Nikolay M Zubarev

List of Publications by Year
in descending order

132	1,157	331259	476904
papers	citations	21	29
		h-index	g-index

132	132	132	277
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Formation of the Taylor cone on the surface of liquid metal in the presence of an electric field. Journal Physics D: Applied Physics, 2004, 37, 289-297.	1.3	54
2	How short is the runaway electron flow in an air electrode gap?. Applied Physics Letters, 2020, 116, .	1.5	47
3	Model of liquid-metal splashing in the cathode spot of a vacuum arc discharge. Journal of Experimental and Theoretical Physics, 2016, 122, 776-786.	0.2	42
4	The Rayleighâ€“Plateau instability and jet formation during the extrusion of liquid metal from craters in a vacuum arc cathode spot. Journal of Applied Physics, 2015, 117, .	1.1	41
5	Experimental and theoretical investigations of the conditions for the generation of runaway electrons in a gas diode with a strongly nonuniform electric field. Journal Physics D: Applied Physics, 2018, 51, 284003.	1.3	40
6	Formation of conic cusps at the surface of liquid metal in electric field. JETP Letters, 2001, 73, 544-548.	0.4	39
7	Formation of root singularities on the free surface of a conducting fluid in an electric field. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 243, 128-131.	0.9	32
8	Nonlinear waves on the surface of a dielectric liquid in a strong tangential electric field. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 333, 284-288.	0.9	30
9	Hydrodynamics of the molten metal in a vacuum arc cathode spot at near-threshold currents. Journal of Applied Physics, 2013, 113, .	1.1	30
10	Mechanism of Runaway Electron Generation at Gas Pressures from a Few Atmospheres to Several Tens of Atmospheres. Plasma Physics Reports, 2018, 44, 445-452.	0.3	30
11	Conditions for runaway electrons in a gas diode with a strongly nonuniform electric field. JETP Letters, 2017, 105, 537-541.	0.4	29
12	Mechanism and dynamics of picosecond radial breakdown of a gas-filled coaxial line. Plasma Sources Science and Technology, 2020, 29, 125008.	1.3	29
13	Exact Local Solutions for the Formation of Singularities on the Free Surface of an Ideal Fluid. JETP Letters, 2018, 107, 412-417.	0.4	28
14	Singularity formation on a fluid interface during the Kelvin-Helmholtz instability development. Journal of Experimental and Theoretical Physics, 2014, 119, 169-178.	0.2	27
15	Formation of singularities on the surface of a liquid metal in a strong electric field. Journal of Experimental and Theoretical Physics, 1998, 87, 1110-1115.	0.2	26
16	The mechanism of liquid metal jet formation in the cathode spot of vacuum arc discharge. Technical Physics Letters, 2016, 42, 852-855.	0.2	26
17	Nonlinear dynamics of the interface of dielectric liquids in a strong electric field: Reduced equations of motion. Physics of Fluids, 2006, 18, 028103.	1.6	25
18	Exact solution for the steady-state surface profile of a liquid metal in an external electric field. Technical Physics Letters, 1999, 25, 920-921.	0.2	24

