

Michael Zaiser

List of Publications by Year in descending order

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165
papers

5,817
citations

76322

40
h-index

82542

72
g-index

165
all docs

165
docs citations

165
times ranked

3125
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 1 | Dislocation Avalanches, Strain Bursts, and the Problem of Plastic Forming at the Micrometer Scale. <i>Science</i> , 2007, 318, 251-254. | 12.6 | 506 |
| 2 | Spatial correlations and higher-order gradient terms in a continuum description of dislocation dynamics. <i>Acta Materialia</i> , 2003, 51, 1271-1281. | 7.9 | 345 |
| 3 | Interactions between Polymers and Carbon Nanotubes: A Molecular Dynamics Study. <i>Journal of Physical Chemistry B</i> , 2005, 109, 10009-10014. | 2.6 | 333 |
| 4 | Scale invariance in plastic flow of crystalline solids. <i>Advances in Physics</i> , 2006, 55, 185-245. | 14.4 | 293 |
| 5 | Fractal Dislocation Patterning During Plastic Deformation. <i>Physical Review Letters</i> , 1998, 81, 2470-2473. | 7.8 | 148 |
| 6 | Continuum dislocation dynamics: Towards a physical theory of crystal plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 63, 167-178. | 4.8 | 141 |
| 7 | A three-dimensional continuum theory of dislocation systems: kinematics and mean-field formulation. <i>Philosophical Magazine</i> , 2007, 87, 1261-1282. | 1.6 | 134 |
| 8 | Oscillatory Modes of Plastic Deformation: Theoretical Concepts. <i>Physica Status Solidi (B): Basic Research</i> , 1997, 199, 267-330. | 1.5 | 133 |
| 9 | Radiation-Induced Transformation of Graphite to Diamond. <i>Physical Review Letters</i> , 1997, 79, 3680-3683. | 7.8 | 131 |
| 10 | Statistical dynamics of dislocation systems: The influence of dislocation-dislocation correlations. <i>Physical Review B</i> , 2001, 64, . | 3.2 | 130 |
| 11 | Dislocation Jamming and Andrade Creep. <i>Physical Review Letters</i> , 2002, 89, 165501. | 7.8 | 128 |
| 12 | Strain bursts in plastically deforming molybdenum micro- and nanopillars. <i>Philosophical Magazine</i> , 2008, 88, 3861-3874. | 1.6 | 128 |
| 13 | Anticrack Nucleation as Triggering Mechanism for Snow Slab Avalanches. <i>Science</i> , 2008, 321, 240-243. | 12.6 | 120 |
| 14 | Avalanches in 2D Dislocation Systems: Plastic Yielding Is Not Depinning. <i>Physical Review Letters</i> , 2014, 112, 235501. | 7.8 | 111 |
| 15 | Self-Affine Surface Morphology of Plastically Deformed Metals. <i>Physical Review Letters</i> , 2004, 93, 195507. | 7.8 | 99 |
| 16 | Strain rate dependency of dislocation plasticity. <i>Nature Communications</i> , 2021, 12, 1845. | 12.8 | 97 |
| 17 | Carbon nanotube/epoxy resin composites using a block copolymer as a dispersing agent. <i>Physica Status Solidi A</i> , 2004, 201, R89-R91. | 1.7 | 88 |
| 18 | Continuum modeling of dislocation plasticity: Theory, numerical implementation, and validation by discrete dislocation simulations. <i>Journal of Materials Research</i> , 2011, 26, 623-632. | 2.6 | 85 |

