

# Nanoscale phase field microelasticity theory of dislocat

Acta Materialia

49, 1847-1857

DOI: [10.1016/s1359-6454\(01\)00075-1](https://doi.org/10.1016/s1359-6454(01)00075-1)

Citation Report

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Kinetics of the coherent order-disorder transition in Al <sub>3</sub> Zr. Physical Review B, 2001, 64, .  | 1.1 | 23        |
| 2  | Dislocation-controlled Plasticity of Crystalline Materials: Overview. , 2001, , 2245-2255.  |     | 6         |
| 3  | Three-dimensional phase field microelasticity theory and modeling of multiple cracks and voids. Applied Physics Letters, 2001, 79, 3071-3073.   | 1.5 | 66        |
| 4  | Three-dimensional phase field microelasticity theory of a complex elastically inhomogeneous solid. Applied Physics Letters, 2002, 80, 4513-4515.                                      | 1.5 | 27        |
| 5  | ã€Eè”ç®—çµ„ç””â† ã€ã«ãšãšãš,æœœèè:ã®ç™ºã±•ã”ã°†æ¥ã±•æœœ. Materia Japan, 2002, 41, 334-341.  | 0.1 | 1         |
| 6  | THE FORTY-SEVENTH HONDA MEMORIAL LECTURE Recent Developments and the Future of Computational Science on Microstructure Formation. Materials Transactions, 2002, 43, 1266-1272.        | 0.4 | 7         |
| 7  | Free-Energy Calculations in Materials Research. Annual Review of Materials Research, 2002, 32, 195-217.   | 4.3 | 104       |
| 8  | Modeling Dislocation Dissociation and Cutting of Î³â€² Precipitates in Ni-Based Superalloys by the Phase Field Method. Materials Research Society Symposia Proceedings, 2002, 753, 1. | 0.1 | 3         |
| 9  | Phase field microelasticity theory and modeling of elastically and structurally inhomogeneous solid. Journal of Applied Physics, 2002, 92, 1351-1360.                                 | 1.1 | 166       |
| 10 | Phase field microelasticity theory and simulation of multiple voids and cracks in single crystals and polycrystals under applied stress. Journal of Applied Physics, 2002, 91, 6435.  | 1.1 | 69        |
| 11 | Continuum simulation of dislocation dynamics: predictions for internal friction response. Computational Materials Science, 2002, 25, 387-403.   | 1.4 | 3         |
| 12 | Development of magnetic domains in hard ferromagnetic thin films of polytwinned microstructure. Journal of Applied Physics, 2002, 92, 7408-7414.                                      | 1.1 | 19        |
| 13 | Donâ€™t Trust your Simulation -Computational Materials Science on its Way to Maturity?. Advanced Engineering Materials, 2002, 4, 255-267.   | 1.6 | 6         |
| 14 | Effect of substrate constraint on the stability and evolution of ferroelectric domain structures in thin films. Acta Materialia, 2002, 50, 395-411.                                   | 3.8 | 456       |
| 15 | Phase-Field Models for Microstructure Evolution. Annual Review of Materials Research, 2002, 32, 113-140.  | 4.3 | 2,259     |
| 16 | Phase field methods and dislocations. Acta Materialia, 2003, 51, 17-30.   | 3.8 | 201       |
| 17 | A level set method for dislocation dynamics. Acta Materialia, 2003, 51, 5499-5518.  | 3.8 | 91        |
| 18 | Phase field model of dislocation networks. Acta Materialia, 2003, 51, 2595-2610.  | 3.8 | 127       |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | Phase field microelasticity modeling of dislocation dynamics near free surface and in heteroepitaxial thin films. <i>Acta Materialia</i> , 2003, 51, 4209-4223.   | 3.8 | 84        |
| 20 | Three-dimensional Landau theory for multivariant stress-induced martensitic phase transformations. III. Alternative potentials, critical nuclei, kink solutions, and dislocation theory. <i>Physical Review B</i> , 2003, 68, . | 1.1 | 131       |
| 21 | Multiscale modelling of nanomechanics and micromechanics: an overview. <i>Philosophical Magazine</i> , 2003, 83, 3475-3528.   | 0.7 | 145       |
| 22 | Three-dimensional phase field microelasticity theory of a multivoid multicroack system in an elastically anisotropic body: Model and computer simulations. <i>Philosophical Magazine</i> , 2003, 83, 1587-1626.                 | 0.7 | 30        |
