

Vladislav V Kravchenko

List of Publications by Year in descending order

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127
papers

1,495
citations

361413

20
h-index

434195

31
g-index

132
all docs

132
docs citations

132
times ranked

166
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral parameter power series for Sturm-Liouville problems. <i>Mathematical Methods in the Applied Sciences</i> , 2010, 33, 459-468.	2.3	96
2	Applied Pseudoanalytic Function Theory. <i>Frontiers in Mathematics</i> , 2009, , .	0.3	92
3	A representation for solutions of the Sturm-Liouville equation. <i>Complex Variables and Elliptic Equations</i> , 2008, 53, 775-789.	0.8	69
4	Representation of solutions to the one-dimensional Schrödinger equation in terms of Neumann series of Bessel functions. <i>Applied Mathematics and Computation</i> , 2017, 314, 173-192.	2.2	47
5	Direct and Inverse Sturm-Liouville Problems. <i>Frontiers in Mathematics</i> , 2020, , .	0.3	44
6	On a quaternionic Maxwell equation for the time-dependent electromagnetic field in a chiral medium. <i>Journal of Physics A</i> , 2004, 37, 4641-4647.	1.6	36
7	Eigenvalue problems, spectral parameter power series, and modern applications. <i>Mathematical Methods in the Applied Sciences</i> , 2015, 38, 1945-1969.	2.3	35
8	Transmutations, L-bases and complete families of solutions of the stationary Schrödinger equation in the plane. <i>Journal of Mathematical Analysis and Applications</i> , 2012, 389, 1222-1238.	1.0	33
9	Spectral parameter power series for fourth-order Sturm-Liouville problems. <i>Applied Mathematics and Computation</i> , 2012, 219, 3610-3624.	2.2	32
10	On a method for solving the inverse Sturm-Liouville problem. <i>Journal of Inverse and Ill-Posed Problems</i> , 2019, 27, 401-407.	1.0	32
11	Analytic approximation of transmutation operators and applications to highly accurate solution of spectral problems. <i>Journal of Computational and Applied Mathematics</i> , 2015, 275, 1-26.	2.0	31
12	On a relation of pseudoanalytic function theory to the two-dimensional stationary Schrödinger equation and Taylor series in formal powers for its solutions. <i>Journal of Physics A</i> , 2005, 38, 3947-3964.	1.6	28
13	Spectral parameter power series for perturbed Bessel equations. <i>Applied Mathematics and Computation</i> , 2013, 220, 676-694.	2.2	28
14	Dispersion equation and eigenvalues for quantum wells using spectral parameter power series. <i>Journal of Mathematical Physics</i> , 2011, 52, 043522.	1.1	25
15	A Neumann series of Bessel functions representation for solutions of perturbed Bessel equations. <i>Applicable Analysis</i> , 2018, 97, 677-704.	1.3	25
16	Helmholtz operator with a quaternionic wave number and associated function theory. II. Integral representations. <i>Acta Applicandae Mathematicae</i> , 1993, 32, 243-265.	1.0	24
17	Quaternionic factorization of the Schrödinger operator and its applications to some first-order systems of mathematical physics. <i>Journal of Physics A</i> , 2003, 36, 11285-11297.	1.6	22
18	Quaternionic Reformulation of Maxwell Equations for Inhomogeneous Media and New Solutions. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2002, 21, 21-26.	0.6	21