| # | ARTICLE | IF | CITATIONS |
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| 19 | Fractal analysis of deformation-induced dislocation patterns. <i>Acta Materialia</i> , 1999, 47, 2463-2476. | 7.9 | 78 |
| 20 | Fluctuation phenomena in crystal plasticity—a continuum model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2005, 2005, P08004-P08004. | 2.3 | 76 |
| 21 | Depinning transition of dislocation assemblies: Pileups and low-angle grain boundaries. <i>Physical Review B</i> , 2004, 69, . | 3.2 | 73 |
| 22 | Randomness and slip avalanches in gradient plasticity. <i>International Journal of Plasticity</i> , 2006, 22, 1432-1455. | 8.8 | 73 |
| 23 | Irradiation-induced transformation of graphite to diamond: A quantitative study. <i>Physical Review B</i> , 2000, 62, 3058-3064. | 3.2 | 59 |
| 24 | Universal features of amorphous plasticity. <i>Nature Communications</i> , 2017, 8, 15928. | 12.8 | 59 |
| 25 | Grain boundary effect on nanoindentation: A multiscale discrete dislocation dynamics model. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 126, 117-135. | 4.8 | 57 |
| 26 | Numerical implementation of a 3D continuum theory of dislocation dynamics and application to micro-bending. <i>Philosophical Magazine</i> , 2010, 90, 3697-3728. | 1.6 | 56 |
| 27 | Statistical modelling of dislocation systems. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 309-310, 304-315. | 5.6 | 54 |
| 28 | Scaling properties of dislocation simulations in the similitude regime. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2014, 22, 065012. | 2.0 | 53 |
| 29 | Thin Film Encapsulation of Organic Solar Cells by Direct Deposition of Polysilazanes from Solution. <i>Advanced Energy Materials</i> , 2019, 9, 1900598. | 19.5 | 52 |
| 30 | Some steps towards a continuum representation of 3D dislocation systems. <i>Scripta Materialia</i> , 2006, 54, 717-721. | 5.2 | 50 |
| 31 | Geometrically necessary dislocations and strain gradient plasticity—a dislocation dynamics point of view. <i>Scripta Materialia</i> , 2003, 48, 133-139. | 5.2 | 49 |
| 32 | A continuum approach to combined $\dot{\gamma}/\dot{\gamma}_0 \ll 1$ evolution and dislocation plasticity in Nickel-based superalloys. <i>International Journal of Plasticity</i> , 2017, 95, 142-162. | 8.8 | 49 |
| 33 | Acceleration and localization of subcritical crack growth in a natural composite material. <i>Physical Review E</i> , 2014, 90, 052401. | 2.1 | 47 |
| 34 | Dislocation patterning in a two-dimensional continuum theory of dislocations. <i>Physical Review B</i> , 2016, 93, . | 3.2 | 47 |
| 35 | Slip avalanches in crystal plasticity: scaling of the avalanche cut-off. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007, 2007, P04013-P04013. | 2.3 | 46 |
| 36 | Local density approximation for the energy functional of three-dimensional dislocation systems. <i>Physical Review B</i> , 2015, 92, . | 3.2 | 46 |

