

Efim A Brener

List of Publications by Year in Descending Order

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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.

79
papers

1,957
citations

22
h-index

42
g-index

82
ext. papers

2,130
ext. citations

4.9
avg, IF

4.89
L-index

#	Paper	IF	Citations
79	Unconventional singularities and energy balance in frictional rupture. <i>Nature Communications</i> , 2021 , 12, 2585	17.4	5
78	Theory of unconventional singularities of frictional shear cracks. <i>Journal of the Mechanics and Physics of Solids</i> , 2021 , 153, 104466	5	2
77	Velocity-driven frictional sliding: Coarsening and steady-state pulses. <i>Journal of the Mechanics and Physics of Solids</i> , 2021 , 158, 104607	5	3
76	Modeling of dendritic growth using a quantitative nondiagonal phase field model. <i>Physical Review Materials</i> , 2020 , 4,	3.2	2
75	The emergence of crack-like behavior of frictional rupture: Edge singularity and energy balance. <i>Earth and Planetary Science Letters</i> , 2020 , 531, 115978	5.3	18
74	Spatiotemporal Dynamics of Frictional Systems: The Interplay of Interfacial Friction and Bulk Elasticity. <i>Lubricants</i> , 2019 , 7, 91	3.1	7
73	Emergence of Cracklike Behavior of Frictional Rupture: The Origin of Stress Drops. <i>Physical Review X</i> , 2019 , 9,	9.1	5
72	Unstable Slip Pulses and Earthquake Nucleation as a Nonequilibrium First-Order Phase Transition. <i>Physical Review Letters</i> , 2018 , 121, 234302	7.4	15
71	Elimination of surface diffusion in the non-diagonal phase field model. <i>Continuum Mechanics and Thermodynamics</i> , 2017 , 29, 969-976	3.5	3
70	Phase field modeling of rapid crystallization in the phase-change material AIST. <i>Journal of Applied Physics</i> , 2017 , 122, 045108	2.5	7
69	Nonmonotonicity of the Frictional Bimaterial Effect. <i>Journal of Geophysical Research: Solid Earth</i> , 2017 , 122, 8270-8284	3.6	6
68	Critical Nucleation Length for Accelerating Frictional Slip. <i>Geophysical Research Letters</i> , 2017 , 44, 11,390-11,398	4.1	1
67	Dynamic instabilities of frictional sliding at a bimaterial interface. <i>Journal of the Mechanics and Physics of Solids</i> , 2016 , 89, 149-173	5	16
66	Frictional Sliding without Geometrical Reflection Symmetry. <i>Physical Review X</i> , 2016 , 6,	9.1	11
65	Velocity-strengthening friction significantly affects interfacial dynamics, strength and dissipation. <i>Scientific Reports</i> , 2015 , 5, 7841	4.9	22
64	Inhibition of Rayleigh-Plateau instability on a unidirectionally patterned substrate. <i>Physical Review E</i> , 2015 , 92, 032408	2.4	4
63	On the velocity-strengthening behavior of dry friction. <i>Journal of Geophysical Research: Solid Earth</i> , 2014 , 119, 1738-1748	3.6	62

