A E Filippov

List of Publications by Year
in descending order

130 papers	2,955 citations	257101 24 h-index	182168 51 g-index
131 all docs	131 docs citations	131 times ranked	2192 citing authors

#	Article	IF	Citations
1	Molecular Dynamics Study of the Evolution of Rotational Atomic Displacements in a Crystal Subjected to Shear Deformation. Physical Mesomechanics, 2019, 22, 375-381.	1.0	11
2	â€œCylindrical worldsâ€•in biology: Does the aggregation strategy give a selective advantage?. BioSystems, 2019, 175, 39-46.	0.9	5
3	Slow viscoelastic response of resilin. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2018, 204, 409-417.	0.7	19
4	Identification and Space-Time Evolution of Vortex-Like Motion of Atoms in a Loaded Solid. Physical Mesomechanics, 2018, 21, 419-429.	1.0	13
5	Critical roughness in animal hairy adhesive pads: a numerical modeling approach. Bioinspiration and Biomimetics, 2018, 13, 066004.	1.5	12
6	Numerical Model of the Slithering Snake Locomotion Based on the Friction Anisotropy of the Ventral Skin. Tribology Letters, 2018, 66, 1.	1.2	10
7	Numerical simulation of the pattern formation of the springtail cuticle nanostructures. Journal of the Royal Society Interface, 2018, 15, 20180217.	1.5	11
8	Radial arrangement of apical adhesive sites promotes contact self-alignment of fruits in Commicarpus plants (Nyctaginaceae). Scientific Reports, 2017, 7, 10956.	1.6	3
9	Influence of tangential displacement on the adhesion strength of a contact between a parabolic profile and an elastic half-space. Royal Society Open Science, 2017, 4, 161010.	1.1	13
10	Oil adsorption ability of three-dimensional epicuticular wax coverages in plants. Scientific Reports, 2017, 7, 45483.	1.6	18
11	Numerical simulation of colloidal self-assembly of super-hydrophobic arachnid cerotegument structures. Journal of Theoretical Biology, 2017, 430, 1-8.	0.8	16
12	Visualization of Wave Propagation and Fine Structure in Frictional Motion of Unconstrained Soft Microstructured Tapes. Tribology Letters, 2017, 65, 1.	1.2	95
13	Modelling of the frictional behaviour of the snake skin covered by anisotropic surface nanostructures. Scientific Reports, 2016, 6, 23539.	1.6	31
14	Biological microstructures with high adhesion and friction. Numerical approach. Physics-Uspekhi, 2016, 59, 829-845.	0.8	12
15	Effects of molecule anchoring and dispersion on nanoscopic friction under electrochemical control. Journal of Physics Condensed Matter, 2016, 28, 105001.	0.7	7
16	Correlation analysis of symmetry breaking in the surface nanostructure ordering: case study of the ventral scale of the snake Morelia viridis. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	8
17	Effect of stress nonhomogeneity on the shear melting of a thin boundary lubrication layer. Physical Review E, 2016, 94, 053002.	0.8	5
18	Stiffness gradient of the beetle penis facilitates propulsion in the spiraled female spermathecal duct. Scientific Reports, 2016, 6, 27608.	1.6	14

#	Article	IF	Citations
19	Single-Molecule Tribology: Force Microscopy Manipulation of a Porphyrin Derivative on a Copper Surface. ACS Nano, 2016, 10, 713-722.	7.3	40
20	Modelling clustering of vertically aligned carbon nanotube arrays. Interface Focus, 2015, 5, 20150026.	1.5	9
21	Spatial model of the gecko foot hair: functional significance of highly specialized non-uniform geometry. Interface Focus, 2015, 5, 20140065.	1.5	29
22	The functional significance of density and distribution of outgrowths on co-opted contact pairs in biological arresting systems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140032.	1.8	3
23	Diffusion through Bifurcations in Oscillating Nano- and Microscale Contacts: Fundamentals and Applications. Physical Review X, 2015, 5, .	2.8	14
24	Male penile propulsion into spiraled spermathecal ducts of female chrysomelid beetles: A numerical simulation approach. Journal of Theoretical Biology, 2015, 384, 140-146.	0.8	16
25	Fibrillar adhesion with no clusterisation: Functional significance of material gradient along adhesive setae of insects. Beilstein Journal of Nanotechnology, 2014, 5, 837-845.	1.5	56
26	Unzipping bird feathers. Journal of the Royal Society Interface, 2014, 11, 20130988.	1.5	32
27	Nanoscopic Friction under Electrochemical Control. Physical Review Letters, 2014, 112, 055502.	2.9	16
28	Simplified simulation of fretting wear using the method of dimensionality reduction. Physical Mesomechanics, 2014, 17, 236-241.	1.0	7
29	Long-term ant-species-dependent dynamics of a myrmecochorous plant community. Arthropod-Plant Interactions, 2013, 7, 277-286.	0.5	6
30	Adhesion Failure at 180â€‰000 Frames per Second: Direct Observation of the Detachment Process of a Mushroom-Shaped Adhesive. Physical Review Letters, 2013, 111, 104301.	2.9	75
31	Friction Between a Viscoelastic Body and a Rigid Surface with Random Self-Affine Roughness. Physical Review Letters, 2013, 111, 034301.	2.9	39
32	Insect wet steps: loss of fluid from insect feet adhering to a substrate. Journal of the Royal Society Interface, 2013, 10, 20120639.	1.5	19
33	LietÂal.Reply:. Physical Review Letters, 2013, 111, 189402.	2.9	7
34	Frictional-anisotropy-based systems in biology: structural diversity and numerical model. Scientific Reports, 2013, 3, 1240.	1.6	55
35	Formation and rupture of capillary bridges in atomic scale friction. Journal of Chemical Physics, 2012, 137, 164706.	1.2	23
36	Normal contact stiffness of elastic solids with fractal rough surfaces for one- and three-dimensional systems. Physical Review E, 2012, 86, 026710.	0.8	64