#	ARTICLE	IF	CITATIONS
19	Transmutations for Darboux transformed operators with applications. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 075201.	2.1	21
20	Wave polynomials, transmutations and Cauchy's problem for the Klein-Gordon equation. Journal of Mathematical Analysis and Applications, 2013, 399, 191-212.	1.0	21
21	Construction of Transmutation Operators and Hyperbolic Pseudoanalytic Functions. Complex Analysis and Operator Theory, 2015, 9, 379-429.	0.6	21
22	New applications of pseudoanalytic function theory to the Dirac equation. Journal of Physics A, 2005, 38, 9207-9219.	1.6	20
23	The transmutation operator method for efficient solution of the inverse Sturm-Liouville problem on a half-line. Mathematical Methods in the Applied Sciences, 2019, 42, 7359-7366.	2.3	20
24	On a method for solving the inverse scattering problem on the line. Mathematical Methods in the Applied Sciences, 2019, 42, 1321-1327.	2.3	20
25	Efficient calculation of the reflectance and transmittance of finite inhomogeneous layers. Journal of Optics, 2009, 11, 065707.	1.5	19
26	Complete Families of Solutions for the Dirac Equation Using Bicomplex Function Theory and Transmutations. Advances in Applied Clifford Algebras, 2012, 22, 577-594.	1.0	19
27	On a Biquaternionic Bag Model. Zeitschrift Fur Analysis Und Ihre Anwendung, 1995, 14, 3-14.	0.6	18
28	On a factorization of second-order elliptic operators and applications. Journal of Physics A, 2006, 39, 12407-12425.	1.6	18
29	Construction and application of Bergman-type reproducing kernels for boundary and eigenvalue problems in the plane. Complex Variables and Elliptic Equations, 2012, 57, 787-824.	0.8	18
30	On the reduction of the multidimensional stationary Schrödinger equation to a first-order equation and its relation to the pseudoanalytic function theory. Journal of Physics A, 2005, 38, 851-868.	1.6	17
31	Dispersion equation and eigenvalues for the Zakharov-Shabat system using spectral parameter power series. Journal of Mathematical Physics, 2011, 52, 063517.	1.1	17
32	Spectral parameter power series analysis of isotropic planarly layered waveguides. Applicable Analysis, 2014, 93, 729-755.	1.3	17
33	A Neumann series of Bessel functions representation for solutions of Sturm-Liouville equations. Calcolo, 2018, 55, 1.	1.1	17
34	Modified spectral parameter power series representations for solutions of Sturm-Liouville equations and their applications. Applied Mathematics and Computation, 2014, 238, 82-105.	2.2	16
35	On a Series Representation for Integral Kernels of Transmutation Operators for Perturbed Bessel Equations. Mathematical Notes, 2018, 104, 530-544.	0.4	16
36	Liouville transformation, analytic approximation of transmutation operators and solution of spectral problems. Applied Mathematics and Computation, 2016, 273, 321-336.	2.2	15

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37	Quaternionic time-harmonic Maxwell operator. <i>Journal of Physics A</i> , 1995, 28, 5017-5031.	1.6	14
38	Analysis of graded-index optical fibers by the spectral parameter power series method. <i>Journal of Optics (United Kingdom)</i> , 2015, 17, 025607.	2.2	14
39	Fundamentals of Bicomplex Pseudoanalytic Function Theory: Cauchy Integral Formulas, Negative Formal Powers and Schrödinger Equations with Complex Coefficients. <i>Complex Analysis and Operator Theory</i> , 2013, 7, 485-518.	0.6	13
40	On the solution of the static Maxwell system in axially symmetric inhomogeneous media. <i>Mathematical Methods in the Applied Sciences</i> , 2010, 33, 439-447.	2.3	12
41	A direct method for solving inverse Sturm-Liouville problems*. <i>Inverse Problems</i> , 2021, 37, 015015.	2.0	12
42	On the Relationship between p-Analytic Functions and the Schrödinger Equation. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2005, 24, 487-496.	0.6	11
43	On explicitly solvable Vekua equations and explicit solution of the stationary Schrödinger equation and of the equation $\text{div}(\hat{f}\hat{\mu})=0$. <i>Complex Variables and Elliptic Equations</i> , 2007, 52, 353-366.	0.8	11
44	On the Klein-Gordon equation and hyperbolic pseudoanalytic function theory. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 065205.	2.1	11
45	Spectral parameter power series for Sturm-Liouville equations with a potential polynomially dependent on the spectral parameter and Zakharov-Shabat systems. <i>Journal of Mathematical Physics</i> , 2015, 56, .	1.1	11
46	A practical method for recovering Sturm-Liouville problems from the Weyl function. <i>Inverse Problems</i> , 2021, 37, 065011.	2.0	11
47	New exact solutions of the massive Dirac equation with electric or scalar potential. <i>Mathematical Methods in the Applied Sciences</i> , 2000, 23, 769-776.	2.3	10
48	On Beltrami fields with nonconstant proportionality factor. <i>Journal of Physics A</i> , 2003, 36, 1515-1522.	1.6	10
49	Analytic Approximation of Solutions of Parabolic Partial Differential Equations with Variable Coefficients. <i>Advances in Mathematical Physics</i> , 2017, 2017, 1-5.	0.8	10
50	Exact solutions of the Dirac equation with harmonic pseudoscalar, scalar or electric potential. <i>Journal of Physics A</i> , 1998, 31, 7561-7575.	1.6	9
51	A finite-sum representation for solutions for the Jacobi operator. <i>Journal of Difference Equations and Applications</i> , 2011, 17, 567-575.	1.1	9
52	Complete systems of recursive integrals and Taylor series for solutions of Sturm-Liouville equations. <i>Mathematical Methods in the Applied Sciences</i> , 2012, 35, 704-715.	2.3	9
53	Solution of parabolic free boundary problems using transmuted heat polynomials. <i>Mathematical Methods in the Applied Sciences</i> , 2019, 42, 5094-5105.	2.3	9
54	A representation for Jost solutions and an efficient method for solving the spectral problem on the half line. <i>Mathematical Methods in the Applied Sciences</i> , 2020, 43, 9304-9319.	2.3	9