| # | ARTICLE | IF | CITATIONS |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 37 | Effects of twin boundary orientation on plasticity of bicrystalline copper micropillars: A discrete dislocation dynamics simulation study. <i>Acta Materialia</i> , 2019, 176, 289-296. | 7.9 | 45 |
| 38 | Size-dependent plasticity of hetero-structured laminates: A constitutive model considering deformation heterogeneities. <i>International Journal of Plasticity</i> , 2021, 145, 103063. | 8.8 | 45 |
| 39 | Depinning of a dislocation: the influence of long-range interactions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 309-310, 348-351. | 5.6 | 44 |
| 40 | Propagating compaction bands in confined compression of snow. <i>Nature Physics</i> , 2017, 13, 272-275. | 16.7 | 44 |
| 41 | Dislocation dynamics and work hardening of fractal dislocation cell structures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 272, 443-454. | 5.6 | 40 |
| 42 | Pattern formation in a minimal model of continuum dislocation plasticity. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2015, 23, 065005. | 2.0 | 40 |
| 43 | Dislocation motion in a random solid solution. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2002, 82, 2869-2883. | 0.6 | 39 |
| 44 | The flow stress of fractal dislocation arrangements. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 270, 299-307. | 5.6 | 36 |
| 45 | From systems of discrete dislocations to a continuous field description: stresses and averaging aspects. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 085006. | 2.0 | 36 |
| 46 | Evading strength and ductility trade-off in an inverse nacre structured magnesium matrix nanocomposite. <i>Acta Materialia</i> , 2022, 228, 117730. | 7.9 | 36 |
| 47 | Chapter 56 Long-range internal stresses, dislocation patterning and work-hardening in crystal plasticity. <i>Dislocations in Solids</i> , 2002, 11, 1-100. | 1.6 | 32 |
| 48 | The effects of snow variability on slab avalanche release. <i>Cold Regions Science and Technology</i> , 2004, 40, 229-242. | 3.5 | 31 |
| 49 | From mesoscopic heterogeneity of slip to macroscopic fluctuations of stress and strain. <i>Acta Materialia</i> , 1997, 45, 1067-1075. | 7.9 | 30 |
| 50 | Modelling size effects using 3D density-based dislocation dynamics. <i>Philosophical Magazine</i> , 2007, 87, 1283-1306. | 1.6 | 29 |
| 51 | Dislocation depinning transition in a dispersion-strengthened steel. <i>Physical Review B</i> , 2008, 78, . | 3.2 | 28 |
| 52 | 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> , 2016, 95, 575-601. | 4.8 | 28 |
| 53 | Instability of dislocation fluxes in a single slip: Deterministic and stochastic models of dislocation patterning. <i>Physical Review B</i> , 2018, 98, . | 3.2 | 28 |
| 54 | A unified description of strain-rate softening instabilities. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1997, 238, 399-406. | 5.6 | 27 |

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| 55 | The study of self-organization processes in crystals by high-voltage electron microscopy. <i>Ultramicroscopy</i> , 1991, 39, 342-354. | 1.9 | 26 |
| 56 | 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> , 2014, 29, 2116-2128. | 2.6 | 26 |
| 57 | Size effect in the tensile fracture of single-walled carbon nanotubes with defects. <i>Nanotechnology</i> , 2007, 18, 155708. | 2.6 | 25 |
| 58 | Failure initiation in snow stratifications containing weak layers: Nucleation of whumpfs and slab avalanches. <i>Cold Regions Science and Technology</i> , 2008, 52, 385-400. | 3.5 | 24 |
| 59 | Mechanical properties and microstructure of single-wall carbon nanotube/elastomeric epoxy composites with block copolymers. <i>Materials Letters</i> , 2014, 125, 116-119. | 2.6 | 24 |
| 60 | Annihilation and sources in continuum dislocation dynamics. <i>Materials Theory</i> , 2018, 2, . | 4.3 | 24 |
| 61 | 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> , 1994, 70, 313-327. | 0.6 | 23 |
| 62 | On the relations between strain and strain-rate softening phenomena in some metallic materials: a computational study. <i>Computational Materials Science</i> , 1999, 15, 35-49. | 3.0 | 23 |
| 63 | Stochastic and deterministic aspects of strain localization during cyclic plastic deformation. <i>Acta Materialia</i> , 1998, 46, 4143-4151. | 7.9 | 22 |
| 64 | Size and disorder effects in elasticity of cellular structures: From discrete models to continuum representations. <i>International Journal of Solids and Structures</i> , 2018, 146, 97-116. | 2.7 | 22 |
| 65 | Properties of dislocation lines in crystals with strong atomic-scale disorder. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 740-741, 285-294. | 5.6 | 22 |
| 66 | Prediction of creep failure time using machine learning. <i>Scientific Reports</i> , 2020, 10, 16910. | 3.3 | 22 |
| 67 | The tension-compression behavior of gradient structured materials: A deformation-mechanism-based strain gradient plasticity model. <i>Mechanics of Materials</i> , 2021, 159, 103912. | 3.2 | 22 |
| 68 | Strain localization and strain propagation in collapsible solid foams. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 567, 38-45. | 5.6 | 21 |
| 69 | Avalanche Behavior in Creep Failure of Disordered Materials. <i>Physical Review Letters</i> , 2018, 121, 125501. | 7.8 | 21 |
| 70 | Size-dependent yield stress in ultrafine-grained polycrystals: A multiscale discrete dislocation dynamics study. <i>International Journal of Plasticity</i> , 2022, 149, 103183. | 8.8 | 21 |
| 71 | Comparison of closure approximations for continuous dislocation dynamics. <i>Materials Research Society Symposia Proceedings</i> , 2014, 1651, 1. | 0.1 | 18 |
| 72 | Avalanche precursors of failure in hierarchical fuse networks. <i>Scientific Reports</i> , 2018, 8, 12090. | 3.3 | 18 |