62	Achieving realistic interface kinetics in phase-field models with a diffusional contrast. <i>Physical Review E</i> , 2014 , 89, 060402	2.4	13
61	Isothermal solidification in peritectic systems. <i>Acta Materialia</i> , 2014 , 75, 212-218	8.4	8
60	Scaling theory of two-phase dendritic growth in undercooled ternary melts. <i>Physical Review Letters</i> , 2014 , 112, 105502	7.4	12
59	Interface kinetics in phase-field models: isothermal transformations in binary alloys and step dynamics in molecular-beam epitaxy. <i>Physical Review E</i> , 2013 , 88, 022406	2.4	12
58	Instabilities at frictional interfaces: creep patches, nucleation, and rupture fronts. <i>Physical Review E</i> , 2013 , 88, 060403	2.4	35
57	Kinetic cross coupling between nonconserved and conserved fields in phase field models. <i>Physical Review E</i> , 2012 , 86, 060601	2.4	29
56	Slow rupture of frictional interfaces. <i>Geophysical Research Letters</i> , 2012 , 39, n/a-n/a	4.9	44
55	Onsager approach to the one-dimensional solidification problem and its relation to the phase-field description. <i>Physical Review E</i> , 2012 , 85, 031601	2.4	10
54	Viscoelastic fracture of biological composites. <i>Journal of the Mechanics and Physics of Solids</i> , 2011 , 59, 2279-2293	5	11
53	Slow cracklike dynamics at the onset of frictional sliding. <i>Physical Review Letters</i> , 2011 , 107, 235501	7.4	51
52	Phase field modeling of crack propagation. <i>Philosophical Magazine</i> , 2011 , 91, 75-95	1.6	119
51	Kinetics of Isothermal Phase Transformations by Phase-Field Simulations: An Analogy between the Peritectic and Monotectic Systems. <i>Defect and Diffusion Forum</i> , 2010 , 297-301, 1152-1159	0.7	
50	Elastic and plastic effects on solid-state transformations: A phase field study. <i>International Journal of Materials Research</i> , 2010 , 101, 462-466	0.5	7
49	Kinetics of isothermal phase transformations above and below the peritectic temperature: Phase-field simulations. <i>Acta Materialia</i> , 2010 , 58, 1750-1760	8.4	27
48	Pattern formation during diffusional transformations in the presence of triple junctions and elastic effects. <i>Journal of Physics Condensed Matter</i> , 2009 , 21, 464106	1.8	7
47	Effective elastic moduli in solids with high density of cracks. <i>Physical Review B</i> , 2009 , 80,	3.3	6
46	Crack growth by surface diffusion in viscoelastic media. <i>Physical Review Letters</i> , 2008 , 101, 205501	7.4	9
45	Steady-state migration of the liquid film along a grain boundary during melting of alloys. <i>Acta Materialia</i> , 2008 , 56, 2290-2295	8.4	2

44	Melting of alloys along the inter-phase boundaries in eutectic and peritectic systems. <i>Acta Materialia</i> , 2007 , 55, 2785-2789	8.4	11
43	Influence of strain on the kinetics of phase transitions in solids. <i>Physical Review E</i> , 2007 , 75, 041604	2.4	18
42	Velocity selection problem in the presence of the triple junction. <i>Physical Review Letters</i> , 2007 , 99, 105701	7.4	14
41	Crack Propagation as a Free Boundary Problem. <i>Key Engineering Materials</i> , 2007 , 345-346, 429-432	0.4	
40	Phase field modeling of fast crack propagation. <i>Physical Review Letters</i> , 2006 , 96, 015502	7.4	83
39	Elastic domains in antiferromagnets on substrates. <i>Physical Review Letters</i> , 2006 , 97, 067204	7.4	3
38	Fracture and the Grinfeld instability. <i>Journal of Crystal Growth</i> , 2005 , 275, e307-e311	1.6	1
37	Velocity-selection problem for combined motion of melting and solidification fronts. <i>Physical Review Letters</i> , 2005 , 94, 184501	7.4	16
36	Theory of discontinuous precipitation: importance of the elastic strain. <i>Acta Materialia</i> , 2003 , 51, 797-803	8.4	17
35	Fast crack propagation by surface diffusion. <i>Physical Review E</i> , 2003 , 67, 016112	2.4	23
34	Theory of diffusion induced grain boundary migration: is mass transport along free surfaces important?. <i>Acta Materialia</i> , 2002 , 50, 1707-1716	8.4	7
33	Comment on "Solidification of a supercooled liquid in a narrow channel". <i>Physical Review Letters</i> , 2002 , 88, 149601	7.4	2
32	Advanced Fluid Information. Growth-Morphologies in Solidification and Hydrodynamics.. <i>JSME International Journal Series B</i> , 2002 , 45, 129-132		17
31	Coarsening of cracks in a uniaxially strained solid. <i>Physical Review Letters</i> , 2001 , 86, 1291-4	7.4	15
30	Grinfeld instability on crack surfaces. <i>Physical Review E</i> , 2001 , 64, 046120	2.4	7
29	Structure formation in diffusional growth and dewetting. <i>Solid State Ionics</i> , 2000 , 131, 23-33	3.3	13
28	Coarsening kinetics with elastic effects. <i>Physical Review Letters</i> , 2000 , 84, 4914-7	7.4	12
27	Elastic Effects on the Kinetics of a Phase Transition. <i>Physical Review Letters</i> , 1999 , 82, 1506-1509	7.4	26

