Lasse Laurson

List of Publications by Year
in descending order

82 papers	1,616 citations	293460 24 h-index	371746 37 g-index
82 all docs	82 docs citations	82 times ranked	1554 citing authors

#	Article	IF	Citations
1	Predicting atmospheric particle formation days by Bayesian classification of the time series features. Tellus, Series B: Chemical and Physical Meteorology, 2022, 70, 1530031.	0.8	13
2	Machine learning reveals strain-rate-dependent predictability of discrete dislocation plasticity. Physical Review Materials, 2022, 6, .	0.9	2
3	Depinning Exponents of Thin Film Domain Walls Depend on Disorder Strength. Physical Review Letters, 2022, 128, 097202.	2.9	5
4	Portevinâ€“Le Chatelier effect: modeling the deformation bands and stress-strain curves. Materials Theory, 2022, 6, .	2.2	1
5	Effect of thresholding on avalanches and their clustering for interfaces with long-range elasticity. Physical Review E, 2022, 105, .	0.8	3
6	Impurity-induced nematicâ€“isotropic transition of liquid crystals. Physical Chemistry Chemical Physics, 2021, 23, 8825-8835.	1.3	3
7	Effects of external noise on threshold-induced correlations in ferromagnetic systems. Physical Review E, 2021, 103, 062114.	0.8	3
8	Avalanche correlations and stress-strain curves in discrete dislocation plasticity. Physical Review Materials, 2021, 5, .	0.9	3
9	Dislocation avalanches from strain-controlled loading: A discrete dislocation dynamics study. Physical Review E, 2021, 104, 025008.	0.8	6
10	Mimicking Barkhausen noise measurement by in-situ transmission electron microscopy - effect of microstructural steel features on Barkhausen noise. Acta Materialia, 2021, 221, 117378.	3.8	13
11	Propagating bands of plastic deformation in a metal alloy as critical avalanches. Science Advances, 2020, 6, .	4.7	29
12	Machine learning depinning of dislocation pileups. APL Materials, 2020, 8, .	2.2	6
13	Plastic yielding and deformation bursts in the presence of disorder from coherent precipitates. Physical Review Materials, 2020, 4, .	0.9	12
14	Probing the transition from dislocation jamming to pinning by machine learning. Materials Theory, 2020, 4, .	2.2	7
15	Scale-free features of temporal localization of deformation in late stages of creep failure. Physical Review Materials, 2020, 4, .	0.9	2
16	Magnetic non-contact friction from domain wall dynamics actuated by oscillatory mechanical motion. Journal Physics D: Applied Physics, 2019, 52, 445002.	1.3	3
17	Bursty magnetic friction between polycrystalline thin films with domain walls. Physical Review B, 2019, 100, .	1.1	0
18	Analytical computation of the demagnetizing energy of thin-film domain walls. Physical Review B, 2019, 100, .	1.1	12

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19	Multistep Bloch-line-mediated Walker breakdown in ferromagnetic strips. Physical Review B, 2019, 99, .	1.1	4
20	Barkhausen Noise from Precessional Domain Wall Motion. Physical Review Letters, 2019, 122, 117205.	2.9	20
21	Avalanches and extreme value statistics in interfacial crackling dynamics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20170394.	1.6	7
22	Threshold-induced correlations in the Random Field Ising Model. Scientific Reports, 2018, 8, 2571.	1.6	7
23	Effects of precipitates and dislocation loops on the yield stress of irradiated iron. Scientific Reports, 2018, 8, 6914.	1.6	45
24	Moving magnets in a micromagnetic finite-difference framework. Physical Review E, 2018, 97, 053301.	0.8	3
25	Mimicking complex dislocation dynamics by interaction networks. European Physical Journal B, 2018, 91, 1.	0.6	3
26	Machine learning plastic deformation of crystals. Nature Communications, 2018, 9, 5307.	5.8	65
27	Nanoscale liquid crystal lubrication controlled by surface structure and film composition. Physical Chemistry Chemical Physics, 2018, 20, 18737-18743.	1.3	8
28	A surface topography analysis of the curling stone curl mechanism. Scientific Reports, 2018, 8, 8123.	1.6	16
29	Mixture of Clustered Bayesian Neural Networks for Modeling Friction Processes at the Nanoscale. Journal of Chemical Theory and Computation, 2017, 13, 3-8.	2.3	13
30	Fast vortex wall motion in wide permalloy strips from double switching of the vortex core. Physical Review B, 2017, 96, .	1.1	5
31	Intermittent crack growth in fatigue. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 073401.	0.9	4
32	Bloch-line dynamics within moving domain walls in 3D ferromagnets. Physical Review B, 2017, 96, .	1.1	12
33	JaniÄ‡eviÄ‡ etÂal. Reply:. Physical Review Letters, 2017, 119, 188901.	2.9	2
34	Excitation Spectra in Crystal Plasticity. Physical Review Letters, 2017, 119, 265501.	2.9	11
35	Collective dynamics of dislocations interacting with mobile solute atoms. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 043204.	0.9	6
36	Interevent Correlations from Avalanches Hiding Below the Detection Threshold. Physical Review Letters, 2016, 117, 230601.	2.9	46

