

# I Y Popov

## List of Publications by Year in descending order

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155  
papers

570  
citations

686830

13  
h-index

839053

18  
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157  
all docs

157  
docs citations

157  
times ranked

172  
citing authors

#	ARTICLE	IF	CITATIONS
1	Singular numbers, entangled qubits transmission through a turbulent atmosphere and teleportation. Indian Journal of Physics, 2022, 96, 2501-2505.	0.9	2
2	Bound states for two delta potentials supported on parallel lines on the plane. , 2022, 3, 37-42.		0
3	Hofstadter butterflies for square and honeycomb periodic arrays of quantum dots with Aharonov-Bohm solenoids. , 2022, 168, 207325.		0
4	Model of time-dependent geometric graph for dynamical Casimir effect. Indian Journal of Physics, 2021, 95, 2115-2118.	0.9	1
5	Point-like perturbation of Rashba Hamiltonian. Complex Variables and Elliptic Equations, 2021, 66, 154-164.	0.4	0
6	Modelling of nanobubbles at the liquid-solid interface in water and oil. Meccanica, 2021, 56, 2517-2532.	1.2	0
7	3D Helmholtz resonator with two close point-like windows: Regularisation for Dirichlet case. International Journal of Geometric Methods in Modern Physics, 2021, 18, 2150153.	0.8	0
8	On the electron transmission control by a direction of magnetic field. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, e2918.	1.2	1
9	Band gap structure in one-dimensional photonic crystal containing metamaterial with a single Lorentz contribution. Journal of Optics (India), 2021, 50, 529-534.	0.8	0
10	Scattering, Spectrum and Resonance States Completeness for a Quantum Graph with Rashba Hamiltonian. Operator Theory: Advances and Applications, 2021, , 51-62.	0.2	0
11	Mathematical Model for Axisymmetric Taylor Flows Inside a Drop. Fluids, 2021, 6, 7.	0.8	0
12	Hopf bifurcations in a network of FitzHugh-Nagumo biological neurons. International Journal of Nonlinear Sciences and Numerical Simulation, 2021, .	0.4	0
13	Simulation of switchers for CNOT-gates based on optical waveguide interaction with coupled mode theory. Zhurnal Srednevolzhskogo Matematicheskogo Obshchestva, 2021, 23, 433-443.	0.0	0
14	Point-like perturbation for Lamé operator. Complex Variables and Elliptic Equations, 2020, 65, 256-271.	0.4	0
15	Entanglement transmission through turbulent atmosphere for modes of Gaussian beam. Quantum Information Processing, 2020, 19, 1.	1.0	2
16	Mathematical modeling of enhanced oil recovery by microbiological methods. AIP Conference Proceedings, 2020, , .	0.3	0
17	Flow on the surface of sloped rotating cylinder. Zeitschrift Fur Angewandte Mathematik Und Physik, 2020, 71, 1.	0.7	1
18	Model of cell membrane in ultrasonic field. Chinese Journal of Physics, 2020, 65, 334-340.	2.0	3

