

A E Filippov

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

130 papers	2,481 citations	23 h-index	46 g-index
131 ext. papers	2,701 ext. citations	3.5 avg, IF	5.05 L-index

#	Paper	IF	Citations
130	Phase transitions in individual sub-micrometre superconductors. <i>Nature</i> , 1997 , 390, 259-262	50.4	353
129	Beyond the conventional description of dynamic force spectroscopy of adhesion bonds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 11378-81	11.5	233
128	Friction through dynamical formation and rupture of molecular bonds. <i>Physical Review Letters</i> , 2004 , 92, 135503	7.4	166
127	Torque and twist against superlubricity. <i>Physical Review Letters</i> , 2008 , 100, 046102	7.4	152
126	Hydrodynamic spinodal decomposition: Growth kinetics and scaling functions. <i>Physical Review B</i> , 1993 , 48, 634-637	3.3	103
125	Dynamic force spectroscopy: a Fokker-Planck approach. <i>Chemical Physics Letters</i> , 2002 , 352, 499-504	2.5	86
124	Influence of Ultrasonic In-Plane Oscillations on Static and Sliding Friction and Intrinsic Length Scale of Dry Friction Processes. <i>Tribology Letters</i> , 2010 , 39, 25-30	2.8	72
123	Adhesion failure at 180,000 frames per second: direct observation of the detachment process of a mushroom-shaped adhesive. <i>Physical Review Letters</i> , 2013 , 111, 104301	7.4	62
122	Shear induced adhesion: contact mechanics of biological spatula-like attachment devices. <i>Journal of Theoretical Biology</i> , 2011 , 276, 126-31	2.3	62
121	Normal contact stiffness of elastic solids with fractal rough surfaces for one- and three-dimensional systems. <i>Physical Review E</i> , 2012 , 86, 026710	2.4	55
120	Tuning diffusion and friction in microscopic contacts by mechanical excitations. <i>Physical Review Letters</i> , 2005 , 95, 016101	7.4	53
119	Frictional-anisotropy-based systems in biology: structural diversity and numerical model. <i>Scientific Reports</i> , 2013 , 3, 1240	4.9	45
118	Fibrillar adhesion with no clusterisation: Functional significance of material gradient along adhesive setae of insects. <i>Beilstein Journal of Nanotechnology</i> , 2014 , 5, 837-45	3	42
117	Fractal Tomlinson model for mesoscopic friction: from microscopic velocity-dependent damping to macroscopic Coulomb friction. <i>Physical Review E</i> , 2007 , 75, 027103	2.4	36
116	Friction between a viscoelastic body and a rigid surface with random self-affine roughness. <i>Physical Review Letters</i> , 2013 , 111, 034301	7.4	33
115	Single-Molecule Tribology: Force Microscopy Manipulation of a Porphyrin Derivative on a Copper Surface. <i>ACS Nano</i> , 2016 , 10, 713-22	16.7	32
114	Visualization of Wave Propagation and Fine Structure in Frictional Motion of Unconstrained Soft Microstructured Tapes. <i>Tribology Letters</i> , 2017 , 65, 1	2.8	32

