Gino Biondini

List of Publications by Year
in descending order

144 papers	3,255 citations	136940 32 h-index	182417 51 g-index
146 all docs	146 docs citations	146 times ranked	817 citing authors

#	Article	IF	Citations
1	Multiscale pulse dynamics in communication systems with strong dispersion management. Optics Letters, 1998, 23, 1668.	3.3	243
2	Inverse scattering transform for the focusing nonlinear SchrÃ¶dinger equation with nonzero boundary conditions. Journal of Mathematical Physics, 2014, 55, .	1.1	178
3	Inverse scattering transform for the vector nonlinear SchrÃ¶dinger equation with nonvanishing boundary conditions. Journal of Mathematical Physics, 2006, 47, 063508.	1.1	121
4	On a family of solutions of the Kadomtsevâ€“Petviashvili equation which also satisfy the Toda lattice hierarchy. Journal of Physics A, 2003, 36, 10519-10536.	1.6	100
5	Universal Nature of the Nonlinear Stage of Modulational Instability. Physical Review Letters, 2016, 116, 043902.	7.8	100
6	Soliton solutions of the Kadomtsev-Petviashvili II equation. Journal of Mathematical Physics, 2006, 47, 033514.	1.1	94
7	Importance sampling for polarization-mode dispersion. IEEE Photonics Technology Letters, 2002, 14, 310-312.	2.5	84
8	Inverse scattering transform for the integrable discrete nonlinear SchrÃ¶dinger equation with nonvanishing boundary conditions. Inverse Problems, 2007, 23, 1711-1758.	2.0	76
9	Longâ€Time Asymptotics for the Focusing Nonlinear SchrÃ¶dinger Equation with Nonzero Boundary Conditions at Infinity and Asymptotic Stage of Modulational Instability. Communications on Pure and Applied Mathematics, 2017, 70, 2300-2365.	3.1	72
10	Four-wave mixing in wavelength-division-multiplexed soliton systems: damping and amplification. Optics Letters, 1996, 21, 1646.	3.3	69
11	Line Soliton Interactions of the Kadomtsev-Petviashvili Equation. Physical Review Letters, 2007, 99, 064103.	7.8	64
12	On the focusing non-linear SchrÃ¶dinger equation with non-zero boundary conditions and double poles. IMA Journal of Applied Mathematics, 2017, 82, 131-151.	1.6	60
13	Methods for discrete solitons in nonlinear lattices. Physical Review E, 2002, 65, 026602.	2.1	59
14	Quasi-linear optical pulses in strongly dispersion-managed transmission systems. Optics Letters, 2001, 26, 459.	3.3	57
15	Importance Sampling for Polarization-Mode Dispersion: Techniques and Applications. Journal of Lightwave Technology, 2004, 22, 1201-1215.	4.6	53
16	Optical solitons: Perspectives and applications. Chaos, 2000, 10, 471-474.	2.5	52
17	Inverse Scattering Transform for the Defocusing Manakov System with Nonzero Boundary Conditions. SIAM Journal on Mathematical Analysis, 2015, 47, 706-757.	1.9	52
18	Multiple importance sampling for first- and second-order polarization-mode dispersion. IEEE Photonics Technology Letters, 2002, 14, 1273-1275.	2.5	51