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19	A model of a boundary composed of the Helmholtz resonators. Complex Variables and Elliptic Equations, 2020, , 1-8.	0.4	1
20	On the behaviour of the two-dimensional Hamiltonian $-\{m\{\Delta\}}+\lambda [\delta (\vec{x}+\{\vec{x}\}_{0})+\delta (\vec{x}-\{\vec{x}\}_{0})]$ as the distance between the two centres vanishes. Physica Scripta, 2020, 95, 075209.	1.2	4
21	Preface of the "2nd Workshop "Mathematical Methods and Models for Nano-Science". AIP Conference Proceedings, 2020, , .	0.3	0
22	Dynamical Casimir effect and photon generation process in time dependent quantum graph. AIP Conference Proceedings, 2020, , .	0.3	0
23	Numerical analysis of multi-particle states in coupled nano-layers in electric field. AIP Conference Proceedings, 2020, , .	0.3	0
24	Relaxation and driven oscillation of viscous membrane. AIP Conference Proceedings, 2020, , .	0.3	0
25	A model of a quantum waveguide multiplexer. Physics of Complex Systems, 2020, 1, 158-164.	0.2	0
26	Mathematical model of quantum channel for teleportation through atmosphere. AIP Conference Proceedings, 2020, , .	0.3	0
27	On the spectrum and scattering for metric graph with fourth order operator. AIP Conference Proceedings, 2020, , .	0.3	0
28	Incompleteness of resonance states for quantum ring with two semi-infinite edges. Analysis and Mathematical Physics, 2019, 9, 1287-1302.	0.6	1
29	Benchmark solutions for two-component flows in microchannels. AIP Conference Proceedings, 2019, , .	0.3	0
30	Time-dependent metric graph: Wave dynamics. AIP Conference Proceedings, 2019, , .	0.3	1
31	Preface to Symposium 71: Mathematical Methods and Models for Nano-Science. AIP Conference Proceedings, 2019, , .	0.3	0
32	Scattering of elastic waves by point-like obstacle in two-dimensional case. AIP Conference Proceedings, 2019, , .	0.3	0
33	Spectral analysis of the Dirac operator on Y-type chain quantum graph. AIP Conference Proceedings, 2019, , .	0.3	0
34	Analytical solution of Taylor circulation in a prolate ellipsoid droplet in the frame of 2D Stokes equations. Chemical Engineering Science, 2019, 207, 145-152.	1.9	4
35	Model of tunnelling through quantum dot and spin-orbit interaction. Pramana - Journal of Physics, 2019, 92, 1.	0.9	3
36	The effect of Rashba spin-orbit interaction on persistent current in a chain of two Holstein-Hubbard rings. Journal of Physics: Conference Series, 2019, 1400, 077011.	0.3	2

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37	Schrödinger and Dirac dynamics on time-dependent quantum graph. Indian Journal of Physics, 2019, 93, 913-920.	0.9	3
38	Classical and quantum wave dynamics on time-dependent geometric graph. Chinese Journal of Physics, 2018, 56, 747-753.	2.0	0
39	Modeling of vertebral system by the nudged elastic band method. AIP Conference Proceedings, 2018, , .	0.3	0
40	Spectral Properties of Graphene with Periodic Array of Defects in a Magnetic Field. Russian Journal of Mathematical Physics, 2018, 25, 277-283.	0.4	1
41	Analytical benchmark solution for Stokes flow with variable viscosity in spherical layer. Progress in Computational Fluid Dynamics, 2018, 18, 56.	0.1	3
42	Boundary Triplets, Tensor Products and Point Contacts to Reservoirs. Annales Henri Poincare, 2018, 19, 2783-2837.	0.8	3
43	On Quantitative Determination of the Degree of Independence of Qubit Transformation by a Quantum Gate or Channel. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2018, 124, 720-725.	0.2	3
44	Charge pumping in nanotube filled with electrolyte. Chinese Journal of Physics, 2018, 56, 2531-2537.	2.0	3
45	Completeness of resonance states for quantum graph with two semi-infinite edges. Complex Variables and Elliptic Equations, 2018, 63, 996-1010.	0.4	2
46	On the linear sizes of vertebrae and intervertebral discs of children in the beginning of puberty. Journal of Craniovertebral Junction and Spine, 2018, 9, 246.	0.4	0
47	Variational model of scoliosis. Theoretical and Applied Mechanics, 2018, 45, 167-175.	0.1	2
48	Spectral problem for solvable model of bent nano peapod. Applicable Analysis, 2017, 96, 215-224.	0.6	4
49	On the discrete spectrum of the Dirac operator on bent chain quantum graph. ITM Web of Conferences, 2017, 9, 01007.	0.4	1
50	Line with attached segment as a model of Helmholtz resonator: Resonant states completeness. Journal of King Saud University - Science, 2017, 29, 133-136.	1.6	5
51	Resonance state completeness problem for quantum graph. AIP Conference Proceedings, 2017, , .	0.3	1
52	Model of tunnelling through periodic array of quantum dots. ITM Web of Conferences, 2017, 9, 01008.	0.4	0
53	On the spectrum of the Dirac operator for bent periodic chain of spheres connected through 1D wires. , 2017, , .		0
54	Band structure of one-dimensional photonic crystal containing two negative index materials. Journal of Physics: Conference Series, 2016, 769, 012027.	0.3	0