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55	Transmutations and Spectral Parameter Power Series in Eigenvalue Problems. , 2013, , 209-238.		9
56	A transmutation operator method for solving the inverse quantum scattering problem [*] . Inverse Problems, 2020, 36, 125007.	2.0	9
57	On a Quaternionic Reformulation of Maxwell's Equations for Chiral Media and its Applications. Zeitschrift Fur Analysis Und Ihre Anwendung, 2003, 22, 569-589.	0.6	9
58	Biquaternionic Integral Representations for Massive Dirac Spinors in a Magnetic Field and Generalized Biquaternionic Differentiability. Mathematical Methods in the Applied Sciences, 1996, 19, 1415-1431.	2.3	8
59	An analogue of the Sommerfeld radiation condition for the Dirac operator. Mathematical Methods in the Applied Sciences, 2002, 25, 1383-1394.	2.3	8
60	Quaternionic Fundamental Solutions for Electromagnetic Scattering Problems and Application. Zeitschrift Fur Analysis Und Ihre Anwendung, 2003, 22, 147-166.	0.6	8
61	On force free magnetic fields. Quaternionic approach. Mathematical Methods in the Applied Sciences, 2005, 28, 379-386.	2.3	8
62	Construction of a transmutation for the one-dimensional Schrödinger operator and a representation for solutions. Applied Mathematics and Computation, 2018, 328, 75-81.	2.2	8
63	Generalized wave polynomials and transmutations related to perturbed Bessel equations. Mathematical Methods in the Applied Sciences, 2019, 42, 5008-5028.	2.3	8
64	A Right Inverse Operator for $\text{curl} + \lambda \text{curl} + \hat{\nu}$ and Applications. Advances in Applied Clifford Algebras, 2019, 29, 1.	1.0	8
65	Quaternionic Integral Representations for Electromagnetic Fields in Chiral Media. Telecommunications and Radio Engineering (English Translation of Elektrosvyaz and Radiotekhnika), 2001, 56, 9.	0.4	8
66	On the Dirac Operator with an Electromagnetic Potential. Zeitschrift Fur Analysis Und Ihre Anwendung, 1998, 17, 549-556.	0.6	7
67	Analytic approximation of transmutation operators and related systems of functions. Boletin De La Sociedad Matematica Mexicana, 2016, 22, 389-429.	0.7	7
68	A representation of the transmutation kernels for the Schrödinger operator in terms of eigenfunctions and applications. Applied Mathematics and Computation, 2019, 353, 274-281.	2.2	7
69	On some Nonlinear Equations Generated by Fueter Type Operators. Zeitschrift Fur Analysis Und Ihre Anwendung, 1994, 13, 599-602.	0.6	7
70	On the Kernel of the Klein-Gordon Operator. Zeitschrift Fur Analysis Und Ihre Anwendung, 1998, 17, 261-265.	0.6	7
71	Conformal mapping of right circular quadrilaterals. Complex Variables and Elliptic Equations, 2011, 56, 399-415.	0.8	6
72	Transmutation operators and a new representation for solutions of perturbed Bessel equations. Mathematical Methods in the Applied Sciences, 2021, 44, 6344-6375.	2.3	6

