

# Michael Zaiser

## List of Publications by Citations

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153  
papers

4,689  
citations

33  
h-index

65  
g-index

165  
ext. papers

5,301  
ext. citations

4.6  
avg, IF

5.98  
L-index

#	Paper	IF	Citations
153	Dislocation avalanches, strain bursts, and the problem of plastic forming at the micrometer scale. <i>Science</i> , <b>2007</b> , 318, 251-4	33.3	436
152	Interactions between polymers and carbon nanotubes: a molecular dynamics study. <i>Journal of Physical Chemistry B</i> , <b>2005</b> , 109, 10009-14	3.4	313
151	Spatial correlations and higher-order gradient terms in a continuum description of dislocation dynamics. <i>Acta Materialia</i> , <b>2003</b> , 51, 1271-1281	8.4	305
150	Scale invariance in plastic flow of crystalline solids. <i>Advances in Physics</i> , <b>2006</b> , 55, 185-245	18.4	261
149	Fractal Dislocation Patterning During Plastic Deformation. <i>Physical Review Letters</i> , <b>1998</b> , 81, 2470-2473	7.4	137
148	Radiation-Induced Transformation of Graphite to Diamond. <i>Physical Review Letters</i> , <b>1997</b> , 79, 3680-3683	7.4	122
147	A three-dimensional continuum theory of dislocation systems: kinematics and mean-field formulation. <i>Philosophical Magazine</i> , <b>2007</b> , 87, 1261-1282	1.6	122
146	Oscillatory Modes of Plastic Deformation: Theoretical Concepts. <i>Physica Status Solidi (B): Basic Research</i> , <b>1997</b> , 199, 267-330	1.3	118
145	Statistical dynamics of dislocation systems: The influence of dislocation-dislocation correlations. <i>Physical Review B</i> , <b>2001</b> , 64,	3.3	117
144	Dislocation jamming and andrade creep. <i>Physical Review Letters</i> , <b>2002</b> , 89, 165501	7.4	113
143	Strain bursts in plastically deforming molybdenum micro- and nanopillars. <i>Philosophical Magazine</i> , <b>2008</b> , 88, 3861-3874	1.6	111
142	Continuum dislocation dynamics: Towards a physical theory of crystal plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2014</b> , 63, 167-178	5	110
141	Avalanches in 2D dislocation systems: plastic yielding is not depinning. <i>Physical Review Letters</i> , <b>2014</b> , 112, 235501	7.4	96
140	Anticrack nucleation as triggering mechanism for snow slab avalanches. <i>Science</i> , <b>2008</b> , 321, 240-3	33.3	90
139	Self-affine surface morphology of plastically deformed metals. <i>Physical Review Letters</i> , <b>2004</b> , 93, 195507	7.4	86
138	Carbon nanotube/epoxy resin composites using a block copolymer as a dispersing agent. <i>Physica Status Solidi A</i> , <b>2004</b> , 201, R89-R91		80
137	Continuum modeling of dislocation plasticity: Theory, numerical implementation, and validation by discrete dislocation simulations. <i>Journal of Materials Research</i> , <b>2011</b> , 26, 623-632	2.5	79