113	Low friction and rotational dynamics of crystalline flakes in solid lubrication. <i>Europhysics Letters</i> , 2011 , 95, 66002	1.6	29
112	Modelling of the frictional behaviour of the snake skin covered by anisotropic surface nanostructures. <i>Scientific Reports</i> , 2016 , 6, 23539	4.9	28
111	Unzipping bird feathers. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20130988	4.1	27
110	Traffic jams and hysteresis in driven one-dimensional systems. <i>Physical Review E</i> , 1998 , 58, 1311-1324	2.4	27
109	Origin of friction anisotropy on a quasicrystal surface. <i>Physical Review Letters</i> , 2010 , 104, 074302	7.4	23
108	Confined molecules under shear: from a microscopic description to phenomenology. <i>Physical Review Letters</i> , 2001 , 87, 275506	7.4	23
107	Spatial model of the gecko foot hair: functional significance of highly specialized non-uniform geometry. <i>Interface Focus</i> , 2015 , 5, 20140065	3.9	22
106	Force of friction between fractal rough surface and elastomer. <i>Technical Physics Letters</i> , 2010 , 36, 525-527	7	20
105	Modelling of the growth of populations of <i>Listeria monocytogenes</i> and a bacteriocin-producing strain of <i>Lactobacillus</i> in pure and mixed cultures. <i>Food Microbiology</i> , 2001 , 18, 605-615	6	20
104	Formation and rupture of capillary bridges in atomic scale friction. <i>Journal of Chemical Physics</i> , 2012 , 137, 164706	3.9	17
103	Effect of tip flexibility on stick-slip motion in friction force microscopy experiments. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 354002	1.8	17
102	Reconstruction of potential from dynamic experiments. <i>Physical Review E</i> , 2007 , 75, 066104	2.4	17
101	Distortion of a Substrate Induced by Adsorption at Solid-Liquid Interfaces. <i>Physical Review Letters</i> , 1998 , 81, 3904-3907	7.4	17
100	Fluctuation effects in an exactly solvable model of phase transitions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1986 , 119, 55-59	2.3	17
99	Male penile propulsion into spiraled spermathecal ducts of female chrysomelid beetles: A numerical simulation approach. <i>Journal of Theoretical Biology</i> , 2015 , 384, 140-6	2.3	15
98	Numerical simulation of colloidal self-assembly of super-hydrophobic arachnid cerotegument structures. <i>Journal of Theoretical Biology</i> , 2017 , 430, 1-8	2.3	14
97	Insect wet steps: loss of fluid from insect feet adhering to a substrate. <i>Journal of the Royal Society Interface</i> , 2013 , 10, 20120639	4.1	14
96	Directed molecular transport in an oscillating symmetric channel. <i>Physical Review E</i> , 2004 , 69, 011908	2.4	14

95	Slow viscoelastic response of resilin. <i>Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology</i> , 2018 , 204, 409-417	2.3	13
94	Stiffness gradient of the beetle penis facilitates propulsion in the spiraled female spermathecal duct. <i>Scientific Reports</i> , 2016 , 6, 27608	4.9	13
93	Inverted stick-slip friction: What is the mechanism?. <i>Journal of Chemical Physics</i> , 2002 , 116, 6871-6874	3.9	13
92	On the physical branch of the exact (local) RG equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991 , 158, 300-306	2.3	13
91	On the structure of critical nuclei at first-order phase transitions in 3d systems. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1992 , 165, 159-164	2.3	13
90	Nanoscale friction under electrochemical control. <i>Physical Review Letters</i> , 2014 , 112, 055502	7.4	12
89	Oil adsorption ability of three-dimensional epicuticular wax coverages in plants. <i>Scientific Reports</i> , 2017 , 7, 45483	4.9	12
88	Normal contact between a rigid surface and a viscous body: Verification of the method of reduction of dimensionality for viscous media. <i>Physical Mesomechanics</i> , 2012 , 15, 270-274	1.6	12
87	Modeling of the dynamic contact in stick-slip microdrives using the method of reduction of dimensionality. <i>Physical Mesomechanics</i> , 2012 , 15, 287-292	1.6	12
86	Study of a local RG approximation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993 , 192, 486-515	5.3	12
85	Diffusion through Bifurcations in Oscillating Nano- and Microscale Contacts: Fundamentals and Applications. <i>Physical Review X</i> , 2015 , 5,	9.1	11
84	Mechanism of wear and ripple formation induced by the mechanical action of an atomic force microscope tip. <i>Physical Review Letters</i> , 2011 , 106, 025502	7.4	11
83	Flexible tissue with fibres interacting with an adhesive surface. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 096012	1.8	11
82	Converting displacement dynamics into creep in block media. <i>Technical Physics Letters</i> , 2006 , 32, 545-549	0.7	11
81	New small RG parameter. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1990 , 150, 100-104	2.3	11
80	Specific character of metamagnetic transitions in Fe ₂ P. <i>Journal of Magnetism and Magnetic Materials</i> , 1984 , 43, 53-58	2.8	11
79	Simulation of the influence of ultrasonic in-plane oscillations on dry friction accounting for stick and creep. <i>Physical Mesomechanics</i> , 2012 , 15, 330-332	1.6	10
78	Biological microstructures with high adhesion and friction. Numerical approach. <i>Physics-Uspekhi</i> , 2016 , 59, 829-845	2.8	10