#	Article	IF	Citations
37	Bubbles induced fluctuations of some properties of aqueous solutions. Biophysics (Russian) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	0.2	5
38	Normal contact between a rigid surface and a viscous body: Verification of the method of reduction of dimensionality for viscous media. Physical Mesomechanics, 2012, 15, 270-274.	1.0	12
39	Modeling of the dynamic contact in stick-slip microdrives using the method of reduction of dimensionality. Physical Mesomechanics, 2012, 15, 287-292.	1.0	16
40	Adhesive properties of contacts between elastic bodies with randomly rough self-affine surfaces: A simulation with the method of reduction of dimensionality. Physical Mesomechanics, 2012, 15, 324-329.	1.0	6
41	Simulation of the influence of ultrasonic in-plane oscillations on dry friction accounting for stick and creep. Physical Mesomechanics, 2012, 15, 330-332.	1.0	12
42	Shear induced adhesion: Contact mechanics of biological spatula-like attachment devices. Journal of Theoretical Biology, 2011, 276, 126-131.	0.8	72
43	Low friction and rotational dynamics of crystalline flakes in solid lubrication. Europhysics Letters, 2011, 95, 66002.	0.7	38
44	Filippov, Vanossi, and Urbakh Reply:. Physical Review Letters, 2011, 107, .	2.9	3
45	Mechanism of Wear and Ripple Formation Induced by the Mechanical Action of an Atomic Force Microscope Tip. Physical Review Letters, 2011, 106, 025502.	2.9	14
46	Experience in numerically modelling the mixed state of superconductors, applied to a study of the nonstationary Schrödinger equation. Low Temperature Physics, 2010, 36, 100-104.	0.2	1
47	Force of friction between fractal rough surface and elastomer. Technical Physics Letters, 2010, 36, 525-527.	0.2	21
48	Influence of Ultrasonic In-Plane Oscillations on Static and Sliding Friction and Intrinsic Length Scale of Dry Friction Processes. Tribology Letters, 2010, 39, 25-30.	1.2	88
49	Modified Burridge–Knopoff model with state dependent friction. Tribology International, 2010, 43, 1392-1399.	3.0	9
50	Origin of Friction Anisotropy on a Quasicrystal Surface. Physical Review Letters, 2010, 104, 074302.	2.9	29
51	Rotary motors sliding along surfaces. Physical Review E, 2009, 79, 021108.	0.8	5
52	Experimental determination of the spatial scale governing dry friction force of a steel specimen. Physical Mesomechanics, 2008, 11, 149-152.	1.0	1
53	Statistics of contacts and the dependence of their total length on the normal force for fractal surfaces with different Hirsch indices. Technical Physics Letters, 2008, 34, 792-794.	0.2	5
54	Torque and Twist against Superlubricity. Physical Review Letters, 2008, 100, 046102.	2.9	190

