*, **2011**, 84,	2.6	79
110	Constant-intensity waves and their modulation instability in non-Hermitian potentials. *Nature Communications*, **2015**, 6, 7257	16.7	76

109	Pump-controlled directional light emission from random lasers. *Physical Review Letters*, **2013**, 111, 023902	7.3	75
108	Random lasers for broadband directional emission. *Optica*, **2016**, 3, 1035	8.4	60
107	Breaking of PT Symmetry in Bounded and Unbounded Scattering Systems. *Physical Review X*, **2013**, 3,	8.9	53
106	Probing decoherence through Fano resonances. *Physical Review Letters*, **2010**, 105, 056801	7.3	49
105	Constant-pressure sound waves in non-Hermitian disordered media. *Nature Physics*, **2018**, 14, 942-947	15.8	47
104	${mathscr{P}}{mathscr{T}}$-symmetry breaking in the steady state of microscopic gain□loss systems. *New Journal of Physics*, **2016**, 18, 095003	2.9	46
103	Random anti-lasing through coherent perfect absorption in a disordered medium. *Nature*, **2019**, 567, 351-355	47.1	45
102	Spatiotemporal Control of Light Transmission through a Multimode Fiber with Strong Mode Coupling. *Physical Review Letters*, **2016**, 117, 053901	7.3	47
101	Coherent transport through graphene nanoribbons in the presence of edge disorder. *New Journal of Physics*, **2012**, 14, 123006	2.9	45
100	Tunable Fano resonances in transport through microwave billiards. *Physical Review E*, **2004**, 69, 046208	2.4	42
99	Smooth Optimal Quantum Control for Robust Solid-State Spin Magnetometry. *Physical Review Letters*, **2015**, 115, 190801	7.3	41
98	Ballistic quantum transport at high energies and high magnetic fields. *Physical Review B*, **2003**, 68,	3.3	43
97	Perfectly Absorbing Exceptional Points and Chiral Absorbers. *Physical Review Letters*, **2019**, 122, 093901	7.3	40
96	The single-channel regime of transport through random media. *Nature Communications*, **2014**, 5, 3488	16.7	40
95	Ab initioself-consistent laser theory and random lasers. *Nonlinearity*, **2009**, 22, C1-C18	1.7	40
94	Random Lasing with Systematic Threshold Behavior in Films of CdSe/CdS Core/Thick-Shell Colloidal Quantum Dots. *ACS Nano*, **2015**, 9, 9792-801	16.3	39
93	Observation of mean path length invariance in light-scattering media. *Science*, **2017**, 358, 765-768	31.9	39
92	Wave propagation through disordered media without backscattering and intensity variations. *Light: Science and Applications*, **2017**, 6, e17035	16.1	38