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37	Predicting sample lifetimes in creep fracture of heterogeneous materials. Physical Review E, 2016, 94, 023002.	0.8	28
38	Glassy features of crystal plasticity. Physical Review B, 2016, 94, .	1.1	26
39	Multiscale modeling of dislocation-precipitate interactions in Fe: From molecular dynamics to discrete dislocations. Physical Review E, 2016, 93, 013309.	0.8	64
40	Magnetic domain-wall dynamics in wide permalloy strips. Physical Review B, 2016, 93, .	1.1	23
41	Coarsening dynamics of topological defects in thin permalloy films. Physical Review B, 2016, 94, .	1.1	8
42	Creep turns linear in narrow ferromagnetic nanostrips. Scientific Reports, 2016, 6, 20472.	1.6	11
43	Domain walls within domain walls in wide ferromagnetic strips. Physical Review B, 2015, 92, .	1.1	25
44	Quenched pinning and collective dislocation dynamics. Scientific Reports, 2015, 5, 10580.	1.6	40
45	Friction control with nematic lubricants via external fields. Physical Review E, 2015, 91, 012504.	0.8	10
46	Stick-Slip Control in Nanoscale Boundary Lubrication by Surface Wettability. Physical Review Letters, 2015, 114, 095502.	2.9	37
47	Thermal effects on transverse domain wall dynamics in magnetic nanowires. Applied Physics Letters, 2015, 106, .	1.5	16
48	Head-to-head domain wall structures in wide permalloy strips. Physical Review B, 2015, 91, .	1.1	36
49	Osmotic stress affects functional properties of human melanoma cell lines. European Physical Journal Plus, 2015, 130, 1.	1.2	22
50	Avalanches in 2D dislocation systems without applied stresses. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P07016.	0.9	9
51	Avalanches in 2D Dislocation Systems: Plastic Yielding Is Not Depinning. Physical Review Letters, 2014, 112, 235501.	2.9	111
52	Current-driven domain wall mobility in polycrystalline Permalloy nanowires: A numerical study. Journal of Applied Physics, 2014, 115, .	1.1	58
53	Boundary lubrication with a liquid crystal monolayer. Physical Review E, 2014, 90, 012404.	0.8	13
54	Electric field driven magnetic domain wall motion in ferromagnetic-ferroelectric heterostructures. Applied Physics Letters, 2014, 104, .	1.5	21

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55	Crackling noise in plasticity. European Physical Journal: Special Topics, 2014, 223, 2353-2367.	1.2	32
56	A numerical approach to incorporate intrinsic material defects in micromagnetic simulations. Journal of Applied Physics, 2014, 115, .	1.1	35
57	Universality classes and crossover scaling of Barkhausen noise in thin films. Physical Review B, 2014, 89, .	1.1	12
58	Influence of material defects on current-driven vortex domain wall mobility. Physical Review B, 2014, 89, .	1.1	22
59	Evolution of the average avalanche shape with the universality class. Nature Communications, 2013, 4, 2927.	5.8	106
60	The role of disorder in the domain wall dynamics of magnetic nanostrips. European Physical Journal B, 2013, 86, 1.	0.6	3
61	Effect of disorder on transverse domain wall dynamics in magnetic nanostrips. Physical Review B, 2012, 86, .	1.1	18
62	Dynamic Hysteresis in Cyclic Deformation of Crystalline Solids. Physical Review Letters, 2012, 109, 155504.	2.9	19
63	Thermally activated domain wall dynamics in a disordered magnetic nanostrip. Journal of Applied Physics, 2011, 109, 07D345.	1.1	2
64	Modeling thermally activated domain wall dynamics in thin magnetic strips with disorder. Journal of Physics: Conference Series, 2011, 292, 012008.	0.3	0
65	Spatial fluctuations in transient creep deformation. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P07002.	0.9	10
66	Effect of Dipolar Interactions for Domain-Wall Dynamics in Magnetic Thin Films. IEEE Transactions on Magnetics, 2010, 46, 228-230.	1.2	15
67	Modeling Domain Wall Dynamics in Thin Magnetic Strips With Disorder. IEEE Transactions on Magnetics, 2010, 46, 262-265.	1.2	9
68	Fluctuations and Scaling in Creep Deformation. Physical Review Letters, 2010, 105, 100601.	2.9	45
69	Avalanches and clusters in planar crack front propagation. Physical Review E, 2010, 81, 046116.	0.8	87
70	Dynamical Correlations near Dislocation Jamming. Physical Review Letters, 2010, 105, 015501.	2.9	29
71	Roughness and multiscaling of planar crack fronts. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P11014.	0.9	7
72	Heterogeneous Dynamics and Internal Stress Distributions near Dislocation Jamming. , 2009, , .		0

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73	The effect of thresholding on temporal avalanche statistics. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01019.	0.9	30
74	Material yielding and irreversible deformation mediated by dislocation motion. European Physical Journal B, 2008, 64, 443-450.	0.6	25
75	Dislocation interactions mediated by grain boundaries. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P05010.	0.9	1
76	A driven particle in a cloud of mobile impurities. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P07003.	0.9	1
77	Comment on â€œSelf-organized criticality and absorbing states: Lessons from the Ising modelâ€• Physical Review E, 2008, 77, 048101; discussion 048102.	0.8	9
78	Fluctuations in Fluid Invasion into Disordered Media. Physical Review Letters, 2007, 98, 054502.	2.9	48
79	1âˆ•fnoise and avalanche scaling in plastic deformation. Physical Review E, 2006, 74, 066106.	0.8	47
80	Power spectra of self-organized critical sandpiles. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, L11001-L11001.	0.9	37
81	Surface criticality in random field magnets. Physical Review B, 2005, 72, .	1.1	2
82	Local waiting times in critical systems. European Physical Journal B, 2004, 42, 407-414.	0.6	7