#	Article	IF	Citations
19	Nonlinear waves on the surface of a dielectric liquid in a horizontal electric field in 3D geometry: Exact solutions. JETP Letters, 2009, 89, 271-274.	0.4	23
20	Exact solutions for equilibrium configurations of charged conducting liquid jets. Physical Review E, 2005, 71, 016307.	0.8	22
21	Exact solutions of the equations of motion of liquid helium with a charged free surface. Journal of Experimental and Theoretical Physics, 2002, 94, 534-544.	0.2	21
22	Formation of curvature singularities on the interface between dielectric liquids in a strong vertical electric field. Physical Review E, 2013, 88, 023014.	0.8	20
23	Exact Solutions for Nonlinear Development of a Kelvin-Helmholtz Instability for the Counterflow of Superfluid and Normal Components of Helium II. Physical Review Letters, 2018, 120, 204504.	2.9	20
24	Charged-surface instability development in liquid helium: An exact solution. JETP Letters, 2000, 71, 367-369.	0.4	18
25	Nondispersive propagation of waves with finite amplitudes on the surface of a dielectric liquid in a tangential electric field. Technical Physics Letters, 2006, 32, 886-888.	0.2	16
26	Dynamics of the free surface of a conducting liquid in a near-critical electric field. Technical Physics, 2001, 46, 806-814.	0.2	15
27	Equilibrium configurations of uncharged conducting liquid jets in a transverse electric field. Physica A: Statistical Mechanics and Its Applications, 2007, 385, 35-45.	1.2	15
28	Interaction of strongly nonlinear waves on the free surface of a dielectric liquid in a horizontal electric field. JETP Letters, 2014, 99, 627-631.	0.4	15
29	Gravity-capillary waves on the free surface of a liquid dielectric in a tangential electric field. IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25, 1723-1730.	1.8	15
30	Exact solution of the problem of the equilibrium configuration of the charged surface of a liquid metal. Journal of Experimental and Theoretical Physics, 1999, 89, 1078-1085.	0.2	14
31	Space charge influence on the angle of conical spikes developing on a liquid-metal anode. Physical Review E, 2008, 77, 056607.	0.8	14
32	Nonlinear dynamics of the interface between fluids at the suppression of Kelvinâ€“Helmholtz instability by a tangential electric field. JETP Letters, 2016, 104, 275-280.	0.4	14
33	An Ultra-Short Dense Paraxial Bunch of Sub-Relativistic Runaway Electrons. IEEE Electron Device Letters, 2022, 43, 627-630.	2.2	13
34	A model of the stratification of a liquid current-carrying conductor. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 217, 330-334.	0.9	12
35	Reduced equations of motion of the interface of dielectric liquids in vertical electric and gravitational fields. Physics of Fluids, 2012, 24, .	1.6	12
36	Three-dimensional nonlinear waves at the interface between dielectric fluid in an external horizontal electric field. Journal of Applied Mechanics and Technical Physics, 2013, 54, 212-217.	0.1	12

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37	Compression of a Runaway Electron Flow in an Air Gap with a Nonuniform Magnetic Field. JETP Letters, 2021, 113, 370-377.	0.4	12
38	Formation of singularities on the charged surface of a liquid-helium layer with a finite depth. Journal of Experimental and Theoretical Physics, 2008, 107, 668-678.	0.2	10
39	Tangential interaction of elastic spherical particles in contact. International Journal of Solids and Structures, 2012, 49, 2107-2114.	1.3	10
40	An Exact Particular Solution for an Equilibrium Uncharged Conducting Jet Configuration in a Transverse Electric Field. Technical Physics Letters, 2005, 31, 862.	0.2	9
41	Exact solutions for equilibrium surface configurations of a conducting liquid in the electric field of a charged straight filament. Technical Physics Letters, 2009, 35, 967-969.	0.2	9
42	Initiation of Explosive Electron Emission and Runaway of Electrons during Pulsed Breakdown of Dense Gases. JETP Letters, 2021, 113, 259-264.	0.4	9
43	Sufficient integral criteria for instability of the free charged surface of an ideal liquid. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 272, 119-123.	0.9	8
44	Features of the secondary runaway electron flow formed in an elongated, atmospheric pressure air gap. Physics of Plasmas, 2020, 27, .	0.7	8
45	Influence of the space charge on the configuration of conical spikes on a liquid-metal surface. Europhysics Letters, 2006, 76, 36-41.	0.7	7
46	Propagation of large-amplitude waves on dielectric liquid sheets in a tangential electric field: Exact solutions in three-dimensional geometry. Physical Review E, 2010, 82, 046301.	0.8	7
47	Exact solutions to the problem on the shape of an uncharged conducting liquid jet in a transverse electric field. Journal of Experimental and Theoretical Physics, 2016, 122, 950-955.	0.2	7
48	Formation of liquid-metal jets in a vacuum arc cathode spot: Analogy with drop impact on a solid surface. Journal of Physics: Conference Series, 2018, 946, 012131.	0.3	7
49	Application of transport equations for constructing exact solutions for the problem of motion of a fluid with a free boundary. Journal of Fluid Mechanics, 2020, 890, .	1.4	7
50	An analysis of the equilibrium configurations of charged cylindrical jets of a conducting liquid. Technical Physics Letters, 2004, 30, 23-25.	0.2	6
51	Exact solutions for shapes of two-dimensional bubbles in a corner flow. Physics of Fluids, 2007, 19, 102110.	1.6	6
52	Exact solutions for the shape of a two-dimensional conducting liquid drop in a non-uniform electric field. Physica D: Nonlinear Phenomena, 2012, 241, 921-928.	1.3	6
53	Characteristic properties of laser ablation of translucent targets. Laser Physics, 2018, 28, 076002.	0.6	6
54	Molten Metal Jets Formation in the Cathode Spot of a Vacuum Arc. IEEE Transactions on Plasma Science, 2019, 47, 3456-3461.	0.6	6