91	Transition to Landau levels in graphene quantum dots. *Physical Review B*, **2010**, 81,	3.3	36
90	Scalable numerical approach for the steady-state ab initio laser theory. *Physical Review A*, **2014**, 90,	2.6	34
89	Invariance property of wave scattering through disordered media. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17765-70	11	34
88	Parity-time symmetry from stacking purely dielectric and magnetic slabs. *Physical Review A*, **2015**, 91,	2.6	31
87	Generating particlelike scattering states in wave transport. *Physical Review Letters*, **2011**, 106, 120602	7.3	31
86	Coherent Coupling of Remote Spin Ensembles via a Cavity Bus. *Physical Review Letters*, **2017**, 118, 140502	7.3	30
85	Nanowires with surface disorder: giant localization lengths and quantum-to-classical crossover. *Physical Review Letters*, **2006**, 97, 116804	7.3	30
84	Spectral hole burning and its application in microwave photonics. *Nature Photonics*, **2017**, 11, 36-39	33.2	29
83	Shot noise in the chaotic-to-regular crossover regime. *Physical Review Letters*, **2005**, 94, 216801	7.3	29
82	Non-Markovian dynamics of a single-mode cavity strongly coupled to an inhomogeneously broadened spin ensemble. *Physical Review A*, **2014**, 90,	2.6	26
81	Principal modes in multimode fibers: exploring the crossover from weak to strong mode coupling. *Optics Express*, **2017**, 25, 2709-2724	3.2	26
80	Ultralong relaxation times in bistable hybrid quantum systems. *Science Advances*, **2017**, 3, e1701626	13.8	25
79	Simulation of electron transport through a quantum dot with soft walls. *Physical Review B*, **2005**, 72,	3.3	26
78	Focusing inside Disordered Media with the Generalized Wigner-Smith Operator. *Physical Review Letters*, **2017**, 119, 033903	7.3	25
77	Route from spontaneous decay to complex multimode dynamics in cavity QED. *Physical Review A*, **2014**, 89,	2.6	24
76	Double-layered nanoparticle stacks for surface enhanced infrared absorption spectroscopy. *Nanoscale*, **2014**, 6, 127-31	7.5	21
75	Analytical study of quantum-feedback-enhanced Rabi oscillations. *Physical Review A*, **2015**, 92,	2.6	20
74	Topological insulator in the presence of spatially correlated disorder. *Physical Review B*, **2013**, 88,	3.3	20

73	3D-printed phase waveplates for THz beam shaping. *Applied Physics Letters*, **2018**, 112, 221104	3.3	18
72	Semiclassical theory for transmission through open billiards: convergence towards quantum transport. *Physical Review E*, **2003**, 67, 016206	2.4	18
71	Optimal wave fields for micromanipulation in complex scattering environments. *Nature Photonics*, **2020**, 14, 149-153	33.2	16
70	Hybrid Quantum Systems with Collectively Coupled Spin States: Suppression of Decoherence through Spectral Hole Burning. *Physical Review Letters*, **2015**, 115, 033601	7.3	15
69	Sustained photon pulse revivals from inhomogeneously broadened spin ensembles. *Laser and Photonics Reviews*, **2016**, 10, 1023-1030	6.4	14
68	Particlelike wave packets in complex scattering systems. *Physical Review B*, **2016**, 94,	3.3	14
67	Unidirectional zero reflection as gauged parity-time symmetry. *New Journal of Physics*, **2017**, 19, 123041	2.9	14
66	Transport in chaotic quantum dots: Effects of spatial symmetries which interchange the leads. *Physical Review B*, **2006**, 73,	3.3	14
65	Pseudopath semiclassical approximation to transport through open quantum billiards: Dyson equation for diffractive scattering. *Physical Review E*, **2005**, 72, 036223	2.4	13
64	Scattering-free pulse propagation through invisible non-Hermitian media. *Physical Review B*, **2019**, 99,	3.3	12
63	Reconfigurable symmetry-broken laser in a symmetric microcavity. *Nature Communications*, **2020**, 11, 1136	16.7	12
62	Effective PT-symmetric metasurfaces for subwavelength amplified sensing. *New Journal of Physics*, **2016**, 18, 085004	2.9	12
61	Transport through open quantum dots: Making semiclassics quantitative. *Physical Review B*, **2010**, 81,	3.3	11
60	Diffractive paths for weak localization in quantum billiards. *Physical Review B*, **2008**, 77,	3.3	11
59	Fano resonances and decoherence in transport through quantum dots. *Physica E: Low-Dimensional Systems and Nanostructures*, **2005**, 29, 325-333	2.9	11
58	Steady-state ab initio laser theory for fully or nearly degenerate cavity modes. *Physical Review A*, **2015**, 92,	2.6	10
57	Disorder scattering in graphene nanoribbons. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 2598-2603	1.3	10
56	Statistics of transmission eigenvalues in two-dimensional quantum cavities: Ballistic versus stochastic scattering. *Physical Review B*, **2007**, 75,	3.3	10

