

Dmitrii I Rachinskii

List of Publications by Year in descending order

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125
papers

1,225
citations

430874

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g-index

130
all docs

130
docs citations

130
times ranked

668
citing authors

#	ARTICLE	IF	CITATIONS
1	Excitability in a Quantum Dot Semiconductor Laser with Optical Injection. <i>Physical Review Letters</i> , 2007, 98, 153903.	7.8	165
2	Numerical Study of Dynamical Regimes in a Monolithic Passively Mode-Locked Semiconductor Laser. <i>IEEE Journal of Quantum Electronics</i> , 2009, 45, 462-468.	1.9	48
3	Quantum-Dot Mode-Locked Lasers With Dual-Mode Optical Injection. <i>IEEE Photonics Technology Letters</i> , 2010, 22, 359-361.	2.5	43
4	Hybrid Mode Locking in Semiconductor Lasers: Simulations, Analysis, and Experiments. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013, 19, 1100208-1100208.	2.9	41
5	Timing jitter of passively-mode-locked semiconductor lasers subject to optical feedback: A semi-analytic approach. <i>Physical Review A</i> , 2015, 92, .	2.5	36
6	Optically injected mode-locked laser. <i>Physical Review E</i> , 2011, 83, 066202.	2.1	35
7	Pulse interaction via gain and loss dynamics in passive mode locking. <i>Physica D: Nonlinear Phenomena</i> , 2006, 218, 95-104.	2.8	34
8	Rate-Independent Hysteresis in Terrestrial Hydrology. <i>IEEE Control Systems</i> , 2009, 29, 44-69.	0.8	31
9	A new paradigm for modelling hysteresis in macroeconomic flows. <i>Physica B: Condensed Matter</i> , 2008, 403, 231-236.	2.7	30
10	Dynamical regimes in a monolithic passively mode-locked quantum dot laser. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2010, 27, 2102.	2.1	30
11	Properties of solutions to a class of differential models incorporating Preisach hysteresis operator. <i>Physica D: Nonlinear Phenomena</i> , 2012, 241, 2010-2028.	2.8	27
12	Q-switching instability in a mode-locked semiconductor laser. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2006, 23, 663.	2.1	26
13	Topological degree in analysis of canard-type trajectories in 3-D systems. <i>Applicable Analysis</i> , 2011, 90, 1123-1139.	1.3	23
14	Global dynamics of SIR model with switched transmission rate. <i>Journal of Mathematical Biology</i> , 2020, 80, 1209-1233.	1.9	22
15	Globally asymptotically stable distributed control for distance and bearing based multi-agent formations. , 2016, , .		21
16	Hopf bifurcation in a van der Pol type oscillator with magnetic hysteresis. <i>Physica B: Condensed Matter</i> , 2008, 403, 301-304.	2.7	20
17	Mechanism of Synchronization in Frequency Dividers. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2009, 56, 190-199.	5.4	20
18	Memory Effects in Population Dynamics : Spread of Infectious Disease as a Case Study. <i>Mathematical Modelling of Natural Phenomena</i> , 2012, 7, 204-226.	2.4	20