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55	Periodic chain of resonators: gap control and geometry of the system. Journal of Physics: Conference Series, 2016, 735, 012062.	0.3	0
56	Electron spectrum for aligned SWNT array in a magnetic field. Superlattices and Microstructures, 2016, 100, 1276-1282.	1.4	4
57	Bound state for dielectric waveguide with locally perturbed core. , 2016, , .		0
58	Harnack's Inequality for Stokes Graph. Zeitschrift Fur Analysis Und Ihre Anwendung, 2016, 35, 383-396.	0.8	1
59	QUANTUM GRAPH OF SIERPINSKI GASKET TYPE IN ELECTRIC FIELD. Communications of the Korean Mathematical Society, 2016, 31, 263-275.	0.2	0
60	Discrete spectrum for quantum graph with local disturbance of the periodicity. Journal of Physics: Conference Series, 2015, 661, 012024.	0.3	0
61	On the spectrum discreteness of the quantum graph Hamiltonian with $\hat{\Gamma}$ -coupling. Journal of Physics: Conference Series, 2015, 643, 012099.	0.3	0
62	Model of quantum dot and resonant states for the Helmholtz resonator. Journal of Physics: Conference Series, 2015, 643, 012097.	0.3	4
63	Layered system with metamaterials. Journal of Physics: Conference Series, 2015, 661, 012025.	0.3	0
64	On Molchanov's Condition for the Spectrum Discreteness of a Quantum Graph Hamiltonian with $\hat{\Gamma}$ -Coupling. Reports on Mathematical Physics, 2015, 76, 171-178.	0.4	1
65	Spectral properties of multi-layered graphene in a magnetic field. Superlattices and Microstructures, 2015, 86, 68-72.	1.4	4
66	Practical analytical solutions for benchmarking of 2-D and 3-D geodynamic Stokes problems with variable viscosity. Solid Earth, 2014, 5, 461-476.	1.2	37
67	On the existence of point spectrum for branching strips quantum graph. Journal of Mathematical Physics, 2014, 55, 033504.	0.5	12
68	A benchmark solution for 2D Stokes flow over cavity. Zeitschrift Fur Angewandte Mathematik Und Physik, 2014, 65, 339-348.	0.7	2
69	Electron energy spectrum for a bent chain of nanospheres. European Physical Journal B, 2014, 87, 1.	0.6	0
70	Stokes flow driven by a Stokeslet in a cone. Acta Mechanica, 2014, 225, 3115-3121.	1.1	0
71	Numerical approach to the Stokes problem with high contrasts in viscosity. Applied Mathematics and Computation, 2014, 235, 17-25.	1.4	5
72	Real-time estimation and detection of non-linearity in bio-signals using wireless brain-computer interface. International Journal of Bioinformatics Research and Applications, 2014, 10, 190.	0.1	2