55	In situ realization of particlelike scattering states in a microwave cavity. *Physical Review A*, **2018**, 97,	2.6	9
54	Critical phenomena and nonlinear dynamics in a spin ensemble strongly coupled to a cavity. II. Semiclassical-to-quantum boundary. *Physical Review A*, **2019**, 100,	2.6	9
53	Angular Memory Effect of Transmission Eigenchannels. *Physical Review Letters*, **2019**, 123, 203901	7.3	9
52	Interaction-induced mode switching in steady-state microlasers. *Optics Express*, **2016**, 24, 41-54	3.2	9
51	Twofold PT symmetry in doubly exponential optical lattices. *Physical Review A*, **2016**, 93,	2.6	9
50	Surface scattering and band gaps in rough waveguides and nanowires. *Physical Review B*, **2012**, 86,	3.3	9
49	Nanowires with surface disorder: Giant localization length and dynamical tunneling in the presence of directed chaos. *Physical Review B*, **2009**, 80,	3.3	9
48	Emergence of PT-symmetry breaking in open quantum systems. *SciPost Physics*, **2020**, 9,	6	9
47	Shaping the branched flow of light through disordered media. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 13260-13265	11	8
46	Constant Intensity Supermodes in Non-Hermitian Lattices. *IEEE Journal of Selected Topics in Quantum Electronics*, **2016**, 22, 42-47	3.6	9
45	Maximum information states for coherent scattering measurements. *Nature Physics*, **2021**, 17, 564-568	15.8	8
44	Scattering-free channels of invisibility across non-Hermitian media. *Optica*, **2020**, 7, 619	8.4	8
43	Percolating states in the topological Anderson insulator. *Physical Review B*, **2015**, 91,	3.3	8
42	Staggered repulsion of transmission eigenvalues in symmetric open mesoscopic systems. *Physical Review B*, **2008**, 78,	3.3	8
41	Critical phenomena and nonlinear dynamics in a spin ensemble strongly coupled to a cavity. I. Semiclassical approach. *Physical Review A*, **2019**, 100,	2.6	7
40	All-optical adaptive control of quantum cascade random lasers. *Nature Communications*, **2020**, 11, 5530	16.7	7
39	Super- and Anti-Principal-Modes in Multimode Waveguides. *Physical Review X*, **2017**, 7,	8.9	7
38	Variational Renormalization Group for Dissipative Spin-Cavity Systems: Periodic Pulses of Nonclassical Photons from Mesoscopic Spin Ensembles. *Physical Review Letters*, **2018**, 121, 133601	7.3	7

37	Bound states in Andreev billiards with soft walls. *Physical Review B*, **2005**, 72,	3.3	8
36	Shape-preserving beam transmission through non-Hermitian disordered lattices. *Physical Review A*, **2020**, 102,	2.6	6
35	Modulational instability in a PT-symmetric vector nonlinear Schrödinger system. *Physica D: Nonlinear Phenomena*, **2016**, 336, 53-61	3.2	6
34	Ring quantum cascade lasers with twisted wavefronts. *Scientific Reports*, **2018**, 8, 7998	4.7	6
33	Encircling exceptional points as a non-Hermitian extension of rapid adiabatic passage. *Physical Review A*, **2020**, 102,	2.6	5
32	Scattering invariant modes of light in complex media. *Nature Photonics*, **2021**, 15, 431-434	33.2	5
31	Echo Trains in Pulsed Electron Spin Resonance of a Strongly Coupled Spin Ensemble. *Physical Review Letters*, **2020**, 125, 137701	7.3	4
30	Interacting quantum dot coupled to a kondo spin: a universal Hamiltonian study. *Physical Review Letters*, **2008**, 100, 166601	7.3	4
29	Comment on "Dynamic range of nanotube- and nanowire-based electromechanical systems" [Appl. Phys. Lett. 86, 223105 (2005)]. *Applied Physics Letters*, **2006**, 88, 036101	3.3	4
28	Symmetry, stability, and computation of degenerate lasing modes. *Physical Review A*, **2017**, 95,	2.6	3
27	Optimal control of non-Markovian dynamics in a single-mode cavity strongly coupled to an inhomogeneously broadened spin ensemble. *Physical Review A*, **2017**, 96,	2.6	3
26	Mean path length invariance in wave-scattering beyond the diffusive regime. *Communications Physics*, **2021**, 4,	5.2	3
25	Reflection resonances in surface-disordered waveguides: strong higher-order effects of the disorder. *New Journal of Physics*, **2014**, 16, 053026	2.9	3
24	Decreasing excitation gap in Andreev billiards by disorder scattering. *Europhysics Letters*, **2008**, 82, 47006	2.5	3
23	Non-retracing orbits in Andreev billiards. *Physical Review B*, **2006**, 73,	3.3	4
22	Chiral and degenerate perfect absorption on exceptional surfaces.. *Nature Communications*, **2022**, 13, 599	16.7	3
21	Vectorial velocity filter for ultracold neutrons based on a surface-disordered mirror system. *Physical Review E*, **2014**, 89, 032907	2.4	2
20	Transport through graphene nanoribbons: Suppression of transverse quantization by symmetry breaking. *Physica Status Solidi (B): Basic Research*, **2016**, 253, 2366-2372	1.3	2