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| 73 | An analytical model for fracture nucleation in collapsible stratifications. <i>Geophysical Research Letters</i> , 2006, 33, . | 4.0 | 17 |
| 74 | A generalized comosite approach to the flow stress and strain hardening of crystals containing heterogeneous dislocation distributions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998, 249, 145-151. | 5.6 | 16 |
| 75 | Cell structure formation in a two-dimensional density-based dislocation dynamics model. <i>Materials Theory</i> , 2021, 5, . | 4.3 | 16 |
| 76 | Avalanches and Slip Patterning in Plastic Deformation. <i>Journal of the Mechanical Behavior of Materials</i> , 2003, 14, 255-270. | 1.8 | 15 |
| 77 | Deformation patterns and surface morphology in a minimal model of amorphous plasticity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014, 2014, P03014. | 2.3 | 15 |
| 78 | 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> , 2017, 205, 139-150. | 2.2 | 15 |
| 79 | Digital strategies for structured and architected materials design. <i>APL Materials</i> , 2021, 9, . | 5.1 | 15 |
| 80 | The energetics and interactions of random dislocation walls. <i>Philosophical Magazine Letters</i> , 2013, 93, 387-394. | 1.2 | 14 |
| 81 | Growth of a Vortex Polycrystal in Type II Superconductors. <i>Physical Review Letters</i> , 2004, 92, 257004. | 7.8 | 13 |
| 82 | Statistical heterogeneity of plastic deformation: An investigation based on surface profilometry. <i>Acta Materialia</i> , 2010, 58, 4859-4870. | 7.9 | 13 |
| 83 | Rupture of graphene sheets with randomly distributed defects. <i>AIMS Materials Science</i> , 2016, 3, 1340-1349. | 1.4 | 13 |
| 84 | Pinning of extended dislocations in atomically disordered crystals. <i>Acta Materialia</i> , 2022, 236, 118095. | 7.9 | 13 |
| 85 | Misfit Dislocation Patterning in Thin Films. <i>Physica Status Solidi (B): Basic Research</i> , 1998, 209, 295-304. | 1.5 | 12 |
| 86 | Nickel coated carbon nanotubes in aluminum matrix composites: a multiscale simulation study. <i>European Physical Journal B</i> , 2019, 92, 1. | 1.5 | 12 |
| 87 | Random aspects of macroscopic plastic deformation. <i>Philosophical Magazine Letters</i> , 1996, 73, 369-376. | 1.2 | 11 |
| 88 | Dislocation Patterns in Crystalline Solids – Phenomenology and Modelling. , 2004, , 215-238. | | 11 |
| 89 | Interplay of basal shear fracture and slab rupture in slab avalanche release. <i>Cold Regions Science and Technology</i> , 2007, 49, 26-38. | 3.5 | 11 |
| 90 | Scale-free statistics of plasticity-induced surface steps on KCl single crystals. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007, 2007, L04001-L04001. | 2.3 | 11 |