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19	Experimental Observation and Theoretical Description of Multisoliton Fission in Shallow Water. Physical Review Letters, 2016, 117, 144102.	7.8	51
20	Nonlinear SchrÃ¶dinger equations with mean terms in nonresonant multidimensional quadratic materials. Physical Review E, 2001, 63, 046605.	2.1	48
21	Inverse Scattering Transform for the Multiâ€Component Nonlinear SchrÃ¶dinger Equation with Nonzero Boundary Conditions. Studies in Applied Mathematics, 2011, 126, 245-302.	2.4	48
22	The focusing Manakov system with nonzero boundary conditions. Nonlinearity, 2015, 28, 3101-3151.	1.4	48
23	The Three-Component Defocusing Nonlinear SchrÃ¶dinger Equation with Nonzero Boundary Conditions. Communications in Mathematical Physics, 2016, 348, 475-533.	2.2	46
24	Incomplete collisions of wavelength-division multiplexed dispersion-managed solitons. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 577.	2.1	42
25	Importance sampling for noise-induced amplitude and timing jitter in soliton transmission systems. Optics Letters, 2003, 28, 105.	3.3	42
26	Oscillation structure of localized perturbations in modulationally unstable media. Physical Review E, 2016, 94, 060201.	2.1	41
27	On the Whitham Equations for the Defocusing Nonlinear Schrodinger Equation with Step Initial Data. Journal of Nonlinear Science, 2006, 16, 435-481.	2.1	40
28	The Integrable Nature of Modulational Instability. SIAM Journal on Applied Mathematics, 2015, 75, 136-163.	1.8	39
29	Inverse scattering transform for the defocusing nonlinear SchrÃ¶dinger equation with fully asymmetric non-zero boundary conditions. Physica D: Nonlinear Phenomena, 2016, 333, 117-136.	2.8	38
30	Universal Behavior of Modulationally Unstable Media. SIAM Review, 2018, 60, 888-908.	8.4	35
31	Four-wave mixing in wavelengthdivisionâ€“multiplexed soliton systems:ideal fibers. Journal of the Optical Society of America B: Optical Physics, 1997, 14, 1788.	2.1	34
32	On timing Jitter in wavelength-division multiplexed soliton systems. Optics Communications, 1998, 150, 305-318.	2.1	34
33	Multi-dimensional pulse propagation in non-resonant Ï‡(2) materials. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 236, 520-524.	2.1	33
34	Analysis of PMD compensators with fixed DGD using importance sampling. IEEE Photonics Technology Letters, 2002, 14, 627-629.	2.5	33
35	Dark-bright soliton solutions with nontrivial polarization interactions for the three-component defocusing nonlinear SchrÃ¶dinger equation with nonzero boundary conditions. Journal of Mathematical Physics, 2015, 56, .	1.1	32
36	Elastic and inelastic line-soliton solutions of the Kadomtsevâ€“Petviashvili II equation. Mathematics and Computers in Simulation, 2007, 74, 237-250.	4.4	31

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37	On the Nonlinear SchrÃ¶dinger Equation on the Half Line with Homogeneous Robin Boundary Conditions. Studies in Applied Mathematics, 2012, 129, 249-271.	2.4	30
38	On the Spectrum of the Dirac Operator and the Existence of Discrete Eigenvalues for the Defocusing Nonlinear SchrÃ¶dinger Equation. Studies in Applied Mathematics, 2014, 132, 138-159.	2.4	29
39	Resonance and web structure in discrete soliton systems: the two-dimensional Toda lattice and its fully discrete and ultra-discrete analogues. Journal of Physics A, 2004, 37, 11819-11839.	1.6	28
40	Solitons and rogue waves in spinor Bose-Einstein condensates. Physical Review E, 2018, 97, 022221.	2.1	28
41	Collision-induced timing shifts in dispersion-managed soliton systems. Optics Letters, 2002, 27, 318.	3.3	26
42	Initial-boundary-value problems for discrete evolution equations: discrete linear SchrÃ¶dinger and integrable discrete nonlinear SchrÃ¶dinger equations. Inverse Problems, 2008, 24, 065011.	2.0	25
43	Solitons, boundary value problems and a nonlinear method of images. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 205207.	2.1	25
44	Auto-modulation versus breathers in the nonlinear stage of modulational instability. Optics Letters, 2018, 43, 5291.	3.3	25
45	Whitham modulation theory for the Kadomtsevâ€“ Petviashvili equation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160695.	2.1	22
46	A Comparative Study of Single-SectionÂ Polarization-Mode Dispersion Compensators. Journal of Lightwave Technology, 2004, 22, 1023-1032.	4.6	21
47	Soliton Interactions of the Kadomtsevâ€“Petviashvili Equation and Generation of Largeâ€Amplitude Water Waves. Studies in Applied Mathematics, 2009, 122, 377-394.	2.4	21
48	Small dispersion limit of the Kortewegâ€“de Vries equation with periodic initial conditions and analytical description of the Zabuskyâ€“Kruskal experiment. Physica D: Nonlinear Phenomena, 2016, 333, 137-147.	2.8	21
49	Riemann problems and dispersive shocks in self-focusing media. Physical Review E, 2018, 98, .	2.1	21
50	Nonlinear chirp of dispersion-managed return-to-zero pulses. Optics Letters, 2001, 26, 1761.	3.3	20
51	Polarization-Mode Dispersion Emulation With Maxwellian Lengths and Importance Sampling. IEEE Photonics Technology Letters, 2004, 16, 789-791.	2.5	20
52	A Method to Compute Statistics of Large, Noise-Induced Perturbations of Nonlinear SchrÃ¶dinger Solitons. SIAM Review, 2008, 50, 523-549.	8.4	20
53	A Method to Compute Statistics of Large, Noise-Induced Perturbations of Nonlinear SchrÃ¶dinger Solitons. SIAM Journal on Applied Mathematics, 2007, 67, 1418-1439.	1.8	16
54	Long-Time Asymptotics for the Focusing Nonlinear SchrÃ¶dinger Equation with Nonzero Boundary Conditions in the Presence of a Discrete Spectrum. Communications in Mathematical Physics, 2021, 382, 1495-1577.	2.2	16