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55	Runaway Electrons Emitted by Electron Avalanches in Nanosecond Discharges in Air. Bulletin of the Lebedev Physics Institute, 2020, 47, 209-212.	0.1	6
56	Air Breakdown in the Field of Traveling Tem-Wave Assisted by Runaway Electrons. Russian Physics Journal, 2020, 62, 2005-2010.	0.2	6
57	Two-parametric family of exact solutions for the profile of the surface of a conducting liquid in a nonuniform electric field. Technical Physics, 2012, 57, 1739-1741.	0.2	5
58	Analytical model of a corona discharge from a conical electrode under saturation. Technical Physics, 2012, 57, 1493-1502.	0.2	5
59	Jet formation at the interaction of localized waves on the free surface of dielectric liquid in a tangential electric field. Journal of Physics: Conference Series, 2018, 946, 012021.	0.3	5
60	Three-dimensional direct numerical simulation of free-surface magnetohydrodynamic wave turbulence. Physical Review E, 2022, 105, .	0.8	5
61	Nonlinear dispersion relation for electrocapillary waves on the surface of a dielectric liquid. Technical Physics Letters, 2006, 32, 1027-1029.	0.2	4
62	Equilibrium configurations of the surface of a perfectly conducting fluid in the magnetic field of a current-carrying linear conductor. Journal of Applied Mechanics and Technical Physics, 2013, 54, 1-9.	0.1	4
63	Wave breaking on the surface of a dielectric liquid in a horizontal electric field. IEEE Transactions on Dielectrics and Electrical Insulation, 2020, 27, 1222-1228.	1.8	4
64	Explosive Parametric Instability of the Free Surface of a Liquid Metal in a Radio Frequency Electric Field. IEEE Transactions on Plasma Science, 2021, 49, 2470-2477.	0.6	4
65	Influence of Inhomogeneous Electric Field Geometry Factors on Runaway Electrons Generation Conditions. , 2020, , .		4
66	Emission Features and Structure of an Electron Beam versus Gas Pressure and Magnetic Field in a Cold-Cathode Coaxial Diode. Electronics (Switzerland), 2022, 11, 248.	1.8	4
67	Repeated interruption and restoration of current in liquid metals as a nonlinear phenomenon. Physica D: Nonlinear Phenomena, 1997, 109, 315-324.	1.3	3
68	Explosive growth of perturbations of the surface of a conducting liquid in an electric field. Technical Physics Letters, 1999, 25, 872-873.	0.2	3
69	Criteria of rigid instability on a flat surface of dielectric fluid in external electric field. Technical Physics Letters, 2000, 26, 389-391.	0.2	3
70	Equilibrium configurations of the charged surface of a conducting liquid at a finite interelectrode distance. Technical Physics Letters, 2004, 30, 905-907.	0.2	3
71	Stability of nonlinear waves on the ideal liquid surface in a tangential electric field. Technical Physics Letters, 2008, 34, 535-537.	0.2	3
72	Equilibrium surface configurations of a conducting liquid in external spatially periodic electric field. Technical Physics Letters, 2010, 36, 417-419.	0.2	3

