

Mikhail Fedoruk

List of Publications by Year in descending order

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48
papers

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citations

623734

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docs citations

48
times ranked

582
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast sixth-order algorithm based on the generalized Cayley transform for the Zakharov-Shabat system associated with nonlinear Schrodinger equation. Journal of Computational Physics, 2022, 448, 110764.	3.8	1
2	Nonlinear Fourier transform for analysis of optical spectral combs. Physical Review E, 2021, 103, L020202.	2.1	11
3	Advanced Convolutional Neural Networks for Nonlinearity Mitigation in Long-Haul WDM Transmission Systems. Journal of Lightwave Technology, 2021, 39, 2397-2406.	4.6	46
4	Numerically Implemented Impact of a Femtosecond Laser Pulse on Glass in the Approximation of Nonlinear Maxwell Equations. Mathematical Models and Computer Simulations, 2020, 12, 77-89.	0.5	3
5	Compensation of Nonlinear Impairments Using Inverse Perturbation Theory With Reduced Complexity. Journal of Lightwave Technology, 2020, 38, 1250-1257.	4.6	24
6	Exponential fourth order schemes for direct Zakharov-Shabat problem. Optics Express, 2020, 28, 20.	3.4	21
7	Finding spatiotemporal light bullets in multicore and multimode fibers. Optics Express, 2020, 28, 7817.	3.4	9
8	Raman dissipative solitons generator near 1.3 μm : limiting factors and further perspectives. Optics Express, 2020, 28, 22179.	3.4	6
9	Conservative multi-exponential scheme for solving the direct Zakharov-Shabat scattering problem. Optics Letters, 2020, 45, 2082.	3.3	8
10	Study of gain efficiency in quasi-distributed amplification systems. Optics Letters, 2020, 45, 499.	3.3	2
11	Statistical properties of nonlinear distortion of a polarization-multiplexed OFDM signal in long-haul fiber links. Optics Letters, 2020, 45, 5550.	3.3	2
12	Hydrodynamic 2D Turbulence and Spatial Beam Condensation in Multimode Optical Fibers. Physical Review Letters, 2019, 122, 103902.	7.8	68
13	Nonlinear Fourier Transform for Analysis of Coherent Structures in Dissipative Systems. Physical Review Letters, 2019, 122, 153901.	7.8	40
14	Methods for compensation of nonlinear effects in multichannel data transfer systems based on dynamic neural networks. Quantum Electronics, 2019, 49, 1154-1157.	1.0	6
15	Numerical algorithm with fourth-order accuracy for the direct Zakharov-Shabat problem. Optics Letters, 2019, 44, 2264.	3.3	10
16	Application of combined optical signal processing methods to compensate for nonlinear effects in fibre-optic communication links. Quantum Electronics, 2018, 48, 1160-1163.	1.0	1
17	Analytical trial functions for modelling a two-dimensional Bose condensate. Quantum Electronics, 2017, 47, 484-490.	1.0	4
18	Simple geometric interpretation of signal evolution in phase-sensitive fibre optic parametric amplifier. Optics Express, 2017, 25, 223.	3.4	4