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55	Self-induced thermal effects and modal competition in continuous-wave optical parametric oscillators. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 802.	2.1	15
56	Statistical analysis of the performance of PMD compensators using multiple importance sampling. IEEE Photonics Technology Letters, 2003, 15, 1716-1718.	2.5	15
57	Detailed comparison of numerical methods for the perturbed sine-Gordon equation with impulsive forcing. Journal of Engineering Mathematics, 2014, 87, 167-186.	1.2	15
58	On the degenerate soliton solutions of the focusing nonlinear SchrÃ¶dinger equation. Journal of Mathematical Physics, 2017, 58, 033507.	1.1	15
59	Whitham modulation theory for the two-dimensional Benjamin-Ono equation. Physical Review E, 2017, 96, 032225.	2.1	15
60	Whitham modulation theory for (2â€‰â€‰+â€‰â€‰1)-dimensional equations of Kadomtsevâ€“Petviashvili type. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 215501.	2.1	15
61	Noise-induced perturbations of dispersion-managed solitons. Physical Review A, 2007, 75, .	2.5	14
62	Soliton interactions and degenerate soliton complexes for the focusing nonlinear SchrÃ¶dinger equation with nonzero background. European Physical Journal Plus, 2018, 133, 1.	2.6	14
63	Non-Maxwellian DGD distributions of PMD emulators. , 0, , .		13
64	Localized multi-dimensional optical pulses in non-resonant quadratic materials. Mathematics and Computers in Simulation, 2001, 56, 511-519.	4.4	13
65	Dark-bright soliton pairs: Bifurcations and collisions. Physical Review A, 2018, 97, .	2.5	13
66	Soliton trapping, transmission, and wake in modulationally unstable media. Physical Review E, 2018, 98, .	2.1	13
67	On-demand generation of dark soliton trains in Bose-Einstein condensates. Physical Review A, 2021, 103, .	2.5	13
68	Analysis of polarization-mode dispersion compensators using importance sampling. , 0, , .		11
69	Anisotropic hinge model for polarization-mode dispersion in installed fibers. Optics Letters, 2008, 33, 1924.	3.3	11
70	A comparison between lumped and distributed filter models in wavelength-division multiplexed soliton systems. Optics Communications, 1999, 172, 211-227.	2.1	10
71	The dispersion-managed Ginzburgâ€“Landau equation and its application to femtosecond lasers. Nonlinearity, 2008, 21, 2849-2870.	1.4	10
72	Polarization interactions in multi-component defocusing media. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 395202.	2.1	10