26	Theory of diffusional growth in cellular precipitation. <i>Acta Materialia</i> , 1999 , 47, 3759-3765	8.4	12
25	Nonlinear theory of dislocations in smectic crystals: an exact solution. <i>Physical Review E</i> , 1999 , 59, R4752-3	2.3	32
24	Surface Instabilities in Cracks. <i>Physical Review Letters</i> , 1998 , 81, 5141-5144	7.4	15
23	Laplacian and diffusional growth: A unified theoretical description for symmetrical and parity-broken patterns. <i>Physica D: Nonlinear Phenomena</i> , 1996 , 98, 128-138	3.3	15
22	Noise-induced sidebranching in the three-dimensional nonaxisymmetric dendritic growth. <i>Physical Review E</i> , 1995 , 51, 351-359	2.4	99
21	Parity-broken dendrites. <i>Physical Review Letters</i> , 1995 , 75, 561-564	7.4	38
20	Continuum description of noiseless diffusion-limited aggregation. <i>Physical Review E</i> , 1994 , 50, 2161-2165	2.4	8
19	Fluctuation effects on dendritic growth morphology. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1994 , 204, 96-110	3.3	16
18	Theory of dendritic growth in three dimensions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1994 , 178, 147-152	5.3	0
17	Theory of pattern selection in three-dimensional nonaxisymmetric dendritic growth. <i>Physical Review Letters</i> , 1993 , 71, 589-592	7.4	123
16	Crystal growth in a channel: Numerical study of the one-sided model. <i>Physical Review E</i> , 1993 , 47, 1151-1155	2.4	40
15	Nonaxisymmetric patterns in the Saffman-Taylor problem and in three-dimensional directional solidification at low velocity. <i>Physical Review E</i> , 1993 , 48, 4437-4443	2.4	2
14	Testing singularities in the complex plane: Suggestions for dendritic-growth experiments. <i>Physical Review E</i> , 1993 , 47, 534-544	2.4	7
13	Effect of gravity on stable Saffman-Taylor fingers. <i>Physical Review E</i> , 1993 , 48, 1066-1072	2.4	6
12	Needle-crystal solution in three-dimensional dendritic growth. <i>Physical Review Letters</i> , 1993 , 71, 3653-3656	7.4	113
11	Kinetic Phase Diagram and Scaling Relations for Stationary Diffusional Growth. <i>Europhysics Letters</i> , 1992 , 17, 535-540	1.6	118
10	Nonsymmetric Saffman-Taylor fingers. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991 , 3, 529-534		15
9	Mean-field theory for diffusion-limited aggregation in low dimensions. <i>Physical Review Letters</i> , 1991 , 66, 1978-1981	7.4	52

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| 8 | Growth of non-reflection-symmetric dendrites. <i>Physical Review A</i> , 1991 , 43, 883-887 | 2.6 | 14 |
| 7 | Pattern selection in two-dimensional dendritic growth. <i>Advances in Physics</i> , 1991 , 40, 53-97 | 18.4 | 267 |
| 6 | Growth of Non-Reflection Symmetric Patterns. <i>NATO ASI Series Series B: Physics</i> , 1991 , 31-41 | | |
| 5 | Effects of surface energy and kinetics on the growth of needle-like dendrites. <i>Journal of Crystal Growth</i> , 1990 , 99, 165-170 | 1.6 | 43 |
| 4 | Selection of the Viscous Finger in the 90° Geometry. <i>Europhysics Letters</i> , 1990 , 13, 161-166 | 1.6 | 23 |
| 3 | Automation of the verneuil technique on the basis of a stability analysis. <i>Journal of Crystal Growth</i> , 1981 , 52, 505-508 | 1.6 | 9 |
| 2 | Some aspects of the macroscopic theory of oriented crystallization from the melt. <i>Acta Physica Academiae Scientiarum Hungaricae</i> , 1979 , 47, 139-149 | | 3 |
| 1 | Elastic Effects on Phase Transitions in Multi-Component Alloys 311-324 | | |