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19	Spatiotemporal multiplexing based on hexagonal multicore optical fibres. Quantum Electronics, 2017, 47, 1150-1153.	1.0	2
20	Investigation of nonlinear effects in the transmission of a QAM signal in fibre optic communication lines using different carrier pulses. Quantum Electronics, 2017, 47, 1140-1143.	1.0	3
21	Nonlinear Maxwell's and Schrödinger equations for describing the volumetric interaction of femtosecond laser pulses with transparent solid dielectrics: effect of the boundary conditions. Journal of Optical Technology (A Translation of Opticheskii Zhurnal), 2017, 84, 439.	0.4	5
22	Dissipative solitons in fiber lasers. Physics-Uspexhi, 2016, 59, 642-668.	2.2	51
23	Theoretical analysis of saturable absorption in passively mode-locked fiber lasers. Optics Express, 2016, 24, 17486.	3.4	1
24	Compensation for nonlinear effects in an optical orthogonal frequency-division multiplexed signal using adaptive modulation. Quantum Electronics, 2016, 46, 1113-1116.	1.0	1
25	Numerical modelling of multimode fibre-optic communication lines. Quantum Electronics, 2016, 46, 76-80.	1.0	0
26	Nonlinear pulse combining and pulse compression in multi-core fibers. Optics Letters, 2015, 40, 721.	3.3	53
27	Numerical simulation of current experimental 100 Gbit/s DWDM communication lines. Quantum Electronics, 2015, 45, 75-77.	1.0	13
28	Simulation of low-temperature multicomponent plasmas in a target trap. Doklady Physics, 2015, 60, 49-52.	0.7	1
29	Simplified method for numerical modeling of fiber lasers. Optics Express, 2014, 22, 31814.	3.4	2
30	Hybrid gain-flattened and reduced power excursion scheme for distributed Raman amplification. Optics Express, 2013, 21, 29140.	3.4	7
31	Generation dynamics of the narrowband Yb-doped fiber laser. Optics Express, 2013, 21, 8177.	3.4	46
32	Power-controlled phase-matching and instability of CW propagation in multicore optical fibers with a central core. Optics Letters, 2013, 38, 4232.	3.3	26
33	Numerical modeling of fiber lasers with long and ultra-long ring cavity. Optics Express, 2013, 21, 12942.	3.4	44
34	Evolution of dissipative solitons in a fiber laser oscillator in the presence of strong Raman scattering. Optics Express, 2013, 21, 20556.	3.4	81
35	Generation and scaling of highly-chirped dissipative solitons in an Yb-doped fiber laser. Laser Physics Letters, 2012, 9, 662-668.	1.4	26
36	Structures with vertically stacked Ge/Si quantum dots for logical operations. Semiconductors, 2012, 46, 937-942.	0.5	1

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37	Modeling of CW Yb-doped fiber lasers with highly nonlinear cavity dynamics. Optics Express, 2011, 19, 8394.	3.4	88
38	Raman laser based on a fiber with variable mode structure. Laser Physics, 2011, 21, 290-293.	1.2	5
39	Comparative analysis of high-speed fiber-optic lines using amplitude- and phase-modulated signals. Optoelectronics, Instrumentation and Data Processing, 2011, 47, 203-206.	0.6	0
40	Modulation instability at propagation of narrowband 100-ns pulses in optical fibers of various types. Laser Physics, 2010, 20, 334-340.	1.2	9
41	Error statistics in a high-rate communication line with bit-density optimization. Laser Physics, 2010, 20, 379-382.	1.2	0
42	Statistics of errors in a high-bit-rate optical communication link with reduction of the Kerr nonlinearity effect. Optoelectronics, Instrumentation and Data Processing, 2009, 45, 184-187.	0.6	0
43	Mathematical simulation of the femtosecond-laser inscription of optical waveguides. Laser Physics, 2008, 18, 1268-1278.	1.2	3
44	Study of new modulation data-transmission formats for dispersion-controlled high-bit-rate fiberoptic communication lines. Quantum Electronics, 2007, 37, 885-890.	1.0	6
45	Finite-volume algorithm for solving the time-dependent Maxwell equations on unstructured meshes. Computational Mathematics and Mathematical Physics, 2006, 46, 1219-1233.	0.8	8
46	Dual-pump Raman amplification with increased flatness using modulation instability. Optics Express, 2005, 13, 1079.	3.4	30
47	Span Design for Reduced Noise and Nonlinear Impairments in a Dispersion-Managed Raman Amplified System. Optical and Quantum Electronics, 2004, 36, 725-732.	3.3	2
48	Explosion Phenomena in Collisionless Plasmas at Super-Alfvenic Speed. International Journal of Computational Fluid Dynamics, 1998, 10, 117-126.	1.2	7