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| 91 | Statistical aspects of microplasticity: experiments, discrete dislocation simulations and stochastic continuum models. <i>Journal of the Mechanical Behavior of Materials</i> , 2013, 22, 89-100. | 1.8 | 11 |
| 92 | Statistical analysis and stochastic dislocation-based modeling of microplasticity. <i>Journal of the Mechanical Behavior of Materials</i> , 2015, 24, 105-113. | 1.8 | 11 |
| 93 | Determining Cosserat constants of 2D cellular solids from beam models. <i>Materials Theory</i> , 2018, 2, . | 4.3 | 11 |
| 94 | Cyclic-loading microstructure-property relations from a mesoscale perspective: An example of single crystal Nickel-based superalloys. <i>Journal of Alloys and Compounds</i> , 2019, 770, 964-971. | 5.5 | 11 |
| 95 | Microplasticity and yielding in crystals with heterogeneous dislocation distribution. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019, 27, 074003. | 2.0 | 11 |
| 96 | Thermodynamic considerations on a class of dislocation-based constitutive models. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 159, 104735. | 4.8 | 11 |
| 97 | Self-Organization of Defect Structures under Low-Temperature Irradiation-A Theory of Stacking-Fault-Tetrahedron Lattices. <i>Solid State Phenomena</i> , 1992, 23-24, 221-236. | 0.3 | 10 |
| 98 | Some exactly solvable models for the statistical evolution of internal variables during plastic deformation. <i>Probabilistic Engineering Mechanics</i> , 2000, 15, 131-138. | 2.7 | 10 |
| 99 | Fractal Dislocation Patterning in Plastically Deformed NaCl Polycrystals. <i>Physica Status Solidi A</i> , 2001, 185, R4-R5. | 1.7 | 10 |
| 100 | Statistical dynamics of dislocations in simple models of plastic deformation: Phase transitions and related phenomena. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 400-401, 191-198. | 5.6 | 10 |
| 101 | Discrete dislocation dynamics simulation and continuum modeling of plastic boundary layers in tricrystal micropillars. <i>IOP Conference Series: Materials Science and Engineering</i> , 2009, 3, 012025. | 0.6 | 10 |
| 102 | Snow Mechanics Near the Ductile-Brittle Transition: Compressive Stick-Slip and Snow Microquakes. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085491. | 4.0 | 10 |
| 103 | Spatio-temporal aspects of low-temperature thermomechanical instabilities: A model based on dislocation dynamics. <i>Applied Physics A: Solids and Surfaces</i> , 1993, 57, 143-151. | 1.4 | 9 |
| 104 | Dislocation Transport and Line Length Increase in Averaged Descriptions of Dislocations. , 2009, , . | | 9 |
| 105 | Network analysis predicts failure of materials and structures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 16666-16668. | 7.1 | 9 |
| 106 | Slab avalanche release viewed as interface fracture in a random medium. <i>Annals of Glaciology</i> , 2004, 38, 9-14. | 1.4 | 8 |
| 107 | Stress and strain fluctuations in plastic deformation of crystals with disordered microstructure. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P08009. | 2.3 | 8 |
| 108 | Stochastic Crystal Plasticity Models with Internal Variables: Application to Slip Channel Formation in Irradiated Metals. <i>Advanced Engineering Materials</i> , 2020, 22, 1901208. | 3.5 | 8 |