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73	DNA-algorithm for timetable problem. International Journal of Bioinformatics Research and Applications, 2014, 10, 145.	0.1	1
74	Chain of point-like potentials in $\mathbb{R}^3$ and infiniteness of the number of bound states. Journal of Physics: Conference Series, 2014, 541, 012092.	0.3	0
75	Bent and branched chains of nanoresonators. Journal of Physics: Conference Series, 2014, 541, 012061.	0.3	0
76	Two-scale model of hydrothermal synthesis of nanotubes. Journal of Physics: Conference Series, 2014, 541, 012013.	0.3	0
77	Algorithm of molecular computing on the base of membranes. Journal of Physics: Conference Series, 2014, 541, 012094.	0.3	0
78	The discrete spectrum of the multiparticle Hamiltonian in the framework of the Hartree-Fock approximation. Journal of Physics: Conference Series, 2014, 541, 012099.	0.3	1
79	Soliton-induced flow in carbon nanotubes. Europhysics Letters, 2013, 101, 66001.	0.7	2
80	Spectral problem for branching chain quantum graph. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 439-442.	0.9	14
81	Model of Point-Like Window for Electromagnetic Helmholtz Resonator. Zeitschrift Fur Analysis Und Ihre Anwendung, 2013, 32, 155-162.	0.8	4
82	A Model of Irregular Impurity at the Surface of Nanoparticle and Catalytic Activity. Communications in Theoretical Physics, 2012, 58, 55-58.	1.1	1
83	Model of tunnelling through periodic array of quantum dots in a magnetic field. Chinese Physics B, 2012, 21, 117306.	0.7	2
84	Localized two-particle states in deformed nanolayers. , 2012, , .		0
85	Model of tunnelling through nanosphere in a magnetic field. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 1598-1601.	1.3	5
86	Operator extensions theory model for electromagnetic field-electron interaction. Journal of Mathematical Physics, 2012, 53, 063505.	0.5	5
87	Liquid flow in nanotubes. Journal of Physics: Conference Series, 2012, 345, 012036.	0.3	0
88	Regular Potential Approximation for $\delta$ -Perturbation Supported by Curve of the Laplace-Beltrami Operator on the Sphere. Zeitschrift Fur Analysis Und Ihre Anwendung, 2012, 31, 125-137.	0.8	1
89	Statistical derivation of modified hydrodynamic equations for nanotube flows. Physica Scripta, 2011, 83, 045601.	1.2	10
90	Multi-qubit teleportation algorithm and teleportation manager. Physics of Particles and Nuclei Letters, 2011, 8, 455-457.	0.1	1

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91	Coupled dielectric waveguides with photonic crystal properties. Computational Mathematics and Mathematical Physics, 2010, 50, 1830-1836.	0.2	5
92	Waveguide modes and adhesion conditions for flow in a nanochannel. Doklady Physics, 2010, 55, 271-273.	0.2	1
93	Soliton in a nanotube wall and stokes flow in the nanotube. Technical Physics Letters, 2010, 36, 852-855.	0.2	5
94	Lower bound on the spectrum of the two-dimensional Schrödinger operator with a $\hat{V}$ -perturbation on a curve. Theoretical and Mathematical Physics(Russian Federation), 2010, 162, 332-340.	0.3	10
95	A remark on Schatten-“von Neumann properties of resolvent differences of generalized Robin Laplacians on bounded domains. Journal of Mathematical Analysis and Applications, 2010, 371, 750-758.	0.5	19
96	Nonlinear optical properties of a medium with M-configuration of atomic levels. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2010, 109, 413-419.	0.2	2
97	Nanocones rolling in hydro-thermal medium and flows in conical domains. Journal of Physics: Conference Series, 2010, 248, 012013.	0.3	2
98	Model of fluid flow in nanotube: classical and quantum features. Journal of Physics: Conference Series, 2010, 248, 012006.	0.3	2
99	Hydrodynamics of nanorolling. Russian Physics Journal, 2009, 52, 1117-1120.	0.2	1
100	Approximation of a point perturbation on a Riemannian manifold. Theoretical and Mathematical Physics(Russian Federation), 2009, 158, 40-47.	0.3	0
101	“Almost quasistationary”-approximation for the problem of solidification front stability. Zeitschrift Fur Angewandte Mathematik Und Physik, 2009, 60, 178-188.	0.7	1
102	Possible implementation of CNOT and CCNOT gates. Physics of Particles and Nuclei Letters, 2009, 6, 589-593.	0.1	0
103	Formation and evolution of nanoscroll ensembles based on layered-structure compounds. Doklady Physics, 2009, 54, 491-493.	0.2	10
104	Two particle scattering on pencil of rays. Journal of Physics: Conference Series, 2008, 129, 012048.	0.3	1
105	Electronic transport in the multilayers with very thin magnetic layers. Physica E: Low-Dimensional Systems and Nanostructures, 2007, 36, 12-16.	1.3	5
106	Dynamics of nanotube twisting in a viscous fluid. Doklady Physics, 2007, 52, 60-62.	0.2	14
107	Vladimir A. Geyler. Russian Journal of Mathematical Physics, 2007, 14, 371-376.	0.4	0
108	Quantum graph of Sierpinski gasket type: Computational experiment. Russian Journal of Mathematical Physics, 2007, 14, 388-396.	0.4	1