#	ARTICLE	IF	CITATIONS
19	Effect of dynamical instability on timing jitter in passively mode-locked quantum-dot lasers. Optics Letters, 2014, 39, 6815.	3.3	18
20	On the Hopf Bifurcation in Control Systems with a Bounded Nonlinearity Asymptotically Homogeneous at Infinity. Journal of Differential Equations, 2001, 175, 1-26.	2.2	17
21	Differential Equations with Hysteresis via a Canonical Example. , 2006, , 125-291.		17
22	On a bifurcation governed by hysteresis nonlinearity. Nonlinear Differential Equations and Applications, 2002, 9, 93-115.	0.8	16
23	Analysis of an operator-differential model for magnetostrictive energy harvesting. Communications in Nonlinear Science and Numerical Simulation, 2016, 39, 504-519.	3.3	16
24	Hysteresis Can Grant Fitness in Stochastically Varying Environment. PLoS ONE, 2014, 9, e103241.	2.5	16
25	Asymptotic stability of continuum sets of periodic solutions to systems with hysteresis. Journal of Mathematical Analysis and Applications, 2006, 319, 94-109.	1.0	14
26	Analytical solution for a class of network dynamics with mechanical and financial applications. Physical Review E, 2014, 90, 032822.	2.1	14
27	Stability of large cycles in a nonsmooth problem with Hopf bifurcation at infinity. Nonlinear Analysis: Theory, Methods & Applications, 2000, 42, 1017-1031.	1.1	13
28	Stability results for a soil model with singular hysteretic hydrology. Journal of Physics: Conference Series, 2011, 268, 012016.	0.4	13
29	Chaos in a seasonally perturbed SIR model: avian influenza in a seabird colony as a paradigm. Journal of Mathematical Biology, 2013, 67, 293-327.	1.9	13
30	Bistability and hysteresis in an optically injected two-section semiconductor laser. Physical Review E, 2014, 89, 052903.	2.1	13
31	Distributed formation control under arbitrarily changing topology. , 2017, , .		13
32	Linear stability analysis of systems with Preisach memory. Discrete and Continuous Dynamical Systems - Series B, 2009, 11, 997-1018.	0.9	13
33	Multivalent guiding functions in forced oscillation problems. Nonlinear Analysis: Theory, Methods & Applications, 1996, 26, 631-639.	1.1	12
34	Hopf Bifurcation in Symmetric Networks of Coupled Oscillators with Hysteresis. Journal of Dynamics and Differential Equations, 2012, 24, 713-759.	1.9	12
35	Realization of arbitrary hysteresis by a low-dimensional gradient flow. Discrete and Continuous Dynamical Systems - Series B, 2015, 21, 227-243.	0.9	12
36	Use of Prandtl-Ishlinskii hysteresis operators for Coulomb friction modeling with presliding. Journal of Physics: Conference Series, 2017, 811, 012013.	0.4	11

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37	Dynamics of SIR model with vaccination and heterogeneous behavioral response of individuals modeled by the Preisach operator. <i>Journal of Mathematical Biology</i> , 2021, 83, 11.	1.9	11
38	Adaptive behaviour and multiple equilibrium states in a predator–prey model. <i>Theoretical Population Biology</i> , 2015, 101, 24-30.	1.1	10
39	Distributed Formation Control via Mixed Barycentric Coordinate and Distance-Based Approach. , 2019, , .		10
40	Bifurcation of forced periodic oscillations for equations with Preisach hysteresis. <i>Journal of Physics: Conference Series</i> , 2005, 22, 93-102.	0.4	9
41	Dynamic Hopf bifurcations generated by nonlinear terms. <i>Journal of Differential Equations</i> , 2005, 210, 65-86.	2.2	9
42	Modelling Energy Dissipation Due to Soil-Moisture Hysteresis. <i>Environmental Modeling and Assessment</i> , 2011, 16, 313-333.	2.2	9
43	Bistable regimes in an optically injected mode-locked laser. <i>Optics Express</i> , 2012, 20, 25572.	3.4	9
44	Dynamics of Discrete Time Systems with a Hysteresis Stop Operator. <i>SIAM Journal on Applied Dynamical Systems</i> , 2017, 16, 91-119.	1.6	9
45	A model of hysteresis arising from social interaction within a firm. <i>Journal of Physics: Conference Series</i> , 2017, 811, 012011.	0.4	9
46	Mixed global dynamics of forced vibro-impact oscillator with Coulomb friction. <i>Chaos</i> , 2019, 29, 113116.	2.5	9
47	Distributed control of cyclic formations with local relative position measurements. , 2016, , .		8
48	Convergence of Direct Recursive Algorithm for Identification of Preisach Hysteresis Model with Stochastic Input. <i>SIAM Journal on Applied Mathematics</i> , 2016, 76, 1270-1295.	1.8	8
49	Memory and adaptive behavior in population dynamics: anti-predator behavior as a case study. <i>Journal of Mathematical Biology</i> , 2017, 74, 1533-1559.	1.9	8
50	Asymptotic Stability of Large-amplitude Oscillations in Systems with Hysteresis. <i>Nonlinear Differential Equations and Applications</i> , 1999, 6, 267-288.	0.8	7
51	Delayed Loss of Stability in Systems with Degenerate Linear Parts. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2003, 22, 433-453.	0.6	7
52	The response of the woodpigeon (<i>Columba palumbus</i>) to relaxation of intraspecific competition: A hybrid modelling approach. <i>Ecological Modelling</i> , 2012, 224, 54-64.	2.5	6
53	Switching behaviour of two-phenotype bacteria in varying environment. <i>Journal of Physics: Conference Series</i> , 2015, 585, 012012.	0.4	6
54	The Devil is in the details: Spectrum and eigenvalue distribution of the discrete Preisach memory model. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2019, 77, 1-17.	3.3	6