#	Article	IF	Citations
55	Effect of tip flexibility on stick–slip motion in friction force microscopy experiments. Journal of Physics Condensed Matter, 2008, 20, 354002.	0.7	19
56	Directed molecular transport in an oscillating channel with randomness. Physical Review E, 2008, 77, 021114.	0.8	3
57	Fractal Tomlinson model for mesoscopic friction: From microscopic velocity-dependent damping to macroscopic Coulomb friction. Physical Review E, 2007, 75, 027103.	0.8	43
58	Flexible tissue with fibres interacting with an adhesive surface. Journal of Physics Condensed Matter, 2007, 19, 096012.	0.7	17
59	Reconstruction of potential from dynamic experiments. Physical Review E, 2007, 75, 066104.	0.8	22
60	Method of movable lattice particles. Tribology International, 2007, 40, 930-936.	3.0	3
61	The effect of lateral vibrations on transport and friction in nanoscale contacts. Tribology International, 2007, 40, 967-972.	3.0	8
62	To optimal elasticity of adhesives mimicking gecko foot-hairs. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 358, 309-312.	0.9	8
63	Converting displacement dynamics into creep in block media. Technical Physics Letters, 2006, 32, 545-549.	0.2	12
64	Jumplike Variation of the Contact Area between Randomly Rough Surfaces. Technical Physics Letters, 2005, 31, 735.	0.2	0
65	A Model of Mechanical Polishing in the Presence of a Lubricant. Technical Physics Letters, 2005, 31, 788.	0.2	7
66	Two Universal Regimes of Adhesive Film Peeling. Technical Physics Letters, 2005, 31, 871.	0.2	1
67	Actin-based motility: cooperative symmetry-breaking and phases of motion. Journal of Physics Condensed Matter, 2005, 17, S3929-S3944.	0.7	2
68	Tuning Diffusion and Friction in Microscopic Contacts By Mechanical Excitations. Physical Review Letters, 2005, 95, 016101.	2.9	59
69	Directed molecular transport in an oscillating symmetric channel. Physical Review E, 2004, 69, 011908.	0.8	15
70	From deterministic dynamics to kinetic phenomena. Physical Review E, 2004, 69, 042101.	0.8	2
71	Following Single Molecules by Force Spectroscopy. Israel Journal of Chemistry, 2004, 44, 363-372.	1.0	2
72	Friction through Dynamical Formation and Rupture of Molecular Bonds. Physical Review Letters, 2004, 92, 135503.	2.9	198

#	Article	IF	Citations
73	Manipulations of Individual Molecules by Scanning Probes. Nano Letters, 2003, 3, 795-798.	4.5	6
74	Molecular pumping and separation in a symmetric channel. Materials Research Society Symposia Proceedings, 2003, 790, 1.	0.1	0
75	Beyond the conventional description of dynamic force spectroscopy of adhesion bonds. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 11378-11381.	3.3	251
76	Inverted stick–slip friction: What is the mechanism?. Journal of Chemical Physics, 2002, 116, 6871-6874.	1.2	15
77	Control of friction by shear induced phase transitions. Physical Review B, 2002, 66, .	1.1	6
78	Dynamic force spectroscopy: a Fokker–Planck approach. Chemical Physics Letters, 2002, 352, 499-504.	1.2	91
79	Chemical Control of Friction: Mixed Lubricant Monolayers. Tribology Letters, 2002, 12, 217-227.	1.2	12
80	Modelling of the growth of populations of Listeria monocytogenes and a bacteriocin-producing strain ofLactobacillus in pure and mixed cultures. Food Microbiology, 2001, 18, 605-615.	2.1	20
81	Phase separation, charge ordering, and pairing in layered three-dimensional systems. Physical Review B, 2001, 63, .	1.1	2
82	Stochastic modelling of the growth of a microbial population under changing temperature regimes. International Journal of Food Microbiology, 2001, 64, 317-323.	2.1	8
83	Confined Molecules under Shear: From a Microscopic Description to Phenomenology. Physical Review Letters, 2001, 87, 275506.	2.9	27
84	Bicontinuous phases in coulombic systems. The role of specific interactions. Journal of Molecular Liquids, 2000, 87, 163-175.	2.3	1
85	Magnetic-field penetration and structure of the mixed state in a superconductor with a multicomponent order parameter. Physical Review B, 2000, 62, 9688-9696.	1.1	0
86	Structural rearrangement of solid surfaces due to competing adsorbate-substrate interactions. Physical Review E, 1999, 60, 660-670.	0.8	5
87	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.	0.9	0
88	Fluctuation effects at solid–liquid interfaces. Surface Science, 1999, 422, L200-L205.	0.8	8
89	Ordering of interacting subsystems. Molecular dynamics. Physics of the Solid State, 1998, 40, 1546-1549.	0.2	0
90	Dynamic model of a double chain with hydrogen bonds. Journal of Experimental and Theoretical Physics, 1998, 86, 608-613.	0.2	0

