Igor S Nefedov

List of Publications by Year in descending order

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126 papers	3,035 citations	218381 26 h-index	168136 53 g-index
126 all docs	126 docs citations	126 times ranked	2205 citing authors

#	Article	IF	Citations
1	Strong spatial dispersion in wire media in the very large wavelength limit. Physical Review B, 2003, 67, .	1.1	545
2	Waves and Energy in Chiral Nihility. Journal of Electromagnetic Waves and Applications, 2003, 17, 695-706.	1.0	396
3	Dispersive properties of finite, one-dimensional photonic band gap structures: Applications to nonlinear quadratic interactions. Physical Review E, 1999, 60, 4891-4898.	0.8	293
4	Perfect absorption in graphene multilayers. Journal of Optics (United Kingdom), 2013, 15, 114003.	1.0	120
5	Optimization of radiative heat transfer in hyperbolic metamaterials for thermophotovoltaic applications. Optics Express, 2013, 21, 14988.	1.7	109
6	Photonic band gap structure containing metamaterial with negative permittivity and permeability. Physical Review E, 2002, 66, 036611.	0.8	79
7	Giant radiation heat transfer through micron gaps. Physical Review B, 2011, 84, .	1.1	79
8	Effects of Spatial Dispersion on Reflection From Mushroom-Type Artificial Impedance Surfaces. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 2692-2699.	2.9	77
9	Total absorption in asymmetric hyperbolic media. Scientific Reports, 2013, 3, 2662.	1.6	65
10	Characterization of Surface-Wave and Leaky-Wave Propagation on Wire-Medium Slabs and Mushroom Structures Based on Local and Nonlocal Homogenization Models. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 2700-2714.	2.9	64
11	Electromagnetic mode density for finite quasi-periodic structures. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 1947.	0.9	58
12	Artificial Tellegen Particle. Electromagnetics, 2003, 23, 665-680.	0.3	56
13	On potential applications of metamaterials for the design of broadband phase shifters. Microwave and Optical Technology Letters, 2005, 45, 98-102.	0.9	47
14	Propagating and evanescent modes in two-dimensional wire media. Physical Review E, 2005, 71, 046612.	0.8	44
15	Single walled carbon nanotube quantification method employing the Raman signal intensity. Carbon, 2017, 116, 547-552.	5.4	44
16	Generalized field-transforming metamaterials. New Journal of Physics, 2008, 10, 115028.	1.2	43
17	Wideband perfect absorption in arrays of tilted carbon nanotubes. Physical Review B, 2012, 86, .	1.1	43
18	Electromagnetic waves propagating in a periodic array of parallel metallic carbon nanotubes. Physical Review B, 2010, 82, .	1.1	38

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19	Infrared properties of randomly oriented silver nanowires. Journal of Applied Physics, 2012, 112, .	1.1	37
20	Waveguide containing a backward-wave slab. Radio Science, 2003, 38, n/a-n/a.	0.8	36
21	Ultrabroadband electromagnetically indefinite medium formed by aligned carbon nanotubes. Physical Review B, 2011, 84, .	1.1	36
22	Waves in hyperbolic and double negative metamaterials including rogues and solitons. Nanotechnology, 2017, 28, 444001.	1.3	35
23	Hyperbolic-metamaterial antennas for broadband enhancement of dipole emission to free space. Journal of Applied Physics, 2014, 116, .	1.1	33
24	Electromagnetic response and homogenization of grids of ferromagnetic microwires. Journal of Applied Physics, 2011, 110, .	1.1	31
25	Effective-medium model of wire metamaterials in the problems of radiative heat transfer. Journal of Applied Physics, 2014, 115, 234905.	1.1	28
26	Super-Planckian far-zone thermal emission from asymmetric hyperbolic metamaterials. Applied Physics Letters, 2014, 105, .	1.5	27
27	Electromagnetic wave refraction at an interface of a double wire medium. Physical Review B, 2005, 72, .	1.1	24
28	A TRIPLE WIRE MEDIUM AS AN ISOTROPIC NEGATIVE PERMITTIVITY METAMATERIAL. Progress in Electromagnetics Research, 2006, 65, 233-246.	1.6	24
29	Hyperlens makes thermal emission strongly super-Planckian. Photonics and Nanostructures - Fundamentals and Applications, 2015, 13, 31-41.	1.0	23
30	Thermal Characterization of Carbon Nanotubes by Photothermal Techniques. International Journal of Thermophysics, 2015, 36, 1349-1357.	1.0	23
31	Photoacoustic Characterization of Randomly Oriented Silver Nanowire Films. International Journal of Thermophysics, 2015, 36, 1342-1348.	1.0	22
32	Investigation of Mueller matrices of anisotropic nonhomogeneous layers in application to an optical model of the cornea. Applied Optics, 1997, 36, 164.	2.1	21
33	Photonic jets from Babinetâ€™s cuboid structures in the reflection mode. Optics Letters, 2016, 41, 785.	1.7	21
34	Effective medium model for two-dimensional periodic arrays of carbon nanotubes. Photonics and Nanostructures - Fundamentals and Applications, 2011, 9, 374-380.	1.0	18
35	Enhancing coherent nonlinear-optical processes in nonmagnetic backward-wave materials. Applied Physics A: Materials Science and Processing, 2012, 109, 835-840.	1.1	15
36	GUIDED WAVES IN UNIAXIAL WIRE MEDIUM SLAB. Progress in Electromagnetics Research, 2005, 51, 167-185.	1.6	14