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109	Wave scattering in layers with rigid boundaries and lateral coupling through small windows. <i>Acoustical Physics</i> , 2007, 53, 421-425.	0.2	0
110	Simulation of the formation of nanorolls. <i>Glass Physics and Chemistry</i> , 2007, 33, 315-319.	0.2	10
111	Quantum computer elements based on coupled quantum waveguides. <i>Physics of Particles and Nuclei Letters</i> , 2007, 4, 137-140.	0.1	7
112	Electron in a multilayered magnetic structure: resonance asymptotics. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 2006, 146, 361-372.	0.3	4
113	Many particles problems for quantum layers. , 2006, , .		0
114	Violation of Symmetry in the System of Three Laterally Coupled Quantum Waveguides, and Resonance Asymptotics. <i>Journal of Mathematical Sciences</i> , 2005, 128, 2807-2811.	0.1	0
115	Spectral asymptotics for layered magnetic structures. , 2005, , .		0
116	Coupled dielectric waveguides: variational estimations. <i>Journal of Mathematical Physics</i> , 2005, 46, 073501.	0.5	4
117	Three laterally coupled quantum waveguides: breaking of symmetry and resonance asymptotics. <i>Journal of Physics A</i> , 2003, 36, 1655-1670.	1.6	9
118	Laterally coupled waveguides with Neumann boundary condition: formal asymptotic expansions. , 2003, , .		0
119	Asymptotics of bound states and bands for laterally coupled waveguides and layers. <i>Journal of Mathematical Physics</i> , 2002, 43, 215-234.	0.5	26
120	Scattering on a Compact Domain with Few Semi-Infinite Wires Attached: Resonance Case. <i>Mathematische Nachrichten</i> , 2002, 235, 101-128.	0.4	18
121	Quantum waveguides laterally coupled by a periodic system of small windows: Bandgap evaluation. <i>Technical Physics Letters</i> , 2002, 28, 340-342.	0.2	2
122	Title is missing!. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 2002, 131, 791-800.	0.3	3
123	Scattering on a Compact Domain with Few Semi-Infinite Wires Attached: Resonance Case. , 2002, 235, 101.		1
124	Quantum switch based on coupled waveguides. <i>European Physical Journal B</i> , 2001, 21, 283-287.	0.6	4
125	Asymptotics of bound states and bands for laterally coupled three-dimensional waveguides. <i>Reports on Mathematical Physics</i> , 2001, 48, 277-288.	0.4	4
126	Asymptotics of bound states and bands for waveguides coupled through small windows. <i>Applied Mathematics Letters</i> , 2001, 14, 109-113.	1.5	6