77	Influence of tangential displacement on the adhesion strength of a contact between a parabolic profile and an elastic half-space. <i>Royal Society Open Science</i> , 2017 , 4, 161010	3.3	9
76	Chemical Control of Friction: Mixed Lubricant Monolayers. <i>Tribology Letters</i> , 2002 , 12, 217-227	2.8	9
75	Oxygen ordering at the structural phase transition in Y-Ba-Cu-O. <i>Phase Transitions</i> , 1990 , 22, 31-42	1.3	9
74	Critical behavior and finite volume. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1986 , 67, 413-418	0.7	9
73	Modelling clustering of vertically aligned carbon nanotube arrays. <i>Interface Focus</i> , 2015 , 5, 20150026	3.9	8
72	Stochastic modelling of the growth of a microbial population under changing temperature regimes. <i>International Journal of Food Microbiology</i> , 2001 , 64, 317-23	5.8	8
71	Fluctuation effects at solid-liquid interfaces. <i>Surface Science</i> , 1999 , 422, L200-L205	1.8	8
70	Nucleation at the fluctuation induced first order phase transition to superconductivity. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994 , 192, 131-136	2.3	8
69	Critical roughness in animal hairy adhesive pads: a numerical modeling approach. <i>Bioinspiration and Biomimetics</i> , 2018 , 13, 066004	2.6	8
68	Numerical Model of the Slithering Snake Locomotion Based on the Friction Anisotropy of the Ventral Skin. <i>Tribology Letters</i> , 2018 , 66, 1	2.8	7
67	Modified Burridge-Knopoff model with state dependent friction. <i>Tribology International</i> , 2010 , 43, 1392-1399	4.9	7
66	Kinetics of vortex structure formation in magnetic materials. <i>Journal of Experimental and Theoretical Physics</i> , 1997 , 84, 971-977	1	7
65	The effect of lateral vibrations on transport and friction in nanoscale contacts. <i>Tribology International</i> , 2007 , 40, 967-972	4.9	7
64	To optimal elasticity of adhesives mimicking gecko foot-hairs. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006 , 358, 309-312	2.3	7
63	Kinetics of vortex formation in superconductors with d pairing. <i>Physical Review B</i> , 1996 , 54, 3504-3507	3.3	7
62	Correlation analysis of symmetry breaking in the surface nanostructure ordering: case study of the ventral scale of the snake <i>Morelia viridis</i> . <i>Applied Physics A: Materials Science and Processing</i> , 2016 , 122, 1	2.6	7
61	Adhesive properties of contacts between elastic bodies with randomly rough self-affine surfaces: A simulation with the method of reduction of dimensionality. <i>Physical Mesomechanics</i> , 2012 , 15, 324-329	1.6	6
60	Li et al. reply. <i>Physical Review Letters</i> , 2013 , 111, 189402	7.4	6

