

Stefanos Papanikolaou

List of Publications by Year in descending order

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Version: 2024-02-01

60
papers

1,513
citations

361413

20
h-index

330143

37
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62
all docs

62
docs citations

62
times ranked

1606
citing authors

#	ARTICLE	IF	CITATIONS
1	Shear banding instability in multicomponent metallic glasses: Interplay of composition and short-range order. <i>Physical Review B</i> , 2022, 105, .	3.2	8
2	Effects of Fe atoms on hardening of a nickel matrix: Nanoindentation experiments and atom-scale numerical modeling. <i>Materials and Design</i> , 2022, 217, 110639.	7.0	25
3	Effects of surface curvature and dislocation dynamics: Dynamical deformation mechanisms for uniaxial compression tests at the nanoscale. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 846, 143270.	5.6	4
4	Edge dislocations in multicomponent solid solution alloys: Beyond traditional elastic depinning. <i>Physical Review Research</i> , 2022, 4, .	3.6	8
5	Direct detection of plasticity onset through total-strain profile evolution. <i>Physical Review Materials</i> , 2021, 5, .	2.4	2
6	A Molecular Dynamics Simulations Study of the Influence of Prestrain on the Pop-In Behavior and Indentation Size Effect in Cu Single Crystals. <i>Materials</i> , 2021, 14, 5220.	2.9	10
7	Nanoindentation of single crystalline Mo: Atomistic defect nucleation and thermomechanical stability. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 826, 141912.	5.6	20
8	Materials Informatics for Mechanical Deformation: A Review of Applications and Challenges. <i>Materials</i> , 2021, 14, 5764.	2.9	20
9	Colloidal Shear-Thickening Fluids Using Variable Functional Star-Shaped Particles: A Molecular Dynamics Study. <i>Materials</i> , 2021, 14, 6867.	2.9	4
10	Microstructural inelastic fingerprints and data-rich predictions of plasticity and damage in solids. <i>Computational Mechanics</i> , 2020, 66, 141-154.	4.0	9
11	Learning to Predict Crystal Plasticity at the Nanoscale: Deep Residual Networks and Size Effects in Uniaxial Compression Discrete Dislocation Simulations. <i>Scientific Reports</i> , 2020, 10, 8262.	3.3	14
12	$\hat{\Gamma}$ -Invariant and Topological Pathways to Influence the Strength of Submicron Crystals. <i>Physical Review Letters</i> , 2020, 124, 205502.	7.8	6
13	On the shear dilation of polycrystalline lubricant films in boundary lubricated contacts. <i>Journal of Chemical Physics</i> , 2020, 152, 104708.	3.0	4
14	Emergence and role of dipolar dislocation patterns in discrete and continuum formulations of plasticity. <i>Physical Review B</i> , 2020, 101, .	3.2	9
15	From Statistical Correlations to Stochasticity and Size Effects in Sub-Micron Crystal Plasticity. <i>Metals</i> , 2019, 9, 835.	2.3	6
16	Deep learning based domain knowledge integration for small datasets: Illustrative applications in materials informatics. , 2019, , .		9
17	Spatial strain correlations, machine learning, and deformation history in crystal plasticity. <i>Physical Review E</i> , 2019, 99, 053003.	2.1	15
18	Universality Class of Nanocrystal Plasticity: Localization and Self-Organization in Discrete Dislocation Dynamics. <i>Physical Review Letters</i> , 2019, 122, 178001.	7.8	28

#	ARTICLE	IF	CITATIONS
19	Brittle to quasi-brittle transition and crack initiation precursors in crystals with structural Inhomogeneities. <i>Materials Theory</i> , 2019, 3, .	4.3	12
20	Discrete dislocation dynamics simulations of nanoindentation with pre-stress: Hardness and statistics of abrupt plastic events. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 123, 332-347.	4.8	33
21	Bending Nanoindentation and Plasticity Noise in FCC Single and Polycrystals. <i>Crystals</i> , 2019, 9, 652.	2.2	7
22	The origins of Asteroidal rock disaggregation: Interplay of thermal fatigue and microstructure. <i>Icarus</i> , 2018, 304, 172-182.	2.5	27
23	Avalanches and plastic flow in crystal plasticity: an overview. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2018, 26, 013001.	2.0	75
24	Irregularization of systems of conservation laws. <i>Materials Theory</i> , 2018, 2, .	4.3	1
25	Geometrically projected discrete dislocation dynamics. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2018, 26, 065011.	2.0	6
26	Laning and clustering transitions in driven binary active matter systems. <i>Physical Review E</i> , 2018, 98, 022603.	2.1	25
27	Learning local, quenched disorder in plasticity and other crackling noise phenomena. <i>Npj Computational Materials</i> , 2018, 4, .	8.7	12
28	Obstacles and sources in dislocation dynamics: Strengthening and statistics of abrupt plastic events in nanopillar compression. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 102, 17-29.	4.8	42
29	Modelling the Flow of Dynamically Cross-Linked Biopolymer Networks. <i>Biophysical Journal</i> , 2017, 112, 338a.	0.5	0
30	Probing Microplasticity in Small-Scale FCC Crystals via Dynamic Mechanical Analysis. <i>Physical Review Letters</i> , 2017, 118, 155501.	7.8	18
31	Shearing a glass and the role of pinning delay in models of interface depinning. <i>Physical Review E</i> , 2016, 93, 032610.	2.1	10
32	Statistical properties of Barkhausen noise in amorphous ferromagnetic films. <i>Physical Review E</i> , 2014, 90, 032821.	2.1	17
33	Ising nematic fluid phase of hard-core dimers on the square lattice. <i>Physical Review B</i> , 2014, 89, .	3.2	6
34	Statistics of Frictional Families. <i>Physical Review Letters</i> , 2014, 113, 128302.	7.8	9
35	Classical Topological Order in Abelian and Non-Abelian Generalized Height Models. <i>Physical Review Letters</i> , 2013, 111, 245701.	7.8	7
36	Computational studies of the glass-forming ability of model bulk metallic glasses. <i>Journal of Chemical Physics</i> , 2013, 139, 124503.	3.0	29