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|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 109 | Beam network model for fracture of materials with hierarchical microstructure. <i>International Journal of Fracture</i> , 2021, 227, 243-257. | 2.2 | 8 |
| 110 | Stability criteria for plastic deformation at low temperatures. <i>Scripta Metallurgica Et Materialia</i> , 1995, 32, 1261-1268. | 1.0 | 7 |
| 111 | The role of density fluctuations in the relaxation of random dislocation systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P03036. | 2.3 | 7 |
| 112 | Role of weakest links and system-size scaling in multiscale modeling of stochastic plasticity. <i>Physical Review B</i> , 2017, 95, . | 3.2 | 7 |
| 113 | Statistical dynamics of early creep stages in disordered materials. <i>European Physical Journal B</i> , 2019, 92, 1. | 1.5 | 7 |
| 114 | Effects of elasticity and dislocation core structure on the interaction of dislocations with embedded CNTs in aluminium: An atomistic simulation study. <i>Materialia</i> , 2022, 21, 101347. | 2.7 | 7 |
| 115 | A mesoscopic approach to point-defect clustering in solids during irradiation. <i>Applied Physics A: Solids and Surfaces</i> , 1993, 57, 117-121. | 1.4 | 6 |
| 116 | The influence of strain-rate fluctuations on the stability of low-temperature plastic deformation. <i>Acta Materialia</i> , 1997, 45, 1695-1704. | 7.9 | 6 |
| 117 | Shear Bands and Damage Clusters in Slope Failure - A One-Dimensional Model. <i>Journal of the Mechanical Behavior of Materials</i> , 2004, 15, 185-202. | 1.8 | 6 |
| 118 | Roughening and pinning of interface cracks in shear delamination of thin films. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P11009. | 2.3 | 6 |
| 119 | Emergent patterns of localized damage as a precursor to catastrophic failure in a random fuse network. <i>Physical Review E</i> , 2013, 87, 042811. | 2.1 | 6 |
| 120 | Avalanche dynamics in hierarchical fiber bundles. <i>Physical Review E</i> , 2019, 100, 022133. | 2.1 | 6 |
| 121 | Edge betweenness centrality as a failure predictor in network models of structurally disordered materials. <i>Scientific Reports</i> , 2022, 12, . | 3.3 | 6 |
| 122 | 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> , 1996, 74, 287-298. | 0.6 | 5 |
| 123 | Microstructural Slip Localization in Strain Softening Materials. <i>Physica Status Solidi (B): Basic Research</i> , 1997, 203, 29-42. | 1.5 | 5 |
| 124 | RAS as a remote sensor of plastic deformation in metals. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 3997-4002. | 0.8 | 5 |
| 125 | Density-based modelling of dislocations. <i>Philosophical Magazine</i> , 2007, 87, 1159-1160. | 1.6 | 5 |
| 126 | Nucleation of interfacial shear cracks in thin films on disordered substrates. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P02047. | 2.3 | 5 |

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|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 127 | Theory of radiation-induced self-organization of defect structures. Applied Physics A: Solids and Surfaces, 1994, 58, 3-10. | 1.4 | 4 |
| 128 | A model of the formation of strain bursts during cyclic deformation. Scripta Metallurgica Et Materialia, 1994, 31, 1587-1592. | 1.0 | 4 |
| 129 | Theory of diffusion-controlled defect aggregation under irradiation: A comparative study of three basic approaches. Radiation Effects and Defects in Solids, 1995, 136, 209-215. | 1.2 | 4 |
| 130 | Depinning transition of a dislocation line in ferritic oxide strengthened steels. Journal of Nuclear Materials, 2009, 385, 284-287. | 2.7 | 4 |
| 131 | Modeling microbending of thin films through discrete dislocation dynamics, continuum dislocation theory, and gradient plasticity. Journal of Materials Research, 2012, 27, 612-618. | 2.6 | 4 |
| 132 | Graph theoretical approaches for the characterization of damage in hierarchical materials. European Physical Journal B, 2019, 92, 1. | 1.5 | 4 |
| 133 | A Beam Network Model Approach to Strength Optimization of Disordered Fibrous Materials. Advanced Engineering Materials, 2020, 22, 1901013. | 3.5 | 4 |
| 134 | Multilayer Structures of Graphene and Pt Nanoparticles: A Multiscale Computational Study. Advanced Engineering Materials, 2020, 22, 2000207. | 3.5 | 4 |
| 135 | Statistical theory of slip channels in body-centered cubic metals. Applied Physics A: Materials Science and Processing, 1997, 64, 391-401. | 2.3 | 3 |
| 136 | Expansion of Quasi-Discrete Dislocation Loops in the Context of a 3D Continuum Theory of Curved Dislocations. , 2009, , . | | 3 |
| 137 | Some Limitations of Dislocation Walls as Models for Plast Boundary Layers. , 2011, , . | | 3 |
| 138 | Damage growth in fibre bundle models with localized load sharing and environmentally-assisted ageing. Journal of Physics: Conference Series, 2013, 410, 012064. | 0.4 | 3 |
| 139 | Crack phantoms: localized damage correlations and failure in network models of disordered materials. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P08029. | 2.3 | 3 |
| 140 | Pinning of dislocations in disordered alloys: effects of dislocation orientation. Materials Theory, 2022, 6, . | 4.3 | 3 |
| 141 | Statistical aspects of interface adhesion and detachment of hierarchically patterned structures. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 023301. | 2.3 | 3 |
| 142 | Atomistic aspects of load transfer and fracture in CNT-reinforced aluminium. Materialia, 2022, 22, 101376. | 2.7 | 3 |
| 143 | Radiation-Induced Self-Organization of Defect Structures in Metals. Materials Science Forum, 1993, 123-125, 687-700. | 0.3 | 2 |
| 144 | Nucleation And Non-Linear Strain Localization During Cyclic Plastic Deformation. Journal of the Mechanical Behavior of Materials, 2007, 18, 69-79. | 1.8 | 2 |

