

# Vladimir M Volgin

## List of Publications by Year in descending order

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65  
papers

723  
citations

623188

14  
h-index

642321

23  
g-index

67  
all docs

67  
docs citations

67  
times ranked

486  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochemical machining of metals: Fundamentals of electrochemical shaping. Russian Journal of Electrochemistry, 2004, 40, 1230-1265.	0.3	75
2	Ionic transport through ion-exchange and bipolar membranes. Journal of Membrane Science, 2005, 259, 110-121.	4.1	69
3	Template electrodeposition of metals. Review. Russian Journal of Electrochemistry, 2016, 52, 806-831.	0.3	45
4	Simple model of mass transfer in template synthesis of metal ordered nanowire arrays. Electrochimica Acta, 2013, 96, 1-7.	2.6	36
5	Natural-convective instability of electrochemical systems: A review. Russian Journal of Electrochemistry, 2006, 42, 567-608.	0.3	35
6	Electrochemical machining of titanium. Review. Russian Journal of Electrochemistry, 2017, 53, 941-965.	0.3	29
7	Modeling and numerical simulation of electrochemical micromachining. Chemical Engineering Science, 2016, 140, 252-260.	1.9	24
8	Simulation of inhomogeneous pores filling in template electrodeposition of ordered metal nanowire arrays. Electrochimica Acta, 2013, 112, 279-286.	2.6	22
9	Simulation of ion transfer under conditions of natural convection by the finite difference method. Journal of Electroanalytical Chemistry, 2003, 546, 15-22.	1.9	20
10	Modeling of Wire Electrochemical Micromachining. Procedia CIRP, 2015, 37, 176-181.	1.0	20
11	Numerical simulation of steady-state ion transfer to rotating disk electrode: Accuracy and computational efficiency. Journal of Electroanalytical Chemistry, 2007, 600, 171-179.	1.9	18
12	Mass-transfer problems in the electrochemical systems. Russian Journal of Electrochemistry, 2012, 48, 565-569.	0.3	18
13	Modeling of metal electrodeposition in the pores of anodic aluminum oxide. Russian Journal of Electrochemistry, 2015, 51, 799-806.	0.3	16
14	Calculation of limiting current density of metal electrodeposition on vertical plane electrode under conditions of natural convection. Electrochimica Acta, 2004, 49, 365-372.	2.6	15
15	Title is missing!. Russian Journal of Electrochemistry, 2001, 37, 1197-1205.	0.3	13
16	Effect of migration on homogeneous redox electrocatalysis at rotating disk electrode. Electrochimica Acta, 2018, 259, 56-65.	2.6	13
17	Electrochemical Local Maskless Micro/Nanoscale Deposition, Dissolution, and Oxidation of Metals and Semiconductors (A Review). Russian Journal of Electrochemistry, 2020, 56, 52-81.	0.3	13
18	Modeling of multistage electrochemical shaping. Journal of Materials Processing Technology, 2004, 149, 466-471.	3.1	12