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73	Explosive Development of the Kelvinâ€“Helmholtz Quantum Instability on the He-II Free Surface. Journal of Experimental and Theoretical Physics, 2019, 129, 651-658.	0.2	3
74	Anisotropy of the Runaway Electron Generation Process in Strongly Inhomogeneous Electric Fields. IEEE Transactions on Plasma Science, 2021, 49, 2589-2598.	0.6	3
75	Algorithm for Constructing Exact Solutions of the Problem of Unsteady Plane Motion of a Fluid with a Free Surface. JETP Letters, 2019, 110, 452-456.	0.4	3
76	Runaway of electrons and initiation of explosive electron emission during pulse breakdown of high-pressure gases. Journal of Physics: Conference Series, 2021, 2064, 012035.	0.3	3
77	The largeâ€scale vortex structures in plasmaâ€like media and the electric explosion of conductors. Chaos, 1996, 6, 568-578.	1.0	2
78	The analogy between a problem of magnetohydrodynamics and the Benard problem in the Boussinesq approximation. Technical Physics Letters, 1999, 25, 380-381.	0.2	2
79	Exact solution of the problem of an equilibrium configuration of a two-dimensional charged liquid-metal droplet. Technical Physics Letters, 1999, 25, 950-952.	0.2	2
80	On the problem of the existence of a singular stationary profile for the charged surface of a conducting liquid. Technical Physics Letters, 2001, 27, 217-219.	0.2	2
81	A model of electron emission from a wedge in the space-charge-limited current regime. Technical Physics Letters, 2007, 33, 909-911.	0.2	2
82	Equilibrium configurations of the conducting liquid surface in a nonuniform electric field. Technical Physics, 2011, 56, 38-48.	0.2	2
83	Model of corona discharge from a thin point in a space-charge-limited current regime. Technical Physics Letters, 2012, 38, 365-367.	0.2	2
84	Splashing conditions for a liquid metal in vacuum arcs: Cyclic processes in a cathode spot. Journal of Physics: Conference Series, 2019, 1147, 012125.	0.3	2
85	Saturation Current of a Stationary Cone-Shaped Singularity on the Surface of a Liquid with Ionic Conduction in an Electric Field. Technical Physics Letters, 2019, 45, 395-397.	0.2	2
86	Criteria for the Formation of Liquid-Metal Jets in the Cathode Spot of a Vacuum Arc Discharge. IEEE Transactions on Plasma Science, 2019, 47, 3448-3455.	0.6	2
87	Space-charge-limited current through conical formations on the surface of a liquid with ionic conductivity. Journal of Electrostatics, 2020, 107, 103478.	1.0	2
88	Reflectometry of Picosecond Emission and Discharge Processes in a Gas-Filled High-Voltage Coaxial Line. IEEE Transactions on Plasma Science, 2021, 49, 2516-2523.	0.6	2
89	Runaway electron flows in magnetized coaxial gas diodes. Journal of Physics: Conference Series, 2021, 2064, 012006.	0.3	2
90	Axisymmetric solutions for the equations of motion of a dielectric liquid with a free charged surface. Technical Physics Letters, 2001, 27, 311-312.	0.2	1

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91	A model of weakly nonlinear stages for the periodic structure formation on the charged surface of a conducting liquid. Technical Physics Letters, 2001, 27, 579-580.	0.2	1
92	A nonlinear dispersion relationship for electrocapillary waves on the charged surface of a dielectric liquid. Technical Physics Letters, 2001, 27, 689-691.	0.2	1
93	Electron emission in a flat cathode-curved anode system in the space-charge-limited current regime. Technical Physics Letters, 2008, 34, 934-936.	0.2	1
94	Nonlinear waves on the free surface of a dielectric liquid in an oblique electric field. Journal of Experimental and Theoretical Physics, 2015, 121, 553-558.	0.2	1
95	On the mechanism of deep craters formation under the action of high power ytterbium-fiber laser. Journal of Physics: Conference Series, 2016, 774, 012121.	0.3	1
96	Exact solutions for the shape of a 2D conducting drop moving through a dielectric medium at an angle to the external electric field. Technical Physics, 2016, 61, 138-141.	0.2	1
97	Model of the Formation of Liquid-Metal Jets in the Cathode Spot of a Vacuum Arc Discharge. , 2018, , .		1
98	Formation of Singularities at the Interface of Liquid Dielectrics in a Horizontal Electric Field in the Presence of Tangential Velocity Discontinuity. Technical Physics Letters, 2018, 44, 195-198.	0.2	1
99	A new class of exact solutions in the planar nonstationary problem of motion of a fluid with a free boundary. Theoretical and Mathematical Physics(Russian Federation), 2020, 202, 344-351.	0.3	1
100	Chaotic Dynamics of the Interface between Dielectric Liquids at the Regime of Stabilized Kelvin-Helmholtz Instability by a Tangential Electric Field. Fluids, 2021, 6, 125.	0.8	1
101	Integrable model of the interaction of counter-propagating weakly nonlinear waves on the fluid boundary in a horizontal electric field. Theoretical and Mathematical Physics(Russian Federation), 2020, 202, 352-362.	0.3	1
102	Explosive Instability of the Surface of a Conducting Fluid in an Electric Field in Confined Axisymmetric Geometry. , 2020, , .		1
103	Subnanosecond breakdown of air-insulated coaxial line initiated by runaway electrons in the presence of a strong axial magnetic field. Journal of Physics: Conference Series, 2021, 2064, 012003.	0.3	1
104	Exact Solutions to the Problem of Dynamics of a Liquid with a Free Surface between Two Approaching Vertical Walls. Doklady Physics, 2021, 66, 348-352.	0.2	1
105	Variational principles for constructing few-mode models of the laminar-to-turbulent transition. Technical Physics, 1997, 42, 455-459.	0.2	0
106	Nonlinear dynamics of the free surface of a conducting liquid in an electric field. Technical Physics Letters, 1998, 24, 465-466.	0.2	0
107	The wave collapse analyzed for the nonlinear Klein-Gordon equation with periodic boundary conditions. Technical Physics Letters, 2001, 27, 635-637.	0.2	0
108	Large-scale magnetohydrodynamic instability of a conducting liquid surface. Technical Physics Letters, 2001, 27, 949-951.	0.2	0