136	Fractal analysis of deformation-induced dislocation patterns. <i>Acta Materialia</i> , <b>1999</b> , 47, 2463-2476	8.4	70
135	Fluctuation phenomena in crystal plasticity – continuum model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2005</b> , 2005, P08004-P08004	1.9	68
134	Depinning transition of dislocation assemblies: Pileups and low-angle grain boundaries. <i>Physical Review B</i> , <b>2004</b> , 69,	3.3	61
133	Randomness and slip avalanches in gradient plasticity. <i>International Journal of Plasticity</i> , <b>2006</b> , 22, 1432-1455	4.5	59
132	Irradiation-induced transformation of graphite to diamond: A quantitative study. <i>Physical Review B</i> , <b>2000</b> , 62, 3058-3064	3.3	55
131	Scaling properties of dislocation simulations in the similitude regime. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2014</b> , 22, 065012	2	48
130	Numerical implementation of a 3D continuum theory of dislocation dynamics and application to micro-bending. <i>Philosophical Magazine</i> , <b>2010</b> , 90, 3697-3728	1.6	48
129	Statistical modelling of dislocation systems. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2001</b> , 309-310, 304-315	5.3	48
128	Some steps towards a continuum representation of 3D dislocation systems. <i>Scripta Materialia</i> , <b>2006</b> , 54, 717-721	5.6	45
127	Universal features of amorphous plasticity. <i>Nature Communications</i> , <b>2017</b> , 8, 15928	17.4	42
126	Slip avalanches in crystal plasticity: scaling of the avalanche cut-off. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2007</b> , 2007, P04013-P04013	1.9	42
125	Dislocation patterning in a two-dimensional continuum theory of dislocations. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	39
124	Geometrically necessary dislocations and strain gradient plasticity – dislocation dynamics point of view. <i>Scripta Materialia</i> , <b>2003</b> , 48, 133-139	5.6	38
123	Dislocation dynamics and work hardening of fractal dislocation cell structures. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1999</b> , 272, 443-454	5.3	37
122	Local density approximation for the energy functional of three-dimensional dislocation systems. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	34
121	Pattern formation in a minimal model of continuum dislocation plasticity. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2015</b> , 23, 065005	2	33
120	A continuum approach to combined $\mathbb{Z}_2$ evolution and dislocation plasticity in Nickel-based superalloys. <i>International Journal of Plasticity</i> , <b>2017</b> , 95, 142-162	7.6	33
119	Depinning of a dislocation: the influence of long-range interactions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2001</b> , 309-310, 348-351	5.3	32

118	The flow stress of fractal dislocation arrangements. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1999</b> , 270, 299-307	5.3	31
117	Grain boundary effect on nanoindentation: A multiscale discrete dislocation dynamics model. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2019</b> , 126, 117-135	5	31
116	Propagating compaction bands in confined compression of snow. <i>Nature Physics</i> , <b>2017</b> , 13, 272-275	16.2	30
115	Acceleration and localization of subcritical crack growth in a natural composite material. <i>Physical Review E</i> , <b>2014</b> , 90, 052401	2.4	30
114	From mesoscopic heterogeneity of slip to macroscopic fluctuations of stress and strain. <i>Acta Materialia</i> , <b>1997</b> , 45, 1067-1075	8.4	29
113	The effects of snow variability on slab avalanche release. <i>Cold Regions Science and Technology</i> , <b>2004</b> , 40, 229-242	3.8	29
112	From systems of discrete dislocations to a continuous field description: stresses and averaging aspects. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2013</b> , 21, 085006	2	28
111	Dislocation motion in a random solid solution. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>2002</b> , 82, 2869-2883		28
110	Modelling size effects using 3D density-based dislocation dynamics. <i>Philosophical Magazine</i> , <b>2007</b> , 87, 1283-1306	1.6	25
109	Effects of twin boundary orientation on plasticity of bicrystalline copper micropillars: A discrete dislocation dynamics simulation study. <i>Acta Materialia</i> , <b>2019</b> , 176, 289-296	8.4	24
108	A unified description of strain-rate softening instabilities. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1997</b> , 238, 399-406	5.3	24
107	Chapter 56 Long-range internal stresses, dislocation patterning and work-hardening in crystal plasticity. <i>Dislocations in Solids</i> , <b>2002</b> , 11, 1-100		24
106	The study of self-organization processes in crystals by high-voltage electron microscopy. <i>Ultramicroscopy</i> , <b>1991</b> , 39, 342-354	3.1	24
105	Thin Film Encapsulation of Organic Solar Cells by Direct Deposition of Polysilazanes from Solution. <i>Advanced Energy Materials</i> , <b>2019</b> , 9, 1900598	21.8	23
104	Internal length scale and grain boundary yield strength in gradient models of polycrystal plasticity: How do they relate to the dislocation microstructure?. <i>Journal of Materials Research</i> , <b>2014</b> , 29, 2116-2128	2.5	22
103	Dislocation depinning transition in a dispersion-strengthened steel. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	22
102	Size effect in the tensile fracture of single-walled carbon nanotubes with defects. <i>Nanotechnology</i> , <b>2007</b> , 18, 155708	3.4	22
101	Continuum representation of systems of dislocation lines: A general method for deriving closed-form evolution equations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2016</b> , 95, 575-601	5	22

