

# Igor S Nefedov

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

97  
papers

2,406  
citations

23  
h-index

47  
g-index

126  
ext. papers

2,803  
ext. citations

2.4  
avg, IF

4.9  
L-index

#	Paper	IF	Citations
97	Toward the theory of resonant-tunneling triode and tetrode with CNT-graphene grids. <i>Journal of Applied Physics</i> , <b>2021</b> , 130, 204301	2.5	0
96	Electrical and Photovoltaic Properties of Layered Composite Films of Covalently Bonded Graphene and Single-Walled Carbon Nanotubes. <i>Coatings</i> , <b>2020</b> , 10, 324	2.9	
95	Enhancement of circular dichroism in epsilon-near-zero chiral hyperbolic metamaterials. <i>Journal of Optics (United Kingdom)</i> , <b>2020</b> , 22, 015101	1.7	
94	Casimir forces exerted by epsilon-near-zero hyperbolic materials. <i>Scientific Reports</i> , <b>2020</b> , 10, 16831	4.9	1
93	A theory for terahertz lasers based on a graphene hyperbolic metamaterial. <i>Journal of Optics (United Kingdom)</i> , <b>2020</b> , 22, 095003	1.7	3
92	Wave propagation characteristics in the cavity with hyperbolic medium <b>2018</b> ,		1
91	New 2D graphene hybrid composites as an effective base element of optical nanodevices. <i>Beilstein Journal of Nanotechnology</i> , <b>2018</b> , 9, 1321-1327	3	5
90	Single walled carbon nanotube quantification method employing the Raman signal intensity. <i>Carbon</i> , <b>2017</b> , 116, 547-552	10.4	34
89	Hyperbolic Carbon Nanoforest for Phase Matching of Ordinary and Backward Electromagnetic Waves: Second Harmonic Generation. <i>ACS Photonics</i> , <b>2017</b> , 4, 1240-1244	6.3	6
88	Waves in hyperbolic and double negative metamaterials including rogues and solitons. <i>Nanotechnology</i> , <b>2017</b> , 28, 444001	3.4	21
87	Radiative Pulling Forces, Exerted by Evanescent Fields Along a Hyperbolic Metamaterial Slab. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2017</b> , 11, 1700219	2.5	4
86	Lateral-drag propulsion forces induced by anisotropy. <i>Scientific Reports</i> , <b>2017</b> , 7, 6155	4.9	8
85	Resistivity and optical transmittance dependence on length and diameter of nanowires in silver nanowire layers in application to transparent conductive coatings. <i>Micro and Nano Letters</i> , <b>2016</b> , 11, 343-347	0.9	9
84	. <i>IEEE Transactions on Terahertz Science and Technology</i> , <b>2016</b> , 6, 840-845	3.4	6
83	Photonic jets from Babinet's cuboid structures in the reflection mode. <i>Optics Letters</i> , <b>2016</b> , 41, 785-7	3	15
82	Beam compressed system concept based on dielectric cluster of self-similar three-dimensional dielectric cuboids <b>2016</b> ,		3
81	Broadband power transfer through a metallic wire medium slab <b>2016</b> ,		3