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109	Modeling the Instability of the Boundary of a Dielectric Liquid with a Free Surface Charge. Technical Physics Letters, 2005, 31, 919.	0.2	0
110	Nonlinear Dynamics of the Interface of Dielectric Liquids in a Strong External Electric Field. AIP Conference Proceedings, 2006, , .	0.3	0
111	Singularity in the current density distribution at the boundary of emitting region on a flat cathode surface. Technical Physics Letters, 2008, 34, 1041-1043.	0.2	0
112	Exact partial solutions for the surface dynamics of a dielectric liquid with a charged surface in the gravitational field. Technical Physics, 2010, 55, 1068-1070.	0.2	0
113	Nonlinear dynamics of interface between dielectric liquids in vertical electric and gravity fields. Technical Physics Letters, 2011, 37, 974-976.	0.2	0
114	Model of a wedge-electrode corona discharge under saturation: Exact solutions. Technical Physics, 2014, 59, 366-372.	0.2	0
115	Exact solutions for the evolution of a bubble in an ideal liquid in a uniform external electric field. Journal of Experimental and Theoretical Physics, 2015, 120, 155-160.	0.2	0
116	Exact solutions for equilibrium configurations of the surface of a conducting fluid in a nonuniform magnetic field. Theoretical and Mathematical Physics(Russian Federation), 2016, 188, 1394-1400.	0.3	0
117	Equilibrium configurations of a jet of an ideally conducting liquid in an external nonuniform magnetic field. Technical Physics, 2016, 61, 826-834.	0.2	0
118	Characteristics of yttrium oxide ablation by high-power fiber ytterbium laser. , 2016, , .		0
119	Formation of rupture in a conducting fluid layer under the action of an oscillating tangential magnetic field. Journal of Magnetism and Magnetic Materials, 2017, 431, 226-228.	1.0	0
120	Deformation of the free surface of a conducting fluid in the magnetic field of current-carrying linear conductors. Journal of Magnetism and Magnetic Materials, 2017, 431, 222-225.	1.0	0
121	Criteria for disintegration of an uncharged conducting liquid jet in a transverse electric field. Journal of Physics: Conference Series, 2018, 946, 012022.	0.3	0
122	Dynamics of Molten Metal Jet Formation in the Cathode Spot of Vacuum Arc Discharge. , 2018, , .		0
123	Ionization Processes with Participation of Runaway Electrons in a Gas Diode with a Strongly Nonuniform Electric Field. , 2018, , .		0
124	Construction of Exact Solutions for Equilibrium Configurations of the Boundary of a Conducting Liquid Deformed By an External Electric Field. Theoretical and Mathematical Physics(Russian) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 137 T	0.3	0
125	Growth of nonlinear structures on the interface between dielectric liquids in a strong vertical electric field. Journal of Physics: Conference Series, 2019, 1268, 012026.	0.3	0
126	Exact particular solution for the blade-like surface configuration of a conducting liquid in an external electric field. Journal of Physics: Conference Series, 2019, 1147, 012085.	0.3	0

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127	Nonlinear conditions for instability of the free surface of a conducting liquid in an external electric field in a confined axisymmetric geometry. Journal of Physics: Conference Series, 2020, 1556, 012015.	0.3	0
128	Explosive instability of the surface of a liquid dielectric in a vertical electric field in confined geometry. IEEE Transactions on Dielectrics and Electrical Insulation, 2020, 27, 1229-1237.	1.8	0
129	Analysis of the Minimum Duration of the Runaway Electron Flow in an Air Electrode Gap. , 2020, , .		0
130	Formation of the Secondary Runaway Electron Flow in an Elongated Atmospheric Gap. , 2020, , .		0
131	Explosive character of instability development for the free surface of a conducting liquid in an electric field. Journal of Physics: Conference Series, 2020, 1556, 012014.	0.3	0
132	10.1007/s11455-008-2003-9. , 2010, 34, 97.		0