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73	An Introduction to Rare Event Simulation and Importance Sampling. Handbook of Statistics, 2015, 33, 29-68.	0.6	10
74	Inverse scattering transform for the focusing nonlinear SchrÃ¶dinger equation with counterpropagating flows. Studies in Applied Mathematics, 2021, 146, 371-439.	2.4	10
75	Oblique interactions between solitons and mean flows in the Kadomtsevâ€“Petviashvili equation. Nonlinearity, 2021, 34, 3583-3617.	1.4	10
76	Initial-boundary-value problems for discrete linear evolution equations. IMA Journal of Applied Mathematics, 2010, 75, 968-997.	1.6	9
77	Outage Statistics in a Waveplate Hinge Model of Polarization-Mode Dispersion. Journal of Lightwave Technology, 2010, 28, 1958-1968.	4.6	9
78	Gibbs Phenomenon for Dispersive PDEs on the Line. SIAM Journal on Applied Mathematics, 2017, 77, 813-837.	1.8	9
79	Semiline solutions of the Burgers equation with time dependent flux at the origin. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 220, 201-204.	2.1	8
80	On the Evolution and Interaction of Dispersion-Managed Solitons. , 2000, , 75-114.		8
81	Polarization-dependent chromatic dispersion and its impact on return-to-zero transmission formats. IEEE Photonics Technology Letters, 2005, 17, 1866-1868.	2.5	8
82	Phase noise of dispersion-managed solitons. Physical Review A, 2009, 80, .	2.5	8
83	Evolution partial differential equations with discontinuous data. Quarterly of Applied Mathematics, 2018, 77, 689-726.	0.7	8
84	Integrability, exact reductions and special solutions of the KPâ€“Whitham equations. Nonlinearity, 2020, 33, 4114-4132.	1.4	8
85	Four-wave mixing in dispersion-managed return-to-zero systems. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 831.	2.1	7
86	The Ablowitzâ€“Ladik system with linearizable boundary conditions. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 375202.	2.1	7
87	Evolution of truncated and bent gravity wave solitons: the Mach expansion problem. Journal of Fluid Mechanics, 2021, 909, .	3.4	7
88	Theoretical and numerical evidence for the potential realization of the Peregrine soliton in repulsive two-component Bose-Einstein condensates. Physical Review A, 2022, 105, .	2.5	7
89	On the Burgers equation with moving boundary. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 279, 194-206.	2.1	6
90	On the soliton solutions of the two-dimensional Toda lattice. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 434007.	2.1	6

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91	On the generation and propagation of solitary waves in integrable and nonintegrable nonlinear lattices. European Physical Journal Plus, 2020, 135, 1.	2.6	6
92	Interactions of solitary waves in integrable and nonintegrable lattices. Chaos, 2020, 30, 043101.	2.5	6
93	Excitation of switching waves in normally dispersive Kerr cavities. Optics Letters, 2021, 46, 2481.	3.3	6
94	Modulation theory for soliton resonance and Mach reflection. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	2.1	6
95	Reduction of collision-induced timing shifts in dispersion-managed quasi-linear systems with periodic-group-delay dispersion compensation. Optics Letters, 2004, 29, 2354.	3.3	5
96	Noncompliant Capacity Ratio for Systems With an Arbitrary Number of Polarization Hinges. Journal of Lightwave Technology, 2008, 26, 2110-2117.	4.6	5
97	The Ablowitz-Ladik system on the natural numbers with certain linearizable boundary conditions. Applicable Analysis, 2010, 89, 627-644.	1.3	5
98	Importance Sampling for Dispersion-Managed Solitons. SIAM Journal on Applied Dynamical Systems, 2010, 9, 432-461.	1.6	5
99	Hybrid Hinge Model for Polarization-Mode Dispersion in Installed Fiber Transmission Systems. Journal of Lightwave Technology, 2014, 32, 1412-1419.	4.6	5
100	Imaginary eigenvalues of Zakharovâ€“Shabat problems with non-zero background. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 2632-2637.	2.1	5
101	Nonlinear interactions between solitons and dispersive shocks in focusing media. Physical Review E, 2019, 99, 022215.	2.1	5
102	Multiscale expansions avector solitons of a twoâ€dimensional nonlocal nonlinear SchrÃ¶dinger system. Studies in Applied Mathematics, 2020, 145, 739-764.	2.4	5
103	Correction to "Multiple importance sampling for first-and second-order polarization-mode dispersion". IEEE Photonics Technology Letters, 2002, 14, 1487-1487.	2.5	4
104	Novel systems of resonant wave interactions. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 225203.	2.1	4
105	Inverse scattering transform for two-level systems with nonzero background. Journal of Mathematical Physics, 2019, 60, .	1.1	4
106	Discrete and continuous coupled nonlinear integrable systems via the dressing method. Studies in Applied Mathematics, 2019, 142, 139-161.	2.4	4
107	Semiclassical dynamics and coherent soliton condensates in selfâ€focusing nonlinear media with periodic initial conditions. Studies in Applied Mathematics, 2020, 145, 325-356.	2.4	4
108	Solitons and soliton interactions in repulsive spinor Boseâ€“Einstein condensates with nonzero background. European Physical Journal Plus, 2021, 136, 1.	2.6	4