80	Photoacoustic Characterization of Randomly Oriented Silver Nanowire Films. <i>International Journal of Thermophysics</i> , <b>2015</b> , 36, 1342-1348	2.1	20
79	Thermal Characterization of Carbon Nanotubes by Photothermal Techniques. <i>International Journal of Thermophysics</i> , <b>2015</b> , 36, 1349-1357	2.1	14
78	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , <b>2015</b> , 63, 3265-3271	4.1	7
77	Plasmonic Terahertz Amplification in Graphene-Based Asymmetric Hyperbolic Metamaterial. <i>Photonics</i> , <b>2015</b> , 2, 594-603	2.2	8
76	MULTI-MODE BROADBAND POWER TRANSFER THROUGH A WIRE MEDIUM SLAB (INVITED PAPER). <i>Progress in Electromagnetics Research</i> , <b>2015</b> , 154, 171-180	3.8	5
75	Giga- and terahertz-range nanoemitter based on peapod structure. <i>Nano Research</i> , <b>2015</b> , 8, 2595-2602	10	2
74	Hyperlens makes thermal emission strongly super-Planckian. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2015</b> , 13, 31-41	2.6	19
73	Hyperbolic-metamaterial antennas for broadband enhancement of dipole emission to free space. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 163106	2.5	23
72	Effective-medium model of wire metamaterials in the problems of radiative heat transfer. <i>Journal of Applied Physics</i> , <b>2014</b> , 115, 234905	2.5	27
71	Spatiotemporal dispersion and waveguide properties of 2D-periodic metallic rod photonic crystals. <i>Journal of Experimental and Theoretical Physics</i> , <b>2014</b> , 118, 673-686	1	4
70	Nanoemitter of giga- and terahertz ranges based on a carbon peapod: Numerical simulation. <i>JETP Letters</i> , <b>2014</b> , 99, 349-352	1.2	4
69	Nonlinear Optics with Backward Waves: Extraordinary Features, Materials and Applications. <i>Solid State Phenomena</i> , <b>2014</b> , 213, 222-225	0.4	5
68	Super-Planckian far-zone thermal emission from asymmetric hyperbolic metamaterials. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 161902	3.4	21
67	Three-level approach to graphene metamaterials: Electron density waves and linear and nonlinear electrodynamics <b>2013</b> ,		3
66	Asymmetrical hyperbolic media and their potential applications in photovoltaics and photonics <b>2013</b> ,		1
65	Perfect absorption in graphene multilayers. <i>Journal of Optics (United Kingdom)</i> , <b>2013</b> , 15, 114003	1.7	95
64	Increasing the electromagnetic attenuation below a quasi-matched surface with use of passive hyperbolic metamaterials. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2013</b> , 11, 182-190	2.6	8
63	Total absorption in asymmetric hyperbolic media. <i>Scientific Reports</i> , <b>2013</b> , 3, 2662	4.9	57

62	Optimization of radiative heat transfer in hyperbolic metamaterials for thermophotovoltaic applications. <i>Optics Express</i> , <b>2013</b> , 21, 14988-5013	3.3	93
61	Nonlinear-optical up and down frequency-converting backward-wave metasensors and metamirrors <b>2013</b> ,		2
60	On the electrodynamics of an absorbing uniaxial nonpositive determined (indefinite) medium. <i>Journal of Experimental and Theoretical Physics</i> , <b>2012</b> , 114, 568-574	1	6
59	Reconfigurable Artificial Surfaces Based on Impedance Loaded Wires Close to a Ground Plane. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2012</b> , 60, 1921-1930	4.9	8
58	Wideband perfect absorption in arrays of tilted carbon nanotubes. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	37
57	Enhancing coherent nonlinear-optical processes in nonmagnetic backward-wave materials. <i>Applied Physics A: Materials Science and Processing</i> , <b>2012</b> , 109, 835-840	2.6	12
56	Infrared properties of randomly oriented silver nanowires. <i>Journal of Applied Physics</i> , <b>2012</b> , 112, 083503	2.5	31
55	Nonlinear Backward-Wave Photonic Metamaterials. <i>Advances in Science and Technology</i> , <b>2012</b> , 77, 246-252	2.1	4
54	On the effective permittivity of arrays of ferromagnetic wires. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 104902	2	9
53	Electromagnetic response and homogenization of grids of ferromagnetic microwires. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 064909	2.5	22
52	Effective medium model for two-dimensional periodic arrays of carbon nanotubes. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2011</b> , 9, 374-380	2.6	14
51	Giant radiation heat transfer through micron gaps. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	70
50	Ultrabroadband electromagnetically indefinite medium formed by aligned carbon nanotubes. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	27
49	Strong field localization in subwavelength metal-dielectric optical waveguides. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , <b>2011</b> , 111, 241-247	0.7	1
48	Plasmonic Coaxial Waveguides with Complex Shapes of Cross-Sections. <i>Materials</i> , <b>2010</b> , 4, 104-116	3.5	6
47	Electromagnetic waves propagating in a periodic array of parallel metallic carbon nanotubes. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	32
46	Characterization of Surface-Wave and Leaky-Wave Propagation on Wire-Medium Slabs and Mushroom Structures Based on Local and Nonlocal Homogenization Models. <i>IEEE Transactions on Microwave Theory and Techniques</i> , <b>2009</b> , 57, 2700-2714	4.1	52
45	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , <b>2009</b> , 57, 2692-2699	4.1	58