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37	Resistivity and optical transmittance dependence on length and diameter of nanowires in silver nanowire layers in application to transparent conductive coatings. Micro and Nano Letters, 2016, 11, 343-347.	0.6	14
38	Microstrip Slow-Wave Structures on the Bianisotropic Substrate. Electromagnetics, 1997, 17, 343-360.	0.3	13
39	Optically controlled GaAs-GaAlAs photonic band gap structure. Journal of Optics, 2000, 2, 344-347.	1.5	13
40	Evanescent modes stored in cavity resonators with backward-wave slabs. Microwave and Optical Technology Letters, 2003, 38, 153-157.	0.9	13
41	On the effective permittivity of arrays of ferromagnetic wires. Journal of Applied Physics, 2011, 110, 104902.	1.1	12
42	Plasmonic Terahertz Amplification in Graphene-Based Asymmetric Hyperbolic Metamaterial. Photonics, 2015, 2, 594-603.	0.9	12
43	Lateral-drag propulsion forces induced by anisotropy. Scientific Reports, 2017, 7, 6155.	1.6	12
44	New class of solutions of the Korteweg-de Vries-Burgers equation. Applied Mathematics Letters, 2001, 14, 115-121.	1.5	11
45	Reconfigurable Artificial Surfaces Based on Impedance Loaded Wires Close to a Ground Plane. IEEE Transactions on Antennas and Propagation, 2012, 60, 1921-1930.	3.1	11
46	MULTI-MODE BROADBAND POWER TRANSFER THROUGH A WIRE MEDIUM SLAB (INVITED PAPER). Progress in Electromagnetics Research, 2015, 154, 171-180.	1.6	11
47	Conductivity of Carbon Nanotube Layers at Low-Terahertz Frequencies. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 840-845.	2.0	11
48	New 2D graphene hybrid composites as an effective base element of optical nanodevices. Beilstein Journal of Nanotechnology, 2018, 9, 1321-1327.	1.5	11
49	Backward waves in a waveguide, filled with wire media. Microwave and Optical Technology Letters, 2006, 48, 2560-2564.	0.9	10
50	A theory for terahertz lasers based on a graphene hyperbolic metamaterial. Journal of Optics (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.0	10
51	Casimir forces between two carbon nanotubes. Physical Review B, 2021, 104, .	1.1	10
52	Artificial lines with exotic dispersion for phase shifters and delay lines. , 2006, , .		9
53	Two-stage distributed amplifier on field emitter arrays. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1982.	1.6	8
54	Terahertz Oscillator Based on Nonlinear Frequency Conversion in a Double Vertical Cavity. Semiconductors, 2005, 39, 113.	0.2	8