#	ARTICLE	IF	CITATIONS
19	Mass transfer during metal electrodeposition into the pores of anodic aluminum oxide from a binary electrolyte under the potentiostatic and galvanostatic conditions. <i>Electrochimica Acta</i> , 2016, 207, 247-256.	2.6	12
20	Finite difference method of simulation of non-steady-state ion transfer in electrochemical systems with allowance for migration. <i>Computational Biology and Chemistry</i> , 2003, 27, 185-196.	1.1	11
21	Modeling of through-mask electrochemical micromachining. <i>Journal of Applied Electrochemistry</i> , 2015, 45, 679-688.	1.5	11
22	Modeling of local maskless electrochemical deposition of metal microcolumns. <i>Chemical Engineering Science</i> , 2018, 183, 123-135.	1.9	11
23	Numerical simulation of natural convection of electrolyte solution with three types of ions in the electrochemical cell with vertical electrodes. <i>Russian Journal of Electrochemistry</i> , 2010, 46, 1360-1372.	0.3	10
24	Effect of Current Efficiency on Electrochemical Micromachining by Moving Electrode. <i>Procedia CIRP</i> , 2016, 55, 65-70.	1.0	10
25	Theoretical analysis of micro/nano electrochemical machining with ultra-short voltage pulses. <i>Electrochimica Acta</i> , 2021, 369, 137666.	2.6	10
26	Mathematical modelling of three-dimensional electrochemical forming of complicated surfaces. <i>Journal of Materials Processing Technology</i> , 2001, 109, 314-319.	3.1	9
27	Title is missing!. <i>Russian Journal of Electrochemistry</i> , 2002, 38, 1059-1067.	0.3	9
28	Microelectrochemical Machining at the Ultrasmall Interelectrode Gaps with the Use of the Packets of Nanosecond Voltage Pulses. <i>Procedia CIRP</i> , 2016, 42, 831-836.	1.0	9
29	Halate electroreduction from acidic solution at rotating disk electrode: Theoretical study of the steady-state convective-migration-diffusion transport for comparable concentrations of halate ions and protons. <i>Electrochimica Acta</i> , 2022, 409, 139961.	2.6	9
30	Adsorption isotherm for a solid electrode: The link between the differential surface tension and capacitance curves. <i>Russian Journal of Electrochemistry</i> , 2005, 41, 17-31.	0.3	8
31	Effect of Anode Shape on Uniformity of Electrodeposition onto Resistive Substrates. <i>Electrochimica Acta</i> , 2017, 230, 382-390.	2.6	8
32	Calculation of effective diffusion coefficient in a colloidal crystal by the finite-element method. <i>Russian Journal of Electrochemistry</i> , 2012, 48, 817-834.	0.3	7
33	Investigation of plastic electrode tools for electrochemical machining of silicon. <i>Precision Engineering</i> , 2017, 47, 546-556.	1.8	7
34	Onset of natural convection of electrolyte on horizontal electrode under non-steady-state mass-transfer conditions. <i>International Journal of Heat and Mass Transfer</i> , 2007, 50, 2124-2131.	2.5	6
35	Theoretical analysis of mass transfer during anodic dissolution of tungsten rotating disk electrode in alkaline solutions. <i>Electrochimica Acta</i> , 2020, 336, 135705.	2.6	6
36	Determination of Mass Coefficients of Ions in a Quantitative Analysis of the Effect of Natural Convection on Electrochemical Processes. <i>Russian Journal of Electrochemistry</i> , 2005, 41, 1197-1204.	0.3	5