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73	Solution of boundary and eigenvalue problems for second-order elliptic operators in the plane using pseudoanalytic formal powers. <i>Mathematical Methods in the Applied Sciences</i> , 2011, 34, n/a-n/a.	2.3	5
74	Time-dependent electromagnetic fields in chiral media. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 455213.	2.1	5
75	Modulated electromagnetic fields in inhomogeneous media, hyperbolic pseudoanalytic functions, and transmutations. <i>Journal of Mathematical Physics</i> , 2016, 57, 051503.	1.1	5
76	A Practical Method for Solving the Inverse Quantum Scattering Problem on a Half Line. <i>Journal of Physics: Conference Series</i> , 2020, 1540, 012007.	0.4	5
77	Time-Dependent One-Dimensional Electromagnetic Wave Propagation in Inhomogeneous Media: Exact Solution in Terms of Transmutations and Neumann Series of Bessel Functions. <i>Lobachevskii Journal of Mathematics</i> , 2020, 41, 785-796.	0.9	5
78	Transmutation operators and complete systems of solutions for the radial Schrödinger equation. <i>Mathematical Methods in the Applied Sciences</i> , 2020, 43, 9455-9486.	2.3	5
79	On a transplant operator and explicit construction of Cauchy-type integral representations for p-analytic functions. <i>Journal of Mathematical Analysis and Applications</i> , 2008, 339, 1103-1111.	1.0	4
80	On Bers Generating Functions for First Order Systems of Mathematical Physics. <i>Advances in Applied Clifford Algebras</i> , 2011, 21, 547-559.	1.0	4
81	Spatial pseudoanalytic functions arising from the factorization of linear second order elliptic operators. <i>Mathematical Methods in the Applied Sciences</i> , 2011, 34, 1999-2010.	2.3	4
82	PRICING DOUBLE BARRIER OPTIONS ON HOMOGENEOUS DIFFUSIONS: A NEUMANN SERIES OF BESSEL FUNCTIONS REPRESENTATION. <i>International Journal of Theoretical and Applied Finance</i> , 2019, 22, 1950030.	0.5	4
83	Spectral parameter power series for arbitrary order linear differential equations. <i>Mathematical Methods in the Applied Sciences</i> , 2019, 42, 4902-4908.	2.3	4
84	Some Recent Developments in the Transmutation Operator Approach. <i>Trends in Mathematics</i> , 2020, , 3-9.	0.1	4
85	QUATERNIONIC EQUATION FOR ELECTROMAGNETIC FIELDS IN INHOMOGENEOUS MEDIA. , 2003, , .		4
86	On a new approach for solving Dirac equations with some potentials and Maxwell's system in inhomogeneous media. , 2001, , 278-306.		4
87	On a factorization of the Schrödinger and Klein-Gordon operators. <i>Mathematical Methods in the Applied Sciences</i> , 2008, 31, 1722-1738.	2.3	3
88	On a complex differential Riccati equation. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 085205.	2.1	3
89	Explicit solutions of generalized Cauchy-Riemann systems using the transplant operator. <i>Journal of Mathematical Analysis and Applications</i> , 2010, 370, 242-257.	1.0	3
90	The phase retrieval problem: a spectral parameter power series approach. <i>Journal of Engineering Mathematics</i> , 2014, 85, 179-209.	1.2	3