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37	Scaling theory of continuum dislocation dynamics in three dimensions: Self-organized fractal pattern formation. <i>International Journal of Plasticity</i> , 2013, 46, 94-129.	8.8	31
38	Isostaticity at Frictional Jamming. <i>Physical Review Letters</i> , 2013, 110, 198002.	7.8	63
39	Universal properties of magnetization dynamics in polycrystalline ferromagnetic films. <i>Physical Review E</i> , 2013, 88, 032811.	2.1	12
40	Order and supersymmetry at high filling zero-energy states on the triangular lattice. <i>Physical Review B</i> , 2012, 86, .	3.2	4
41	Quasi-periodic events in crystal plasticity and the self-organized avalanche oscillator. <i>Nature</i> , 2012, 490, 517-521.	27.8	129
42	Is Dislocation Flow Turbulent in Deformed Crystals?. <i>Computing in Science and Engineering</i> , 2012, 14, 33-39.	1.2	8
43	Criticality in Plasma Membranes. <i>Biophysical Journal</i> , 2011, 100, 340a.	0.5	0
44	Minimal Model of Plasma Membrane Heterogeneity Requires Coupling Cortical Actin to Criticality. <i>Biophysical Journal</i> , 2011, 100, 1668-1677.	0.5	172
45	Avalanche spatial structure and multivariable scaling functions: Sizes, heights, widths, and views through windows. <i>Physical Review E</i> , 2011, 84, 061103.	2.1	30
46	Universality beyond power laws and the average avalanche shape. <i>Nature Physics</i> , 2011, 7, 316-320.	16.7	185
47	Dielectric Breakdown and Avalanches at Nonequilibrium Metal-Insulator Transitions. <i>Physical Review Letters</i> , 2011, 107, 276401.	7.8	16
48	Straining topological insulators as a way to detect Majorana fermions. <i>Physical Review B</i> , 2011, 84, .	3.2	7
49	Striped holographic superconductor. <i>Physical Review D</i> , 2011, 83, .	4.7	31
50	A Characterization Method for AI Recovery from Dross Based on Compression at Elevated Temperatures. <i>Advances in Tribology</i> , 2011, 2011, 1-5.	2.1	5
51	Electronic states of graphene grain boundaries. <i>Physical Review B</i> , 2010, 82, .	3.2	69
52	Nodal-antinodal dichotomy from pairing disorder in d-wave superconductors. <i>Physical Review B</i> , 2010, 82, .	3.2	1
53	First-Order versus Unconventional Phase Transitions in Three-Dimensional Dimer Models. <i>Physical Review Letters</i> , 2010, 104, 045701.	7.8	12
54	Bending Crystals: Emergence of Fractal Dislocation Structures. <i>Physical Review Letters</i> , 2010, 105, 105501.	7.8	39

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55	Implications of Criticality in Membrane Bound Processes. Biophysical Journal, 2010, 98, 284a.	0.5	0
56	Universality of Liquid-Gas Mott Transitions at Finite Temperatures. Physical Review Letters, 2008, 100, 026408.	7.8	40
57	Quantum Dimer Models and Exotic Orders. NATO Science for Peace and Security Series B: Physics and Biophysics, 2008, , 139-150.	0.3	0
58	Topological phases and topological entropy of two-dimensional systems with finite correlation length. Physical Review B, 2007, 76, .	3.2	36
59	Devil's staircases, quantum dimer models, and stripe formation in strong coupling models of quantum frustration. Physical Review B, 2007, 75, .	3.2	20
60	Quantum criticality, lines of fixed points, and phase separation in doped two-dimensional quantum dimer models. Physical Review B, 2007, 76, .	3.2	64