19	Diffusive to quasi-ballistic random laser: incoherent and coherent models. *Journal of the Optical Society of America B: Optical Physics*, **2016**, 33, 1888	1.7	1
18	Wave control in non-Hermitian disordered media **2017**,		1
17	Non-Hermitian focusing deep inside strongly disordered scattering media **2017**,		1
16	A Classical View of Quantum Time Crystals. *Physics Magazine*, **2018**, 11,	1.1	1
15	Non-Hermitian invisibility based on constant-intensity waves **2017**,		1
14	Strong-coupling limit of a Kondo spin coupled to a mesoscopic quantum dot: Effective Hamiltonian in the presence of exchange correlations. *Physical Review B*, **2009**, 80,	3.3	1
13	Chladni figures in Andreev billiards. *European Physical Journal: Special Topics*, **2007**, 145, 245-254	2.2	1
12	Invariance Property of the Fisher Information in Scattering Media.. *Physical Review Letters*, **2021**, 127, 233201	7.3	1
11	Optimal Control of Coherent Light Scattering for Binary Decision Problems.. *Physical Review Letters* , **2021**, 127, 253902	7.3	1
10	A Modular Method for the Efficient Calculation of Ballistic Transport Through Quantum Billiards. *Lecture Notes in Computer Science*, **2006**, 586-593	0.8	1
9	Constant-Intensity Waves in Non-Hermitian Media. *Springer Tracts in Modern Physics*, **2018**, 535-555	0.1	0
8	Speckle Engineering through Singular Value Decomposition of the Transmission Matrix. *Physical Review Letters*, **2021**, 127, 093903	7.3	0
7	Topological modes in a laser cavity through exceptional state transfer.. *Science*, **2022**, 375, 884-888	31.9	0
6	Optical physics: A laser model for cosmology. *Nature*, **2017**, 549, 163-164	47.1	
5	Light Confinement by Local Index Tailoring in Inhomogeneous Dielectrics. *Laser and Photonics Reviews*, **2021**, 15, 2100115	6.4	
4	Shot noise in transport through quantum dots: Clean versus disordered samples. *Journal of Computational Electronics*, **2007**, 6, 109-111	1.8	
3	Observation of chiral state transfer without encircling an exceptional point.. *Nature*, **2022**, 605, 256-261	47.1	0
2	Transforming Space with Non-Hermitian Dielectrics.. *Physical Review Letters*, **2022**, 128, 183901	7.3	

1 Periodic Cavity State Revivals from Atomic Frequency Combs. *Physical Review Letters*, **2021**, 127, 180402 7.3