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55	On uniqueness of an initial-value problem for ODE with hysteresis. <i>Nonlinear Differential Equations and Applications</i> , 1997, 4, 391-399.	0.8	5
56	Small Periodic Solutions Generated by Sublinear Terms. <i>Journal of Differential Equations</i> , 2002, 179, 97-132.	2.2	5
57	On global stability of the scalar Chaboche models. <i>Nonlinear Analysis: Real World Applications</i> , 2005, 6, 67-82.	1.7	5
58	Locking characteristics of a 40-GHz hybrid mode-locked monolithic quantum dot laser. , 2010, , .		5
59	Well-posedness of parabolic equations containing hysteresis with diffusive thresholds. <i>Proceedings of the Steklov Institute of Mathematics</i> , 2013, 283, 87-109.	0.3	5
60	Regular Polygon Formations With Fixed Size and Cyclic Sensing Constraint. <i>IEEE Transactions on Automatic Control</i> , 2019, 64, 5156-5163.	5.7	5
61	Periodic canard trajectories with multiple segments following the unstable part of critical manifold. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2013, 18, 467-482.	0.9	5
62	Kurzweil integral representation of interacting Prandtl-Ishlinskii operators. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2015, 20, 2949-2965.	0.9	5
63	Potential Bounds in Nonpotential Two-Point Boundary - Value Problems. <i>Mathematische Nachrichten</i> , 1997, 188, 203-218.	0.8	4
64	Continua of Cycles of Higher-Order Equations. <i>Differential Equations</i> , 2003, 39, 1690-1702.	0.7	4
65	Differentiability of evolution operators for dynamical systems with hysteresis. <i>Journal of Physics: Conference Series</i> , 2006, 55, 171-190.	0.4	4
66	Noninvasive Stabilization of Periodic Orbits in O4-Symmetrically Coupled Systems Near a Hopf Bifurcation Point. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2017, 27, 1750087.	1.7	4
67	The Kurzweil integral in financial market modeling. <i>Mathematica Bohemica</i> , 2016, 141, 261-286.	0.2	4
68	On Resonant Differential Equations with Unbounded Non-Linearities. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2002, 21, 639-668.	0.6	4
69	On Natural Continua of Periodic Solutions of the Systems with Hysteresis. <i>Automation and Remote Control</i> , 2003, 64, 420-438.	0.8	3
70	On a Nonlocal Condition for Existence of Cycles of Hysteresis Systems. <i>Automation and Remote Control</i> , 2003, 64, 231-251.	0.8	3
71	Distribution of return point memory states for systems with stochastic inputs. <i>Journal of Physics: Conference Series</i> , 2011, 268, 012001.	0.4	3
72	Pattern formation in parabolic equations containing hysteresis with diffusive thresholds. <i>Journal of Mathematical Analysis and Applications</i> , 2015, 424, 1103-1124.	1.0	3