44	Measurements of the diffusion coefficient of nanoparticles by selective plane illumination microscopy. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , <b>2009</b> , 107, 846-852	0.7	3
43	Surface waves in a magnetized ferrite slab filled with a wire medium. <i>EPJ Applied Physics</i> , <b>2009</b> , 46, 32606.1		2
42	Diffraction on a grating of dielectric cylinders with regular polygonal cross sections on a substrate. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , <b>2008</b> , 104, 435-442	0.7	
41	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. <i>Journal of Optical Technology (A Translation of Opticheskii Zhurnal)</i> , <b>2008</b> , 75, 293	0.9	
40	Guided Waves along Lorentz-Resonant Layers. <i>Electromagnetics</i> , <b>2008</b> , 28, 544-551	0.8	1
39	Infrared cloaking based on wire media <b>2008</b> ,		2
38	Generalized field-transforming metamaterials. <i>New Journal of Physics</i> , <b>2008</b> , 10, 115028	2.9	37
37	Dynamic ultramicroscopy of laser-induced flows in colloidal solutions of plasmon-resonance particles. <i>Quantum Electronics</i> , <b>2008</b> , 38, 530-535	1.8	4
36	Control of the spectrum of the near-field Bloch waves in a waveguide periodically loaded with thin InSb layers. <i>Journal of Communications Technology and Electronics</i> , <b>2008</b> , 53, 60-61	0.5	5
35	Nonlinear-optical frequency conversion in a dual-wavelength vertical-external-cavity surface-emitting laser. <i>Semiconductors</i> , <b>2008</b> , 42, 463-469	0.7	6
34	Wire Media - Ferrite Substrate for Patch Antenna Miniaturization <b>2007</b> ,		2
33	Effective medium approach for subwavelength resolution. <i>Electronics Letters</i> , <b>2007</b> , 43, 1206	1.1	3
32	Handling of nanoparticles with light pressure forces <b>2007</b> , 6536, 79		
31	Application of Wire Media Layers for Coupling Reduction in Antenna Arrays and Microwave Devices <b>2007</b> ,		3
30	Backward waves in a waveguide, filled with wire media. <i>Microwave and Optical Technology Letters</i> , <b>2006</b> , 48, 2560-2564	1.2	8
29	Artificial lines with exotic dispersion for phase shifters and delay lines <b>2006</b> ,		4
28	A TRIPLE WIRE MEDIUM AS AN ISOTROPIC NEGATIVE PERMITTIVITY METAMATERIAL. <i>Progress in Electromagnetics Research</i> , <b>2006</b> , 65, 233-246	3.8	18
27	VECTOR CIRCUIT THEORY FOR SPATIALLY DISPERSIVE UNIAXIAL MAGNETO-DIELECTRIC SLABS. <i>Progress in Electromagnetics Research</i> , <b>2006</b> , 63, 279-294	3.8	3