100	Stochastic and deterministic aspects of strain localization during cyclic plastic deformation. <i>Acta Materialia</i> , <b>1998</b> , 46, 4143-4151	8.4	21
99	Strain rate dependency of dislocation plasticity. <i>Nature Communications</i> , <b>2021</b> , 12, 1845	17.4	21
98	Failure initiation in snow stratifications containing weak layers: Nucleation of whumpfs and slab avalanches. <i>Cold Regions Science and Technology</i> , <b>2008</b> , 52, 385-400	3.8	19
97	On the relations between strain and strain-rate softening phenomena in some metallic materials: a computational study. <i>Computational Materials Science</i> , <b>1999</b> , 15, 35-49	3.2	19
96	A mesoscopic approach to radiation-induced defect aggregation in alkali halides stimulated by the elastic interaction of mobile Frenkel defects. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1994</b> , 70, 313-327		19
95	Instability of dislocation fluxes in a single slip: Deterministic and stochastic models of dislocation patterning. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	18
94	Strain localization and strain propagation in collapsible solid foams. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2013</b> , 567, 38-45	5.3	18
93	Mechanical properties and microstructure of single-wall carbon nanotube/elastomeric epoxy composites with block copolymers. <i>Materials Letters</i> , <b>2014</b> , 125, 116-119	3.3	17
92	Annihilation and sources in continuum dislocation dynamics. <i>Materials Theory</i> , <b>2018</b> , 2,	2.2	16
91	Comparison of closure approximations for continuous dislocation dynamics. <i>Materials Research Society Symposia Proceedings</i> , <b>2014</b> , 1651, 1		16
90	A generalized comosite approach to the flow stress and strain hardening of crystals containing heterogeneous dislocation distributions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1998</b> , 249, 145-151	5.3	16
89	Size and disorder effects in elasticity of cellular structures: From discrete models to continuum representations. <i>International Journal of Solids and Structures</i> , <b>2018</b> , 146, 97-116	3.1	15
88	An analytical model for fracture nucleation in collapsible stratifications. <i>Geophysical Research Letters</i> , <b>2006</b> , 33,	4.9	15
87	The energetics and interactions of random dislocation walls. <i>Philosophical Magazine Letters</i> , <b>2013</b> , 93, 387-394	1	13
86	Statistical heterogeneity of plastic deformation: An investigation based on surface profilometry. <i>Acta Materialia</i> , <b>2010</b> , 58, 4859-4870	8.4	13
85	Avalanches and Slip Patterning in Plastic Deformation. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2003</b> , 14, 255-270	1.9	13
84	Deformation patterns and surface morphology in a minimal model of amorphous plasticity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2014</b> , 2014, P03014	1.9	12
83	Growth of a vortex polycrystal in type II superconductors. <i>Physical Review Letters</i> , <b>2004</b> , 92, 257004	7.4	12