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73	Online identification of piezoelectric hysteresis by direct recursive algorithm of Preisach model. , 2015, , .		3
74	On the rationale for hysteresis in economic decisions. Journal of Physics: Conference Series, 2017, 811, 012012.	0.4	3
75	Competing barnacle species with a time dependent reproduction rate. Theoretical Population Biology, 2020, 131, 12-24.	1.1	3
76	Sliding Hopf bifurcation in interval systems. Discrete and Continuous Dynamical Systems, 2017, 37, 3545-3566.	0.9	3
77	Effect of positive feedback on Devil's staircase input-output relationship. Discrete and Continuous Dynamical Systems - Series S, 2012, 6, 1095-1112.	1.1	3
78	On Canonical States of Continual Systems of Relays Plenary lecture held at the Annual GAMM Conference, Braunschweig, April 4â€“9, 1994, by M. Krasnosel'Skii. MSC (1991): 78A25, 34C15, 73R05, 93A25. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 1995, 75, 515-522.	1.6	2
79	Hopf bifurcations in resonance 2:1. Nonlinear Analysis: Theory, Methods & Applications, 2003, 52, 943-960.	1.1	2
80	On the Number of Unbounded Solution Branches in a Neighborhood of an Asymptotic Bifurcation Point. Functional Analysis and Its Applications, 2005, 39, 194-206.	0.4	2
81	Andronov-Hopf bifurcation in systems with Preisach operator. Doklady Mathematics, 2008, 78, 705-709.	0.6	2
82	Nonlocal branches of cycles, bistability, and topologically persistent mixed mode oscillations. Chaos, 2008, 18, 015109.	2.5	2
83	Attempts at a numerical realisation of stochastic differential equations containing Preisach operator. Journal of Physics: Conference Series, 2011, 268, 012019.	0.4	2
84	Characterization of memory states of the Preisach operator with stochastic inputs. Physica B: Condensed Matter, 2012, 407, 1404-1411.	2.7	2
85	Robust homoclinic orbits in planar systems with Preisach hysteresis operator. Journal of Physics: Conference Series, 2016, 727, 012012.	0.4	2
86	An asymptotic solution to a passive biped walker model. Journal of Physics: Conference Series, 2017, 811, 012018.	0.4	2
87	Discrete-Time Adaptive Hysteresis Filter for Parallel Computing and Recursive Identification of Preisach Model. , 2018, , .		2
88	Patterns of non-radial solutions to coupled semilinear elliptic systems on a disc. Nonlinear Analysis: Theory, Methods & Applications, 2021, 202, 112094.	1.1	2
89	Title is missing!. Mathematische Nachrichten, 2002, 233-234, 171-195.	0.8	2
90	On the existence of a fixed point of the operator acting in the space of continuous functions. Nonlinear Analysis: Theory, Methods & Applications, 1993, 20, 1257-1259.	1.1	1