26	Propagating and evanescent modes in two-dimensional wire media. <i>Physical Review E</i> , <b>2005</b> , 71, 046612	2.4	35
25	Terahertz oscillator based on nonlinear frequency conversion in a double vertical cavity. <i>Semiconductors</i> , <b>2005</b> , 39, 113	0.7	7
24	On potential applications of metamaterials for the design of broadband phase shifters. <i>Microwave and Optical Technology Letters</i> , <b>2005</b> , 45, 98-102	1.2	42
23	GUIDED WAVES IN UNIAXIAL WIRE MEDIUM SLAB. <i>Progress in Electromagnetics Research</i> , <b>2005</b> , 51, 167-185	3.5	14
22	Electromagnetic wave refraction at an interface of a double wire medium. <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	21
21	Terahertz oscillator with vertical radiation extraction. <i>Technical Physics</i> , <b>2004</b> , 49, 592-597	0.5	1
20	Nonlinear frequency conversion in a double vertical-cavity surface-emitting laser. <i>Semiconductors</i> , <b>2004</b> , 38, 1350-1355	0.7	5
19	Artificial Tellegen Particle. <i>Electromagnetics</i> , <b>2003</b> , 23, 665-680	0.8	44
18	Evanescent modes stored in cavity resonators with backward-wave slabs. <i>Microwave and Optical Technology Letters</i> , <b>2003</b> , 38, 153-157	1.2	9
17	Strong spatial dispersion in wire media in the very large wavelength limit. <i>Physical Review B</i> , <b>2003</b> , 67,	3.3	435
16	Waves and Energy in Chiral Nihility. <i>Journal of Electromagnetic Waves and Applications</i> , <b>2003</b> , 17, 695-706	6.3	339
15	Waveguide containing a backward-wave slab. <i>Radio Science</i> , <b>2003</b> , 38, n/a-n/a	1.4	26
14	Analysis of gain and loss anisotropy in the guiding structure of a long-wave intervalley-transfer laser. <i>Technical Physics</i> , <b>2002</b> , 47, 788-791	0.5	
13	Photonic band gap structure containing metamaterial with negative permittivity and permeability. <i>Physical Review E</i> , <b>2002</b> , 66, 036611	2.4	63
12	Controllable Semiconductor Photonic Band Gap Structures <b>2002</b> , 143-156		
11	New class of solutions of the Korteweg-de Vries-Burgers equation. <i>Applied Mathematics Letters</i> , <b>2001</b> , 14, 115-121	3.5	10
10	Optically controlled GaAs-GaAlAs photonic band gap structure. <i>Journal of Optics</i> , <b>2000</b> , 2, 344-347		8
9	Multielement hypersonic piezotransducers with slowly varying parameters for acoustooptic devices. <i>Technical Physics Letters</i> , <b>1999</b> , 25, 196-197	0.7	1

8	Dispersive properties of finite, one-dimensional photonic band gap structures: applications to nonlinear quadratic interactions. <i>Physical Review E</i> , <b>1999</b> , 60, 4891-8	2.4	243
7	Electromagnetic mode density for finite quasi-periodic structures. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>1998</b> , 15, 1947	1.7	48
6	One-dimensional and two-dimensional microstrip periodic structures on the bianisotropic substrate. <i>International Journal of Applied Electromagnetics and Mechanics</i> , <b>1998</b> , 9, 211-223	0.4	0
5	Microstrip Slow-Wave Structures on the Bianisotropic Substrate. <i>Electromagnetics</i> , <b>1997</b> , 17, 343-360	0.8	10
4	Investigation of Mueller matrices of anisotropic nonhomogeneous layers in application to an optical model of the cornea. <i>Applied Optics</i> , <b>1997</b> , 36, 164-9	1.7	8
3	Two-stage distributed amplifier on field emitter arrays. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , <b>1996</b> , 14, 1982		5
2	Wave propagation in a periodic microstrip line on a multilayered anisotropic substrate <b>1996</b> , 6, 416-418		2
1	Distributed microwave amplifier on field emitter arrays with a nonhomogeneous energy collector. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , <b>1995</b> , 13, 593		3