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109	Soliton resonance and web structure in the Daveyâ€“Stewartson system. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 305701.	2.1	4
110	Multiple importance sampling for first- and second-order PMD. , 0, , .		3
111	Importance-sampled pulse broadening statistics before and after PMD compensation. , 0, , .		3
112	Resonant optical pulses on a continuous-wave background in two-level active media. Europhysics Letters, 2018, 121, 20001.	2.0	3
113	On the well-posedness of the Eckhaus equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 230, 319-323.	2.1	2
114	Correction to â€œImportance Sampling for Polarization-Mode Dispersion: Techniques and Applicationsâ€• Journal of Lightwave Technology, 2006, 24, 1065-1065.	4.6	2
115	Statistics of Polarization-Mode Dispersion Emulators with Unequal Sections. SIAM Journal on Applied Mathematics, 2008, 69, 552-564.	1.8	2
116	On the Efficiency of Importance Sampling Techniques for Polarization-Mode Dispersion in Optical Fiber Transmission Systems. SIAM Journal on Applied Mathematics, 2013, 73, 155-174.	1.8	2
117	Recurrence due to periodic multisoliton fission in the defocusing nonlinear SchrÃ¶dinger equation. Physical Review E, 2017, 96, 052213.	2.1	2
118	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math>-star models, mean-field random networks, and the heat hierarchy. Physical Review E, 2022, 105, 014306.	2.1	2
119	On-demand generation of dark-bright soliton trains in Bose-Einstein condensates. Physical Review A, 2022, 105, .	2.5	2
120	Manakov system with parity symmetry on nonzero background and associated boundary value problems. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 254001.	2.1	2
121	Optimization of a PMD compensator with constant differential group delay using importance sampling. , 2001, , .		1
122	Multicanonical Monte Carlo of first- and second-order PMD. , 0, , .		1
123	Applications of importance sampling to PMD. , 0, , .		1
124	IMPORTANCE SAMPLING FOR NOISE-INDUCED AMPLITUDE AND TIMING JITTER IN SOLITON TRANSMISSION SYSTEMS. , 2003, , .		1
125	Applications of importance sampling to polarization mode dispersion. Journal of Optical and Fiber Communications Research, 2004, 1, 14-31.	0.5	1
126	Applications of importance sampling to polarization mode dispersion. , 2004, , 95-112.		1

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127	Resonance and web structure in discrete soliton systems: the two-dimensional Toda lattice and its fully discrete and ultra-discrete analogues. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 029801.	2.1	1
128	Preface: Mark J. Ablowitz, nonlinear waves and integrable systems. Part I. Studies in Applied Mathematics, 2016, 137, 3-9.	2.4	1
129	Linearizable boundary value problems for the nonlinear SchrÃ¶dinger equation in laboratory coordinates. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 494-503.	2.1	1
130	Transverse dynamics of vector solitons in defocusing nonlocal media. European Physical Journal Plus, 2020, 135, 1.	2.6	1
131	Four-wave mixing in strong dispersion-managed wdm soliton systems. , 2000, , .		1
132	Spectral collapse of wavelength-division multiplexed dispersion-managed solitons. , 0, , .		0
133	Four-wave mixing in strong dispersion-managed WDM soliton systems. , 0, , .		0
134	A Method for Calculating Outage Probabilities Due to Polarization-Mode Dispersion Using Importance Sampling. Optics and Photonics News, 2001, 12, 49.	0.5	0
135	Calculations of outage probabilities due to PMD using importance sampling. , 0, , .		0
136	Periodic-Group-Delay Dispersion Compensation Reduces Collision-Induced Timing Shifts in Dispersion-Managed Quasilinear Systems. Theoretical and Mathematical Physics(Russian Federation), 2005, 144, 881-887.	0.9	0
137	Preface: Mark J. Ablowitz, nonlinear waves and integrable systems. Part II. Studies in Applied Mathematics, 2016, 137, 157-158.	2.4	0
138	Spectral collapse of wavelength-division multiplexed dispersion-managed solitons. , 2000, , .		0
139	Quasi-linear optical pulses in strongly dispersion-managed transmission systems. , 2001, , .		0
140	Importance sampling for noise-induced amplitude and timing jitter in soliton transmission systems. , 2002, , .		0
141	Reduction of collision-induced timing jitter via periodic-group-delay dispersion-compensating modules in quasi-linear return-to-zero systems. , 2004, , .		0
142	A waveplate hinge model for PMD in installed fibers. , 2008, , .		0
143	Methods for Simulating Rare Events in Optical Systems. , 2009, , .		0
144	A Hybrid Hinge Model for Polarization Mode Dispersion of Installed Transmission Systems. , 2010, , .		0