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55	Nonlinear-optical frequency conversion in a dual-wavelength vertical-external-cavity surface-emitting laser. Semiconductors, 2008, 42, 463-469.	0.2	8
56	Increasing the electromagnetic attenuation below a quasi-matched surface with use of passive hyperbolic metamaterials. Photonics and Nanostructures - Fundamentals and Applications, 2013, 11, 182-190.	1.0	8
57	Dielectric Constant Estimation of a Carbon Nanotube Layer on the Dielectric Rod Waveguide at Millimeter Wavelengths. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 3265-3271.	2.9	8
58	Broadband power transfer through a metallic wire medium slab. , 2016, , .		8
59	Plasmonic Coaxial Waveguides with Complex Shapes of Cross-Sections. Materials, 2011, 4, 104-116.	1.3	7
60	Hyperbolic Carbon Nanoforest for Phase Matching of Ordinary and Backward Electromagnetic Waves: Second Harmonic Generation. ACS Photonics, 2017, 4, 1240-1244.	3.2	7
61	Wave propagation in a periodic microstrip line on a multilayered anisotropic substrate. , 1996, 6, 416-418.		6
62	Control of the spectrum of the near-field Bloch waves in a waveguide periodically loaded with thin InSb layers. Journal of Communications Technology and Electronics, 2008, 53, 60-61.	0.2	6
63	Dynamic ultramicroscopy of laser-induced flows in colloidal solutions of plasmon-resonance particles. Quantum Electronics, 2008, 38, 530-535.	0.3	6
64	On the electrodynamics of an absorbing uniaxial nonpositive determined (indefinite) medium. Journal of Experimental and Theoretical Physics, 2012, 114, 568-574.	0.2	6
65	Spatiotemporal dispersion and waveguide properties of 2D-periodic metallic rod photonic crystals. Journal of Experimental and Theoretical Physics, 2014, 118, 673-686.	0.2	6
66	Nonlinear Optics with Backward Waves: Extraordinary Features, Materials and Applications. Solid State Phenomena, 0, 213, 222-225.	0.3	6
67	Distributed microwave amplifier on field emitter arrays with a nonhomogeneous energy collector. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1995, 13, 593.	1.6	5
68	Terahertz oscillator with vertical radiation extraction. Technical Physics, 2004, 49, 592-597.	0.2	5
69	Nonlinear frequency conversion in a double vertical-cavity surface-emitting laser. Semiconductors, 2004, 38, 1350-1355.	0.2	5
70	2D Electron Dynamics in Single Layer â€œGraphene Metamaterialâ€• , 2011, , .		5
71	Application of Wire Media Layers for Coupling Reduction in Antenna Arrays and Microwave Devices. , 2007, , .		4
72	Measurements of the diffusion coefficient of nanoparticles by selective plane illumination microscopy. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2009, 107, 846-852.	0.2	4

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73	Nonlinear Backward-Wave Photonic Metamaterials. Advances in Science and Technology, 2012, 77, 246-252.	0.2	4
74	Nanoemitter of giga- and terahertz ranges based on a carbon peapod: Numerical simulation. JETP Letters, 2014, 99, 349-352.	0.4	4
75	Giga- and terahertz-range nanoemitter based on peapod structure. Nano Research, 2015, 8, 2595-2602.	5.8	4
76	Beam compressed system concept based on dielectric cluster of self-similar three-dimensional dielectric cuboids. , 2016, , .		4
77	Radiative Pulling Forces, Exerted by Evanescent Fields Along a Hyperbolic Metamaterial Slab. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700219.	1.2	4
78	Effective medium approach for subwavelength resolution. Electronics Letters, 2007, 43, 1206.	0.5	3
79	Surface waves in a magnetized ferrite slab filled with a wire medium. EPJ Applied Physics, 2009, 46, 32606.	0.3	3
80	Three-level approach to graphene metamaterials: Electron density waves and linear and nonlinear electrodynamics. , 2013, , .		3
81	Nonlinear-optical up and down frequency-converting backward-wave metasensors and metamirrors. , 2013, , .		3
82	Casimir forces exerted by epsilon-near-zero hyperbolic materials. Scientific Reports, 2020, 10, 16831.	1.6	3
83	Controlling the Electronic Properties of a Nanoporous Carbon Surface by Modifying the Pores with Alkali Metal Atoms. Materials, 2020, 13, 610.	1.3	3
84	VECTOR CIRCUIT THEORY FOR SPATIALLY DISPERSIVE UNIAXIAL MAGNETO-DIELECTRIC SLABS. Progress in Electromagnetics Research, 2006, 63, 279-294.	1.6	3
85	Wire Media - Ferrite Substrate for Patch Antenna Miniaturization. , 2007, , .		2
86	Infrared cloaking based on wire media. , 2008, , .		2
87	Wave propagation characteristics in the cavity with hyperbolic medium. , 2018, , .		2
88	Toward the theory of resonant-tunneling triode and tetrode with CNTâ€“graphene grids. Journal of Applied Physics, 2021, 130, 204301.	1.1	2
89	One-dimensional and two-dimensional microstrip periodic structures on the bianisotropic substrate. International Journal of Applied Electromagnetics and Mechanics, 1998, 9, 211-223.	0.3	1
90	Multielement hypersonic piezotransducers with slowly varying parameters for acoustooptic devices. Technical Physics Letters, 1999, 25, 196-197.	0.2	1