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37	Linear stability of Rayleigh-Benard-Poiseuille convection for electrochemical system. International Journal of Heat and Mass Transfer, 2008, 51, 4886-4891.	2.5	5
38	The limiting current density of copper electrodeposition on vertical electrode under the conditions of electrolyte natural convection. Russian Journal of Electrochemistry, 2008, 44, 459-469.	0.3	5
39	Onset of natural convection in the electrochemical cell with horizontal electrodes under non-steady-state conditions: A numerical study. Russian Journal of Electrochemistry, 2009, 45, 1005-1016.	0.3	5
40	Simulation of Localized Electrodeposition of Microwires and Microtubes. Procedia CIRP, 2018, 68, 242-247.	1.0	5
41	Formation of the Workpiece Shape and Surface Finish During Electrical Discharge Machining. Procedia CIRP, 2018, 68, 319-324.	1.0	5
42	Title is missing!. Russian Journal of Electrochemistry, 2003, 39, 335-349.	0.3	4
43	Monotonic and oscillatory free-convective instability of solution in the space between two plane horizontal electrodes: Solutions containing three types of ions. Journal of Electroanalytical Chemistry, 2006, 586, 308-315.	1.9	4
44	Modeling of Electrochemical Machining Through a Monolayer Colloidal Crystal Mask for Metal Surfaces Nanostructuring. Procedia CIRP, 2016, 42, 350-355.	1.0	4
45	The Discharge Channel Formation and the Mechanism of Material Removal During Electrical Discharge Micromachining by Nanosecond Pulses. Procedia CIRP, 2018, 68, 325-329.	1.0	4
46	Effect of Uniform Magnetic Field on the Stability of the Rayleigh-Benard Convection in a Binary Electrolyte: A Theoretical Analysis. Russian Journal of Electrochemistry, 2005, 41, 925-932.	0.3	3
47	Modeling of Formation of Nanostructured Metal Surfaces by Electrodeposition through a Monolayer Colloidal Crystal Mask. Procedia CIRP, 2015, 37, 89-94.	1.0	3
48	Justification in Selection of Voltage Pulse Durations at the Electrochemical Dimensional Micromachining with Nano- and Microsecond Pulses. Surface Engineering and Applied Electrochemistry, 2020, 56, 547-552.	0.3	3
49	Effect of Tool-electrode Shape on Uniformity of Electrochemical Deposition and Dissolution on Resistive Workpieces. Procedia CIRP, 2016, 55, 71-76.	1.0	2
50	Pseudotransient method for modeling of electrochemical machining. Russian Journal of Electrochemistry, 2017, 53, 1109-1121.	0.3	2
51	Effect of Complex Formation on Mass Transfer during Metal Electrodeposition on Rotating Disk Electrode. Russian Journal of Electrochemistry, 2020, 56, 785-794.	0.3	2
52	Non-Steady-State Processes Under Conditions of Natural Convection in an Electrochemical Cell with Horizontal Electrodes: The Critical Time of the Onset of a Convective Instability at Large Rayleigh Numbers. Russian Journal of Electrochemistry, 2004, 40, 558-562.	0.3	1
53	Mass transfer in the rotating electrochemical cell with vertical cylindrical electrodes: the effect of rotational rate and cell geometry on the limiting current density. Russian Journal of Electrochemistry, 2010, 46, 1021-1035.	0.3	1
54	Linear analysis of the free-convective stability of a binary electrolyte solution in an electrochemical cell with horizontal electrodes. Journal of Engineering Physics and Thermophysics, 2010, 83, 950-966.	0.2	1

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55	The Scanning Dimensional Microelectrochemical Machining with the Ultra-small Interelectrode Gap. <i>Procedia CIRP</i> , 2016, 55, 89-94.	1.0	1
56	Design and Investigation of Nanosecond Pulse Generator for Electrical Discharge Micromachining. <i>Surface Engineering and Applied Electrochemistry</i> , 2018, 54, 631-636.	0.3	1
57	Modeling of mass transfer during anodic dissolution of vertical wire tungsten electrode in alkaline solutions. <i>Journal of Electroanalytical Chemistry</i> , 2019, 848, 113274.	1.9	1
58	Electrical Discharge Micromachining in Strong Electric Fields Using Voltage Nanopulses and Streamer Formation of Breakdown Paths. <i>Surface Engineering and Applied Electrochemistry</i> , 2019, 55, 531-535.	0.3	1
59	Vibrational convective instability of a binary electrolyte layer between plane horizontal electrodes. <i>Physics of Fluids</i> , 2013, 25, 054105.	1.6	0
60	Regular Microreliefs on Tool Cutting Wedges Surfaces and Electro-Physical and Chemical Methods of Their Production. <i>Procedia Engineering</i> , 2017, 206, 1075-1080.	1.2	0
61	Simulation of ionic transport in concentrated solutions using bi-velocity method. <i>Journal of Electroanalytical Chemistry</i> , 2018, 824, 181-187.	1.9	0
62	Theoretical Investigation of Current Pulses Parameters in Electrochemical Machining with Micro - and Nanoparameters. , 2019, , .		0
63	Effect of complex formation on the mass transfer during anodic dissolution of rotating disk electrode. <i>Electrochimica Acta</i> , 2021, 395, 139182.	2.6	0
64	Simulation of Electrical Discharge Machining of Micro-holes. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 381-390.	0.3	0
65	Investigation of Kinematicâ€œGeometric Characteristics of Electrochemical Machining. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 391-398.	0.3	0