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91	Asymptotics with respect to the spectral parameter and Neumann series of Bessel functions for solutions of the one-dimensional Schrödinger equation. <i>Journal of Mathematical Physics</i> , 2017, 58, 122107.	1.1	3
92	Complete Systems of Beltrami Fields Using Complex Quaternions and Transmutation Theory. <i>Advances in Applied Clifford Algebras</i> , 2021, 31, 1.	1.0	3
93	Runge property and approximation by complete systems of solutions for strongly elliptic equations. <i>Complex Variables and Elliptic Equations</i> , 2022, 67, 661-682.	0.8	3
94	On Integral Representations and Boundary Properties of Spinor Fields. <i>Mathematical Methods in the Applied Sciences</i> , 1996, 19, 977-989.	2.3	2
95	A New Method for Obtaining Solutions of the Dirac Equation. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2000, 19, 655-676.	0.6	2
96	On Beltrami fields with nonconstant proportionality factor on the plane. <i>Reports on Mathematical Physics</i> , 2008, 61, 29-38.	0.8	2
97	Zakharov's Shabat system and hyperbolic pseudoanalytic function theory. <i>Mathematical Methods in the Applied Sciences</i> , 2010, 33, 448-453.	2.3	2
98	On the two-dimensional stationary Schrödinger equation with a singular potential. <i>Journal of Mathematical Analysis and Applications</i> , 2011, 377, 420-427.	1.0	2
99	Spectral problems in inhomogeneous media, spectral parameter power series and transmutation operators. , 2012, , .		2
100	Electromagnetic fields in dispersive chiral media generated by modulated nonuniformly moving sources. <i>Russian Journal of Mathematical Physics</i> , 2013, 20, 39-55.	1.5	2
101	The Bergman kernel for the Vekua equation. <i>Mathematical Methods in the Applied Sciences</i> , 2020, 43, 9448-9454.	2.3	2
102	Construction and use of reproducing kernels for boundary and eigenvalue problems in the plane using pseudoanalytic function theory. , 2010, , .		1
103	A method for computation of scattering amplitudes and Green functions of whole axis problems. <i>Mathematical Methods in the Applied Sciences</i> , 2019, 42, 5106-5117.	2.3	1
104	A New Approach for Describing Electromagnetic Wave Propagation in Inhomogeneous Media. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2000, 19, 903-912.	0.6	1
105	Quaternionic Diagonalization of Maxwell's Equations. <i>Telecommunications and Radio Engineering (English Translation of Elektrosvyaz and Radiotekhnika)</i> , 2001, 56, 8.	0.4	1
106	Quaternionic approach to electromagnetic. , 2008, , .		0
107	A Representation for Solutions of Sturm-Liouville Equations and its Application for Solving Boundary Value and Spectral Problems. , 2008, , .		0
108	Solution of the static Maxwell system for inhomogeneous media using generalized analytic function theory. , 2008, , .		0

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109	Analysis of local Drude-Born-Fedorov constitutive relations for time-dependent waves in chiral media. , 2010, , .		0
110	Analysis of electromagnetic fields from moving modulated sources in dispersive chiral media applying quaternionic analysis and the two-dimensional stationary phase method. , 2013, , .		0
111	A Neumann Series of Bessel Functions Representation for Solutions of the Radial Dirac System. Springer Proceedings in Mathematics and Statistics, 2021, , 319-331.	0.2	0
112	On Transmutation Operators and Neumann Series of Bessel Functions Representations for Solutions of Linear Higher Order Differential Equations. Springer Proceedings in Mathematics and Statistics, 2019, , 371-385.	0.2	0
113	Solution of the Inverse Problem on the Half-Line. Frontiers in Mathematics, 2020, , 117-123.	0.3	0
114	Direct and Inverse Sturm-Liouville Problems on a Half-Line. Frontiers in Mathematics, 2020, , 19-22.	0.3	0
115	Preliminaries on Sturm-Liouville Equations. Frontiers in Mathematics, 2020, , 7-13.	0.3	0
116	The Inverse Sturm-Liouville Problem on a Finite Interval. Frontiers in Mathematics, 2020, , 101-116.	0.3	0
117	Series Representations for the Kernel $A(x, t)$ and for the Jost Solution. Frontiers in Mathematics, 2020, , 61-74.	0.3	0
118	Solution of the Inverse Quantum Scattering Problem on the Half-Line. Frontiers in Mathematics, 2020, , 125-130.	0.3	0
119	Direct and Inverse Sturm-Liouville Problems on Finite Intervals. Frontiers in Mathematics, 2020, , 15-18.	0.3	0
120	Construction of Transmutations and Series Representations for Solutions. Frontiers in Mathematics, 2020, , 41-60.	0.3	0
121	Spectral Problems on Infinite Intervals. Frontiers in Mathematics, 2020, , 89-98.	0.3	0
122	Quantum Scattering Problem on the Half-Line. Frontiers in Mathematics, 2020, , 23-24.	0.3	0
123	Sturm-Liouville Problems on Finite Intervals. Frontiers in Mathematics, 2020, , 77-87.	0.3	0
124	Main Transmutation Operators. Frontiers in Mathematics, 2020, , 35-40.	0.3	0
125	Inverse Scattering Transform Method. Frontiers in Mathematics, 2020, , 29-31.	0.3	0
126	Solution of the Inverse Scattering Problem on the Line. Frontiers in Mathematics, 2020, , 131-143.	0.3	0

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127	Special issue in honour of Vladimir S. Rabinovich. Complex Variables and Elliptic Equations, 0, , 1-6.	0.8	0