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91	Guided Waves along Lorentz-Resonant Layers. Electromagnetics, 2008, 28, 544-551.	0.3	1
92	Strong field localization in subwavelength metal-dielectric optical waveguides. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2011, 111, 241-247.	0.2	1
93	Asymmetrical hyperbolic media and their potential applications in photovoltaics and photonics. Proceedings of SPIE, 2013, , .	0.8	1
94	Development of the terahertz emitter model based on nanopeapod in terms of biomedical applications. , 2013, , .		1
95	Electrical and Photovoltaic Properties of Layered Composite Films of Covalently Bonded Graphene and Single-Walled Carbon Nanotubes. Coatings, 2020, 10, 324.	1.2	1
96	Numerical simulation of the THz lasing in the cavity with graphene-based hyperbolic medium. , 2019, , .		1
97	Characterization of Silver Nanowire Layers in the Terahertz Frequency Range. Materials, 2021, 14, 7399.	1.3	1
98	<title>Research on cornea anisotropy</title>. , 1995, , .		0
99	<title>Accuracy of polarization-sensitive optical coherence tomography of anisotropic layered biotissues</title>. , 1999, , .		0
100	Photonic crystals: slow-wave structures for optical range. , 1999, , .		0
101	Simulation of pulsed optical logic gates based on photonic band gap structures. AIP Conference Proceedings, 2001, , .	0.3	0
102	<title>Nonlinear gain in one-dimensional quasi-periodic photon band-gap structure with Kerr effect</title>. , 2001, 4242, 59.		0
103	Analysis of gain and loss anisotropy in the guiding structure of a long-wave intervalley-transfer laser. Technical Physics, 2002, 47, 788-791.	0.2	0
104	Analysis of the wave diffraction on a polygon dielectric grating by integral equation method. , 2005, , .		0
105	Microwave devices with enhanced phase-compensation principle. , 2006, , .		0
106	<title>Handling of nanoparticles with light pressure forces</title>. , 2007, 6536, 79.		0
107	<title>Analysis of the wave diffraction on a polygon dielectric grating, placed on a dielectric substrate, by integral equation method</title>. , 2007, , .		0
108	Diffraction on a grating of dielectric cylinders with regular polygonal cross sections on a substrate. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2008, 104, 435-442.	0.2	0

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109	Integral-equation method in the problem of wave diffraction at a grating consisting of parallel dielectric bars with the cross section of a regular polygon. Journal of Optical Technology (A) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T		0
110	Controllable Waveguide Based on Capacitively Loaded Wire Medium. , 2008, , .		0
111	Waves along chains of nanopores in noble metals. , 2008, , .		0
112	Propagation and attenuation of fields in chains of nanopores. , 2008, , .		0
113	Electrodynamics of periodic arrays of carbon nanotubes. , 2009, , .		0
114	Dual-polarized plasmonic nano-cables. , 2009, , .		0
115	Effective medium model for two-dimensional periodic arrays of carbon nanotubes. , 2010, , .		0
116	Optical microscopy for nanoparticles temperature and velocity field visualization. , 2010, , .		0
117	Generation of short contrapropagating pulses of second harmonic on frequency double-domain positive/negative index metamaterials. , 2012, , .		0
118	Optimization of field propagation in optical coaxial nano-waveguides of complicated-form. , 2012, , .		0
119	Space-time dispersion and waveguide properties of 2D periodic metallic rod photonic crystals. , 2014, , .		0
120	Asymmetric hyperbolic metamaterials and their applications for light absorption and amplification. , 2015, , .		0
121	Millimeter wave conductivity of silver nanowire network. , 2016, , .		0
122	Hyperbolic Metamaterial Based on Gold Nanowires for Photonic Density of States Control Towards the Super-Planckian Thermal Emission. , 2018, , .		0
123	Enhancement of circular dichroism in epsilon-near-zero chiral hyperbolic metamaterials. Journal of Optics (United Kingdom), 2020, 22, 015101.	1.0	0
124	Controllable Semiconductor Photonic Band Gap Structures. , 2002, , 143-156.		0
125	Nonlinear waves in hyperbolic metamaterials: focus on solitons and rogues. , 2018, , .		0
126	Subâ€THz Phase Shifters Enabled by Photoconductive Singleâ€Walled Carbon Nanotube Layers. Advanced Photonics Research, 0, , 2200042.	1.7	0