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127	Quantum interference rectifier. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2001, 9, 631-634.	1.3	4
128	A quantum loop in magnetic field and a quantum interference rectifier. <i>Technical Physics Letters</i> , 2001, 27, 444-446.	0.2	1
129	The lower-boundary asymptotics of continuous spectrum for quantum layers laterally coupled by a periodic system of small windows. <i>Technical Physics Letters</i> , 2001, 27, 855-856.	0.2	1
130	Fractal spectrum of periodic quantum systems in a magnetic field. <i>Chaos, Solitons and Fractals</i> , 2000, 11, 281-288.	2.5	7
131	Asymptotics of resonances and bound states for laterally coupled curved quantum waveguides. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 269, 148-153.	0.9	15
132	Possible construction of a quantum multiplexer. <i>Europhysics Letters</i> , 2000, 52, 196-202.	0.7	18
133	Operator extension theory models for periodic array of quantum dots and double quantum layer in a magnetic field. <i>Reports on Mathematical Physics</i> , 1996, 38, 349-356.	0.4	0
134	Solvable model for the transmission of sound through a screen with narrow slit in the presence of a low-Mach-number bias flow. <i>Reports on Mathematical Physics</i> , 1996, 37, 419-426.	0.4	1
135	Spectral properties of a charged particle in antidot array: A limiting case of quantum billiard. <i>Journal of Mathematical Physics</i> , 1996, 37, 5171-5194.	0.5	10
136	Ballistic transport in nanostructures: Explicitly solvable models. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1996, 107, 427-434.	0.3	10
137	Eigenvalues and bands imbedded in the continuous spectrum for a system of resonators and a waveguide: solvable model. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 222, 286-290.	0.9	9
138	Hydrotron: Creep and slip. <i>Fluid Dynamics Research</i> , 1996, 18, 199-210.	0.6	10
139	The operator extension theory, semitransparent surface and short range potential. <i>Mathematical Proceedings of the Cambridge Philosophical Society</i> , 1995, 118, 555-563.	0.3	10
140	Indefinite metric and scattering by a domain with a small hole. <i>Mathematical Notes</i> , 1995, 58, 1276-1285.	0.1	1
141	Hydrodynamic stability and perturbation of the Schrödinger operator. <i>Letters in Mathematical Physics</i> , 1995, 35, 155-161.	0.5	0
142	Group-theoretical analysis of lattice Hamiltonians with a magnetic field. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 201, 359-364.	0.9	21
143	Stratified flow in an electric field, the Schrödinger equation, and the operator extension theory model. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1995, 103, 535-542.	0.3	1
144	Periodic array of quantum dots in a magnetic field: Irrational flux; honeycomb lattice. <i>European Physical Journal B</i> , 1995, 98, 473-477.	0.6	13

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145	Dynamic structure formation during high-temperature deformation of polycrystalline oxides. Russian Physics Journal, 1995, 38, 825-830.	0.2	0
146	On operator treatment of a Stokeslet. Siberian Mathematical Journal, 1994, 35, 1022-1026.	0.2	0
147	Resonant tunneling in zero-dimensional systems: Explicitly solvable model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 187, 410-412.	0.9	12
148	The spectrum of a magneto-Bloch electron in a periodic array of quantum dots: Explicitly solvable model. European Physical Journal B, 1994, 93, 437-439.	0.6	16
149	The extension theory and resonances for a quantum waveguide. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 173, 484-488.	0.9	22
150	EXTENSION THEORY AND LOCALIZATION OF RESONANCES FOR DOMAINS OF TRAP TYPE. Sbornik: Mathematics, 1992, 71, 209-234.	0.2	22
151	A model of zero width slits for an orifice in a semitransparent boundary. Siberian Mathematical Journal, 1992, 33, 856-861.	0.2	0
152	Higher moments in a model of zero-width slits. Theoretical and Mathematical Physics(Russian) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462	0.3	4
153	Acoustic model of zero-width slits and hydrodynamic boundary layer stability. Theoretical and Mathematical Physics(Russian Federation), 1991, 86, 269-276.	0.3	7
154	Justification of the model of cracks of zero width for the Dirichlet problem. Siberian Mathematical Journal, 1990, 30, 428-432.	0.2	0
155	Selection of parameters for a model of cracks of zero width. USSR Computational Mathematics and Mathematical Physics, 1987, 27, 99-102.	0.0	0