#	Article	IF	Citations
91	Two-component model for the growth of porous subsurface layers. Journal of Experimental and Theoretical Physics, 1998, 87, 814-822.	0.2	5
92	Attractor properties of physical branches of the solution to the renormalization group equation. Theoretical and Mathematical Physics(Russian Federation), 1998, 117, 1423-1433.	0.3	1
93	Fluctuating field near spinodal. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 243, 229-235.	0.9	1
94	Distortion of a Substrate Induced by Adsorption at Solid-Liquid Interfaces. Physical Review Letters, 1998, 81, 3904-3907.	2.9	18
95	Traffic jams and hysteresis in driven one-dimensional systems. Physical Review E, 1998, 58, 1311-1324.	0.8	28
96	Phase transitions in individual sub-micrometre superconductors. Nature, 1997, 390, 259-262.	13.7	388
97	Kinetics of vortex formation in superconductors with anisotropic pairing. Physics of the Solid State, 1997, 39, 29-31.	0.2	0
98	Kinetics of vortex structure formation in magnetic materials. Journal of Experimental and Theoretical Physics, 1997, 84, 971-977.	0.2	9
99	Phase-transition kinetics with the formation of topological defects in superconductors with a multicomponent order parameter. Journal of Experimental and Theoretical Physics, 1997, 85, 734-747.	0.2	2
100	Chain ordering in molecular dynamics and kinetics. Journal of Experimental and Theoretical Physics, 1997, 85, 949-958.	0.2	2
101	Large-scale structure of a fluctuating field near the lability boundary of a type-I phase transition. Theoretical and Mathematical Physics(Russian Federation), 1997, 113, 1564-1571.	0.3	0
102	Kinetics of vortex formation in superconductors withdpairing. Physical Review B, 1996, 54, 3504-3507.	1.1	8
103	Nonlinear nonlocal Schrödinger equation in the context of quantum mechanics. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 215, 32-39.	0.9	6
104	A simple model of the evolution of a dust medium. Theoretical and Mathematical Physics(Russian) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.3	0
105	Large-scale structure of fluctuating order parameter field. Journal of Statistical Physics, 1994, 75, 241-252.	0.5	6
106	Simple model of dust medium evolution. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 189, 361-366.	0.9	2
107	Nucleation at the fluctuation induced first order phase transition to superconductivity. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 192, 131-136.	0.9	8
108	Fine current structure and attractor behaviour in long Josephson junctions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 183, 123-128.	0.9	4

#	Article	IF	Citations
109	Stability of localized excitations and domain growth in the vicinity of the first order phase transition. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 178, 301-309.	0.9	3
110	Study of a local RG approximation. Physica A: Statistical Mechanics and Its Applications, 1993, 192, 486-515.	1.2	13
111	Nonlinear excitations in the critical region. Journal of Statistical Physics, 1993, 71, 1003-1014.	0.5	2
112	Phenomenological approach to construction of attractors. Theoretical and Mathematical Physics(Russian Federation), 1993, 94, 325-338.	0.3	3
113	Threshold impurity effect on phase transitions in anisotropic systems. Phase Transitions, 1993, 45, 277-279.	0.6	0
114	Hydrodynamic spinodal decomposition: Growth kinetics and scaling functions. Physical Review B, 1993, 48, 634-637.	1.1	113
115	On the structure of critical nuclei at first-order phase transitions in 3d systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 165, 159-164.	0.9	13
116	Gradient expansion based on the physical RG branch. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 169, 195-198.	0.9	6
117	On the physical branch of the exact (local) RG equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 158, 300-306.	0.9	15
118	The scale equations in the critical dynamics of fluctuating systems. Journal of Statistical Physics, 1990, 58, 295-323.	0.5	3
119	New small RG parameter. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 150, 100-104.	0.9	13
120	The RG method applied to an exactly solvable model of phase transitions. Journal of Physics A, 1990, 23, 91-97.	1.6	4
121	Oxygen ordering at the structural phase transition in Y-Ba-Cu-O. Phase Transitions, 1990, 22, 31-42.	0.6	9
122	Critical behaviour of orthorhombic high Tc superconducting systems with d-pairing. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 136, 171-173.	0.9	5
123	â€œPurelyâ€·loop renormalizations of the Ginzburg-Landau-Wilson functional as a solution of the thermal conductivity equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 125, 335-338.	0.9	3
124	Fluctuation-induced phase transition of the first kind in an exactly solvable model. Theoretical and Mathematical Physics(Russian Federation), 1987, 72, 786-790.	0.3	2
125	On the tricritical point induced by random transverse fields. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 116, 43-44.	0.9	0
126	Fluctuation effects in an exactly solvable model of phase transitions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 119, 55-59.	0.9	17

#	Article	IF	Citations
127	Fluctuation effects in the spherical model. Theoretical and Mathematical Physics(Russian Federation), 1986, 66, 183-190.	0.3	2
128	Loop renormalization of the Ginzburg-Landau functional in the theory of phase transitions. Theoretical and Mathematical Physics(Russian Federation), 1986, 68, 923-928.	0.3	4
129	Critical behavior and finite volume. Theoretical and Mathematical Physics(Russian Federation), 1986, 67, 413-418.	0.3	9
130	Specific character of metamagnetic transitions in Fe_2P. Journal of Magnetism and Magnetic Materials, 1984, 43, 53-58.	1.0	11