82	Disorder is good for you: the influence of local disorder on strain localization and ductility of strain softening materials. <i>International Journal of Fracture</i> , <b>2017</b> , 205, 139-150	2.3	11
81	Statistical aspects of microplasticity: experiments, discrete dislocation simulations and stochastic continuum models. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2013</b> , 22, 89-100	1.9	11
80	Scale-free statistics of plasticity-induced surface steps on KCl single crystals. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2007</b> , 2007, L04001-L04001	1.9	11
79	Avalanche precursors of failure in hierarchical fuse networks. <i>Scientific Reports</i> , <b>2018</b> , 8, 12090	4.9	11
78	Statistical dynamics of dislocations in simple models of plastic deformation: Phase transitions and related phenomena. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2005</b> , 400-401, 191-198	5.3	10
77	Random aspects of macroscopic plastic deformation. <i>Philosophical Magazine Letters</i> , <b>1996</b> , 73, 369-376	1	10
76	Self-Organization of Defect Structures under Low-Temperature Irradiation-A Theory of Stacking-Fault-Tetrahedron Lattices. <i>Solid State Phenomena</i> , <b>1992</b> , 23-24, 221-236	0.4	10
75	Properties of dislocation lines in crystals with strong atomic-scale disorder. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 740-741, 285-294	5.3	10
74	Avalanche Behavior in Creep Failure of Disordered Materials. <i>Physical Review Letters</i> , <b>2018</b> , 121, 125501	7.4	10
73	Nickel coated carbon nanotubes in aluminum matrix composites: a multiscale simulation study. <i>European Physical Journal B</i> , <b>2019</b> , 92, 1	1.2	9
72	Statistical analysis and stochastic dislocation-based modeling of microplasticity. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2015</b> , 24, 105-113	1.9	9
71	Dislocation Transport and Line Length Increase in Averaged Descriptions of Dislocations <b>2009</b> ,		9
70	Discrete dislocation dynamics simulation and continuum modeling of plastic boundary layers in tricrystal micropillars. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2009</b> , 3, 012025	0.4	9
69	Misfit Dislocation Patterning in Thin Films. <i>Physica Status Solidi (B): Basic Research</i> , <b>1998</b> , 209, 295-304	1.3	9
68	Dislocation Patterns in Crystalline Solids Phenomenology and Modelling <b>2004</b> , 215-238		9
67	Rupture of graphene sheets with randomly distributed defects. <i>AIMS Materials Science</i> , <b>2016</b> , 3, 1340-1349	4.9	9
66	Size-dependent plasticity of hetero-structured laminates: A constitutive model considering deformation heterogeneities. <i>International Journal of Plasticity</i> , <b>2021</b> , 145, 103063	7.6	9
65	Stress and strain fluctuations in plastic deformation of crystals with disordered microstructure. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2015</b> , 2015, P08009	1.9	8

64	Slab avalanche release viewed as interface fracture in a random medium. <i>Annals of Glaciology</i> , <b>2004</b> , 38, 9-14	2.5	8
63	Some exactly solvable models for the statistical evolution of internal variables during plastic deformation. <i>Probabilistic Engineering Mechanics</i> , <b>2000</b> , 15, 131-138	2.6	8
62	Spatio-temporal aspects of low-temperature thermomechanical instabilities: A model based on dislocation dynamics. <i>Applied Physics A: Solids and Surfaces</i> , <b>1993</b> , 57, 143-151		8
61	Cell structure formation in a two-dimensional density-based dislocation dynamics model. <i>Materials Theory</i> , <b>2021</b> , 5,	2.2	8
60	Snow Mechanics Near the Ductile-Brittle Transition: Compressive Stick-Slip and Snow Microquakes. <i>Geophysical Research Letters</i> , <b>2020</b> , 47, e2019GL085491	4.9	7
59	The role of density fluctuations in the relaxation of random dislocation systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2009</b> , 2009, P03036	1.9	7
58	Interplay of basal shear fracture and slab rupture in slab avalanche release. <i>Cold Regions Science and Technology</i> , <b>2007</b> , 49, 26-38	3.8	7
57	Fractal Dislocation Patterning in Plastically Deformed NaCl Polycrystals. <i>Physica Status Solidi A</i> , <b>2001</b> , 185, R4-R5		7
56	Stability criteria for plastic deformation at low temperatures. <i>Scripta Metallurgica Et Materialia</i> , <b>1995</b> , 32, 1261-1268		7
55	Determining Cosserat constants of 2D cellular solids from beam models. <i>Materials Theory</i> , <b>2018</b> , 2,	2.2	6
54	The influence of strain-rate fluctuations on the stability of low-temperature plastic deformation. <i>Acta Materialia</i> , <b>1997</b> , 45, 1695-1704	8.4	6
53	Shear Bands and Damage Clusters in Slope Failure - A One-Dimensional Model. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2004</b> , 15, 185-202	1.9	6
52	Prediction of creep failure time using machine learning. <i>Scientific Reports</i> , <b>2020</b> , 10, 16910	4.9	6
51	Role of weakest links and system-size scaling in multiscale modeling of stochastic plasticity. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	5
50	Network analysis predicts failure of materials and structures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 16666-16668	11.5	5
49	Cyclic-loading microstructure-property relations from a mesoscale perspective: An example of single crystal Nickel-based superalloys. <i>Journal of Alloys and Compounds</i> , <b>2019</b> , 770, 964-971	5.7	5
48	Microplasticity and yielding in crystals with heterogeneous dislocation distribution. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2019</b> , 27, 074003	2	5
47	Emergent patterns of localized damage as a precursor to catastrophic failure in a random fuse network. <i>Physical Review E</i> , <b>2013</b> , 87, 042811	2.4	5