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| 145 | Fracture Toughness of Snow: The Influence of Layered Microstructure. Journal of the Mechanical Behavior of Materials, 2007, 18, 195-215. | 1.8 | 2 |
| 146 | Der Knall im Lawinenhang. Die Ursache von Schneebrettlawinen. Physik in Unserer Zeit, 2010, 41, 31-34. | 0.0 | 2 |
| 147 | Statistical Dislocation Dynamics – Multiplication and Long Range Interactions. Materials Research Society Symposia Proceedings, 2003, 779, 571. | 0.1 | 2 |
| 148 | Dislocation dynamics in cyclic plastic deformation. Applied Physics A: Materials Science and Processing, 1995, 60, 497-503. | 2.3 | 1 |
| 149 | Mithradham RE centre: Environment and RE promotion in India. Refocus, 2002, 3, 26-29. | 0.2 | 1 |
| 150 | Size scaling of strength in thin film delamination. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P02024. | 2.3 | 1 |
| 151 | Higher Order Continuum Modelling for Predicting the Mechanical Behaviour of Solid Foams. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 315-316. | 0.2 | 1 |
| 152 | Exaptation in Physics and Materials Science. The Frontiers Collection, 2020, , 35-45. | 0.2 | 1 |
| 153 | Theory of radiation-induced self-organization of defect structures. Applied Physics A: Solids and Surfaces, 1994, 58, 11-19. | 1.4 | 0 |
| 154 | Dislocation dynamics in cyclic plastic deformation. Applied Physics A: Materials Science and Processing, 1995, 60, 589-595. | 2.3 | 0 |
| 155 | Symposium on Modelling Complex Materials: Materials Behavior below the Scale of the Representative Volume Element. , 2009, , . | | 0 |
| 156 | Interface-Dislocation Interaction on Sub-micron Scales. , 2009, , . | | 0 |
| 157 | The Connection between Size Effects and Strain Bursts in Microscale Plasticity. , 2009, , . | | 0 |
| 158 | Crack Nucleation in Thin Films on Disordered Substrates. , 2009, , . | | 0 |
| 159 | Continuum Dislocation Dynamics (CDD) Modeling of Thin Film Micro-Plasticity. , 2009, , . | | 0 |
| 160 | Application of a 3D-Continuum Theory of Dislocations to a Problems of Constrained Plastic Flow: Microbending of a Thin Film. Materials Research Society Symposia Proceedings, 2009, 1224, 1. | 0.1 | 0 |
| 161 | Preface of the Symposium on Discrete and Continuum Modeling of Dislocation Systems. , 2011, , . | | 0 |
| 162 | Modelling Thin Film Microbending: A Comparative Study of Three Different Approaches. , 2011, , . | | 0 |

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| 163 | Plasticity of Crystals with Disordered Microstructure: Scale-dependent Fluctuations of Stress and Strain. Materials Research Society Symposia Proceedings, 2014, 1651, 1. | 0.1 | 0 |
| 164 | Pinning and propagation of interface cracks in slope failure. , 2004, , 435-446. | | 0 |
| 165 | Dislocation dynamics in cyclic plastic deformation II. Strain bursts. Applied Physics A: Materials Science and Processing, 1995, 60, 589-595. | 2.3 | 0 |