59	Manipulations of Individual Molecules by Scanning Probes. <i>Nano Letters</i> , 2003 , 3, 795-798	11.5	6
58	A model of mechanical polishing in the presence of a lubricant. <i>Technical Physics Letters</i> , 2005 , 31, 788	0.7	6
57	Large-scale structure of fluctuating order parameter field. <i>Journal of Statistical Physics</i> , 1994 , 75, 241-252	5	6
56	Effect of stress nonhomogeneity on the shear melting of a thin boundary lubrication layer. <i>Physical Review E</i> , 2016 , 94, 053002	2.4	5
55	Statistics of contacts and the dependence of their total length on the normal force for fractal surfaces with different Hirsch indices. <i>Technical Physics Letters</i> , 2008 , 34, 792-794	0.7	5
54	Control of friction by shear induced phase transitions. <i>Physical Review B</i> , 2002 , 66,	3.3	5
53	Structural rearrangement of solid surfaces due to competing adsorbate-substrate interactions. <i>Physical Review E</i> , 1999 , 60, 660-70	2.4	5
52	Nonlinear nonlocal Schrödinger equation in the context of quantum mechanics. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996 , 215, 32-39	2.3	5
51	Gradient expansion based on the physical RG branch. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1992 , 169, 195-198	2.3	5
50	Critical behaviour of orthorhombic high T _c superconducting systems with d-pairing. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1989 , 136, 171-173	2.3	5
49	Effects of molecule anchoring and dispersion on nanoscopic friction under electrochemical control. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 105001	1.8	5
48	Identification and Space-Time Evolution of Vortex-Like Motion of Atoms in a Loaded Solid. <i>Physical Mesomechanics</i> , 2018 , 21, 419-429	1.6	5
47	Numerical simulation of the pattern formation of the springtail cuticle nanostructures. <i>Journal of the Royal Society Interface</i> , 2018 , 15,	4.1	4
46	Simplified simulation of fretting wear using the method of dimensionality reduction. <i>Physical Mesomechanics</i> , 2014 , 17, 236-241	1.6	4
45	Long-term ant-species-dependent dynamics of a myrmecochorous plant community. <i>Arthropod-Plant Interactions</i> , 2013 , 7, 277-286	2.2	4
44	Bubbles induced fluctuations of some properties of aqueous solutions. <i>Biophysics (Russian Federation)</i> , 2012 , 57, 421-427	0.7	4
43	Rotary motors sliding along surfaces. <i>Physical Review E</i> , 2009 , 79, 021108	2.4	4
42	Two-component model for the growth of porous subsurface layers. <i>Journal of Experimental and Theoretical Physics</i> , 1998 , 87, 814-822	1	4

41	Fine current structure and attractor behaviour in long Josephson junctions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993 , 183, 123-128	2.3	4
40	The RG method applied to an exactly solvable model of phase transitions. <i>Journal of Physics A</i> , 1990 , 23, 91-97		4
39	Loop renormalization of the Ginzburg-Landau functional in the theory of phase transitions. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1986 , 68, 923-928	0.7	4
38	The functional significance of density and distribution of outgrowths on co-opted contact pairs in biological arresting systems. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2015 , 370, 20140032	5.8	3
37	Molecular Dynamics Study of the Evolution of Rotational Atomic Displacements in a Crystal Subjected to Shear Deformation. <i>Physical Mesomechanics</i> , 2019 , 22, 375-381	1.6	3
36	Filippov, Vanossi, and Urbakh Reply:. <i>Physical Review Letters</i> , 2011 , 107,	7.4	3
35	Stability of localized excitations and domain growth in the vicinity of the first order phase transition. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993 , 178, 301-309	2.3	3
34	The scale equations in the critical dynamics of fluctuating systems. <i>Journal of Statistical Physics</i> , 1990 , 58, 295-323	1.5	3
33	Burelyloop renormalizations of the Ginzburg-Landau-Wilson functional as a solution of the thermal conductivity equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1987 , 125, 335-338	2.3	3
32	"Cylindrical worlds" in biology: Does the aggregation strategy give a selective advantage?. <i>BioSystems</i> , 2019 , 175, 39-46	1.9	3
31	Radial arrangement of apical adhesive sites promotes contact self-alignment of fruits in Commicarpus plants (Nyctaginaceae). <i>Scientific Reports</i> , 2017 , 7, 10956	4.9	2
30	Phase-transition kinetics with the formation of topological defects in superconductors with a multicomponent order parameter. <i>Journal of Experimental and Theoretical Physics</i> , 1997 , 85, 734-747	1	2
29	Chain ordering in molecular dynamics and kinetics. <i>Journal of Experimental and Theoretical Physics</i> , 1997 , 85, 949-958	1	2
28	Directed molecular transport in an oscillating channel with randomness. <i>Physical Review E</i> , 2008 , 77, 021114	2.4	2
27	Method of movable lattice particles. <i>Tribology International</i> , 2007 , 40, 930-936	4.9	2
26	Following Single Molecules by Force Spectroscopy. <i>Israel Journal of Chemistry</i> , 2004 , 44, 363-372	3.4	2
25	Actin-based motility: cooperative symmetry-breaking and phases of motion. <i>Journal of Physics Condensed Matter</i> , 2005 , 17, S3929-44	1.8	2
24	Phase separation, charge ordering, and pairing in layered three-dimensional systems. <i>Physical Review B</i> , 2001 , 63,	3.3	2