46	Nucleation of interfacial shear cracks in thin films on disordered substrates. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2009</b> , 2009, P02047	1.9	5
45	Microstructural Slip Localization in Strain Softening Materials. <i>Physica Status Solidi (B): Basic Research</i> , <b>1997</b> , 203, 29-42	1.3	5
44	Density-based modelling of dislocations. <i>Philosophical Magazine</i> , <b>2007</b> , 87, 1159-1160	1.6	5
43	A theory of the formation of slip channels in cold-worked bcc metals. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1996</b> , 74, 287-298		5
42	The tension-compression behavior of gradient structured materials: A deformation-mechanism-based strain gradient plasticity model. <i>Mechanics of Materials</i> , <b>2021</b> , 159, 103912	3.3	5
41	Roughening and pinning of interface cracks in shear delamination of thin films. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2009</b> , 2009, P11009	1.9	4
40	Depinning transition of a dislocation line in ferritic oxide strengthened steels. <i>Journal of Nuclear Materials</i> , <b>2009</b> , 385, 284-287	3.3	4
39	Theory of radiation-induced self-organization of defect structures. <i>Applied Physics A: Solids and Surfaces</i> , <b>1994</b> , 58, 3-10		4
38	A model of the formation of strain bursts during cyclic deformation. <i>Scripta Metallurgica Et Materialia</i> , <b>1994</b> , 31, 1587-1592		4
37	A mesoscopic approach to point-defect clustering in solids during irradiation. <i>Applied Physics A: Solids and Surfaces</i> , <b>1993</b> , 57, 117-121		4
36	Stochastic Crystal Plasticity Models with Internal Variables: Application to Slip Channel Formation in Irradiated Metals. <i>Advanced Engineering Materials</i> , <b>2020</b> , 22, 1901208	3.5	4
35	Avalanche dynamics in hierarchical fiber bundles. <i>Physical Review E</i> , <b>2019</b> , 100, 022133	2.4	3
34	Graph theoretical approaches for the characterization of damage in hierarchical materials. <i>European Physical Journal B</i> , <b>2019</b> , 92, 1	1.2	3
33	Crack phantoms: localized damage correlations and failure in network models of disordered materials. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2015</b> , 2015, P08029	1.9	3
32	Some Limitations of Dislocation Walls as Models for Plastic Boundary Layers <b>2011</b> ,		3
31	Expansion of Quasi-Discrete Dislocation Loops in the Context of a 3D Continuum Theory of Curved Dislocations <b>2009</b> ,		3
30	Modeling microbending of thin films through discrete dislocation dynamics, continuum dislocation theory, and gradient plasticity. <i>Journal of Materials Research</i> , <b>2012</b> , 27, 612-618	2.5	3
29	Statistical theory of slip channels in body-centered cubic metals. <i>Applied Physics A: Materials Science and Processing</i> , <b>1997</b> , 64, 391-401	2.6	3