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91	Potential bounds in problems on quasilinear elliptic equations. <i>Mathematische Nachrichten</i> , 1999, 207, 133-155.	0.8	1
92	Guaranteed Convergence Rate Estimates for a Class of Iterative Procedures: Their Comparison. <i>Automation and Remote Control</i> , 2004, 65, 1635-1640.	0.8	1
93	On Bifurcation of Large-amplitude Stable Cycles for Equations with Hysteresis. <i>Automation and Remote Control</i> , 2004, 65, 1915-1937.	0.8	1
94	Remark on the Hopf Bifurcation Theorem. <i>Mathematische Nachrichten</i> , 2004, 272, 95-103.	0.8	1
95	Algorithm for linear stability analysis in systems with Preisach hysteresis. <i>Physica B: Condensed Matter</i> , 2008, 403, 305-307.	2.7	1
96	On disconnected unbounded sets of forced oscillations. <i>Doklady Mathematics</i> , 2008, 78, 660-664.	0.6	1
97	Single and dual-mode injection locked quantum-dot mode-locked lasers. , 2009, , .		1
98	Dynamics of couple mode-locked quantum dot semiconductor laser. , 2011, , .		1
99	Equivariant degree method for analysis of Hopf bifurcation of relative periodic solutions: Case study of a ring of oscillators. <i>Journal of Differential Equations</i> , 2018, 265, 4530-4574.	2.2	1
100	Chaos in Saw Map. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2019, 29, 1930005.	1.7	1
101	Dynamics of Systems with a Discontinuous Hysteresis Operator and Interval Translation Maps. <i>Axioms</i> , 2021, 10, 80.	1.9	1
102	Arnold tongues for bifurcation from infinity. <i>Discrete and Continuous Dynamical Systems - Series S</i> , 2008, 1, 107-116.	1.1	1
103	The global stability of a class of history-dependent macroeconomic models. <i>Mathematical Modelling of Natural Phenomena</i> , 2020, 15, 49.	2.4	1
104	A deterministic model for non-monotone relationship between translation of upstream and downstream open reading frames. <i>Mathematical Medicine and Biology</i> , 2021, 38, 490-515.	1.2	1
105	Method of Potential Bounds in Periodic Problems for Control Systems. <i>Mathematische Nachrichten</i> , 2001, 225, 93-121.	0.8	0
106	Delay differential equations for passive mode locking. , 0, , .		0
107	Subharmonic bifurcation from infinity. <i>Journal of Differential Equations</i> , 2006, 226, 30-53.	2.2	0
108	Arnold tongues in the problem of large-amplitude periodic trajectories. <i>Doklady Mathematics</i> , 2006, 74, 821-826.	0.6	0

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109	Global stability of the Armstrong-Frederick model with periodic biaxial inputs. <i>Nonlinear Differential Equations and Applications</i> , 2006, 13, 385-411.	0.8	0
110	Instabilities in quantum dot semiconductor lasers at 1.3 μm . , 2007, , .		0
111	Criteria of resonance origin in a single-circuit control system with saturation. <i>Automation and Remote Control</i> , 2008, 69, 1297-1310.	0.8	0
112	International Workshop on Multi-Rate Processes and Hysteresis. <i>Journal of Physics: Conference Series</i> , 2008, 138, 011001.	0.4	0
113	Linewidth narrowing and phase locking of quantum-dot mode-locked lasers employing single- and dual-mode injection locking. , 2009, , .		0
114	On the equivariant Hopf bifurcation in hysteretic networks of van der Pol oscillators. <i>Journal of Physics: Conference Series</i> , 2011, 268, 012002.	0.4	0
115	Cascading effects in the moving Preisach model. , 2013, , .		0
116	Theoretical analysis of timing jitter in two-section passively mode-locked semiconductor lasers. , 2013, , .		0
117	A preliminary threshold model of parasitism in the Cockle <i>Cerastoderma edule</i> using delayed exchange of stability. <i>Journal of Physics: Conference Series</i> , 2015, 585, 012013.	0.4	0
118	6th International Workshop on Multi-Rate Processes and Hysteresis (MURPHYS2012). <i>Journal of Physics: Conference Series</i> , 2015, 585, 011001.	0.4	0
119	Asymptotics of sign-changing patterns in hysteretic systems with diffusive thresholds. <i>Asymptotic Analysis</i> , 2015, 96, 1-22.	0.5	0
120	Topological properties of strongly monotone planar vector fields. <i>Mathematische Nachrichten</i> , 2019, 292, 2108-2128.	0.8	0
121	Periodic pulsating dynamics of slow-fast delayed systems with a period close to the delay. <i>European Journal of Applied Mathematics</i> , 2019, 30, 39-62.	2.9	0
122	Guaranteed Estimates for the Length of Branches of Periodic Orbits for Equivariant Hopf Bifurcation. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2020, 30, 2050198.	1.7	0
123	Restrictions to the use of time-delayed feedback control in symmetric settings. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2018, 23, 543-556.	0.9	0
124	Real Options Problem with Nonsmooth Obstacle. <i>SIAM Journal on Financial Mathematics</i> , 2021, 12, 1508-1552.	1.3	0
125	Dynamics of SIR model with heterogeneous response to intervention policy. <i>Theoretical Population Biology</i> , 2022, , .	1.1	0