23	Simple model of dust medium evolution. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994 , 189, 361-366	2.3	2
22	Nonlinear excitations in the critical region. <i>Journal of Statistical Physics</i> , 1993 , 71, 1003-1014	1.5	2
21	Phenomenological approach to construction of attractors. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1993 , 94, 325-338	0.7	2
20	Fluctuation effects in the spherical model. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1986 , 66, 183-190	0.7	2
19	Fluctuation-induced phase transition of the first kind in an exactly solvable model. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1987 , 72, 786-790	0.7	2
18	Experience in numerically modelling the mixed state of superconductors, applied to a study of the nonstationary Schrödinger equation. <i>Low Temperature Physics</i> , 2010 , 36, 100-104	0.7	1
17	Attractor properties of physical branches of the solution to the renormalization group equation. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1998 , 117, 1423-1433	0.7	1
16	Experimental determination of the spatial scale governing dry friction force of a steel specimen. <i>Physical Mesomechanics</i> , 2008 , 11, 149-152	1.6	1
15	Two universal regimes of adhesive film peeling. <i>Technical Physics Letters</i> , 2005 , 31, 871	0.7	1
14	Bicontinuous phases in coulombic systems. The role of specific interactions. <i>Journal of Molecular Liquids</i> , 2000 , 87, 163-175	6	1
13	Fluctuating field near spinodal. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998 , 243, 229-235	2.3	0
12	From deterministic dynamics to kinetic phenomena. <i>Physical Review E</i> , 2004 , 69, 042101	2.4	0
11	Kinetics of vortex formation in superconductors with anisotropic pairing. <i>Physics of the Solid State</i> , 1997 , 39, 29-31	0.8	
10	Large-scale structure of a fluctuating field near the lability boundary of a type-I phase transition. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 1997 , 113, 1564-1571	0.7	
9	Ordering of interacting subsystems. Molecular dynamics. <i>Physics of the Solid State</i> , 1998 , 40, 1546-1549	0.8	
8	Dynamic model of a double chain with hydrogen bonds. <i>Journal of Experimental and Theoretical Physics</i> , 1998 , 86, 608-613	1	
7	Molecular pumping and separation in a symmetric channel. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 790, 1		
6	Jumplike variation of the contact area between randomly rough surfaces. <i>Technical Physics Letters</i> , 2005 , 31, 735	0.7	

- 5 Magnetic-field penetration and structure of the mixed state in a superconductor with a multicomponent order parameter. *Physical Review B*, **2000**, 62, 9688-9696 3.3
- 4 Magnetic flux structure and formfactor of SANS in a superconductor with multicomponent order parameter. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1999**, 260, 120-125 2.3
- 3 A simple model of the evolution of a dust medium. *Theoretical and Mathematical Physics(Russian Federation)*, **1995**, 103, 475-481 0.7
- 2 Threshold impurity effect on phase transitions in anisotropic systems. *Phase Transitions*, **1993**, 45, 277-279 1.3
- 1 On the tricritical point induced by random transverse fields. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1986**, 116, 43-44 2.3