28	RAS as a remote sensor of plastic deformation in metals. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2005</b> , 2, 3997-4002		3
27	Theory of diffusion-controlled defect aggregation under irradiation: A comparative study of three basic approaches. <i>Radiation Effects and Defects in Solids</i> , <b>1995</b> , 136, 209-215	0.9	3
26	Evading strength and ductility trade-off in an inverse nacre structured magnesium matrix nanocomposite. <i>Acta Materialia</i> , <b>2022</b> , 228, 117730	8.4	3
25	Multilayer Structures of Graphene and Pt Nanoparticles: A Multiscale Computational Study. <i>Advanced Engineering Materials</i> , <b>2020</b> , 22, 2000207	3.5	3
24	Digital strategies for structured and architected materials design. <i>APL Materials</i> , <b>2021</b> , 9, 020904	5.7	3
23	Statistical dynamics of early creep stages in disordered materials. <i>European Physical Journal B</i> , <b>2019</b> , 92, 1	1.2	2
22	Damage growth in fibre bundle models with localized load sharing and environmentally-assisted ageing. <i>Journal of Physics: Conference Series</i> , <b>2013</b> , 410, 012064	0.3	2
21	Nucleation And Non-Linear Strain Localization During Cyclic Plastic Deformation. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2007</b> , 18, 69-79	1.9	2
20	Fracture Toughness of Snow: The Influence of Layered Microstructure. <i>Journal of the Mechanical Behavior of Materials</i> , <b>2007</b> , 18, 195-215	1.9	2
19	Radiation-Induced Self-Organization of Defect Structures in Metals. <i>Materials Science Forum</i> , <b>1993</b> , 123-125, 687-700	0.4	2
18	Effects of elasticity and dislocation core structure on the interaction of dislocations with embedded CNTs in aluminium: An atomistic simulation study. <i>Materialia</i> , <b>2022</b> , 21, 101347	3.2	2
17	Statistical Dislocation Dynamics [Multiplication and Long Range Interactions. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 779, 571		2
16	A Beam Network Model Approach to Strength Optimization of Disordered Fibrous Materials. <i>Advanced Engineering Materials</i> , <b>2020</b> , 22, 1901013	3.5	2
15	Beam network model for fracture of materials with hierarchical microstructure. <i>International Journal of Fracture</i> , <b>2021</b> , 227, 243-257	2.3	2
14	Higher Order Continuum Modelling for Predicting the Mechanical Behaviour of Solid Foams. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2014</b> , 14, 315-316	0.2	1
13	Size scaling of strength in thin film delamination. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2011</b> , 2011, P02024	1.9	1
12	Der Knall im Lawinenhang. Die Ursache von Schneebrettlawinen. <i>Physik in Unserer Zeit</i> , <b>2010</b> , 41, 31-34	0.1	1
11	Dislocation dynamics in cyclic plastic deformation. <i>Applied Physics A: Materials Science and Processing</i> , <b>1995</b> , 60, 497-503	2.6	1

10	Atomistic aspects of load transfer and fracture in CNT-reinforced aluminium. <i>Materialia</i> , <b>2022</b> , 22, 101375	6.2	1
9	Thermodynamic considerations on a class of dislocation-based constitutive models. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2022</b> , 159, 104735	5	0
8	Size-dependent yield stress in ultrafine-grained polycrystals: A multiscale discrete dislocation dynamics study. <i>International Journal of Plasticity</i> , <b>2022</b> , 149, 103183	7.6	0
7	Statistical aspects of interface adhesion and detachment of hierarchically patterned structures. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2022</b> , 2022, 023301	1.9	0
6	Plasticity of Crystals with Disordered Microstructure: Scale-dependent Fluctuations of Stress and Strain. <i>Materials Research Society Symposia Proceedings</i> , <b>2014</b> , 1651, 1		
5	Application of a 3D-Continuum Theory of Dislocations to a Problem of Constrained Plastic Flow: Microbending of a Thin Film. <i>Materials Research Society Symposia Proceedings</i> , <b>2009</b> , 1224, 1		
4	Dislocation dynamics in cyclic plastic deformation. <i>Applied Physics A: Materials Science and Processing</i> , <b>1995</b> , 60, 589-595	2.6	
3	Theory of radiation-induced self-organization of defect structures. <i>Applied Physics A: Solids and Surfaces</i> , <b>1994</b> , 58, 11-19		
2	Pinning and propagation of interface cracks in slope failure <b>2004</b> , 435-446		
1	Exaptation in Physics and Materials Science. <i>The Frontiers Collection</i> , <b>2020</b> , 35-45	0.3	