| 23 | Dislocation Dynamics in Semiconductor Thin Film-Substrate Systems. <i>Materials Research Society Symposia Proceedings</i> , 2003, 795, 529.   | 0.1 | 0         |
| 24 | Phase-field modeling of dislocation dynamics near free surface and in heteroepitaxial thin films. <i>Materia Japan</i> , 2003, 42, 397-404.   | 0.1 | 23        |
| 25 | Dynamic drag of solute atmosphere on moving edge dislocations. Phase-field simulation. <i>Journal of Applied Physics</i> , 2004, 96, 229-236.   | 1.1 | 19        |
| 26 | Dynamic dislocation modeling by combining Peierls Nabarro and Galerkin methods. <i>Physical Review B</i> , 2004, 70, .  | 1.1 | 55        |
| 27 | Increasing length scale of quantitative phase field modeling of growth-dominant or coarsening-dominant process. <i>Scripta Materialia</i> , 2004, 50, 1023-1028.  | 2.6 | 43        |
| 28 | On the evolution of crystallographic dislocation density in non-homogeneously deforming crystals. <i>Journal of the Mechanics and Physics of Solids</i> , 2004, 52, 1213-1246.  | 2.3 | 226       |
| 29 | Phase field microelasticity modeling of surface instability of heteroepitaxial thin films. <i>Acta Materialia</i> , 2004, 52, 81-92.  | 3.8 | 60        |
| 30 | Incorporation of $\hat{\Gamma}^3$ -surface to phase field model of dislocations: simulating dislocation dissociation in fcc crystals. <i>Acta Materialia</i> , 2004, 52, 683-691.   | 3.8 | 142       |
| 31 | Modeling elastic and plastic deformations in nonequilibrium processing using phase field crystals. <i>Physical Review E</i> , 2004, 70, 051605.   | 0.8 | 664       |
| 32 | Microscale Simulation of Martensitic Microstructure Evolution. <i>Physical Review Letters</i> , 2004, 93, 105701.   | 2.9 | 76        |
| 33 | An iterative-perturbation scheme for treating inhomogeneous elasticity in phase-field models. <i>Journal of Computational Physics</i> , 2005, 208, 34-50.   | 1.9 | 65        |
| 34 | Energy landscape of deformation twinning in bcc and fcc metals. <i>Physical Review B</i> , 2005, 71, .  | 1.1 | 215       |
| 35 | Dislocation dynamics described by non-local Hamiltonian-Jacobi equations. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 400-401, 162-165.               | 2.6 | 6         |
| 36 | Coarse Graining of Dislocation Structure and Dynamics. , 2005, , 429-444.   |     | 0         |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 37 | Dislocation formation and plastic flow in binary alloys in three dimensions. <i>Physical Review B</i> , 2005, 72, .  | 1.1  | 11        |
| 38 | Mesoscale modelling of mobile crystal defects—dislocations, cracks and surface roughening: phase field microelasticity approach. <i>Philosophical Magazine</i> , 2005, 85, 261-277.                    | 0.7  | 20        |
| 39 | Phase Separation in Binary Alloys - Modeling Approaches. , 2004, , 57-116.   |      | 0         |
| 41 | Introduction to the Phase-Field Method of Microstructure Evolution. , 2005, , 37-56.   |      | 1         |
| 42 | Phase-Field Method Applied to Strain-Dominated Microstructure Evolution during Solid-State Phase Transformations. , 2005, , 271-296.   |      | 3         |
| 43 | Modeling the Dynamics of Dislocation Ensembles. , 2005, , 2269-2286.   |      | 1         |
| 44 | A Perspective on Dislocation Dynamics. , 2005, , 2871-2877.  |      | 5         |
| 45 | Scale invariance in plastic flow of crystalline solids. <i>Advances in Physics</i> , 2006, 55, 185-245.  | 35.9 | 293       |
| 46 | A Velocity Extraction Method in Molecular Dynamic Simulation of Low Speed Nanoscale Flows. <i>International Journal of Molecular Sciences</i> , 2006, 7, 405-416.                                      | 1.8  | 2         |
| 47 | Level set simulation of dislocation dynamics in thin films. <i>Acta Materialia</i> , 2006, 54, 2371-2381.  | 3.8  | 20        |
| 48 | Multi-scale phase field approach to martensitic transformations. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 438-440, 55-63. | 2.6  | 69        |
| 49 | Dislocation Dynamics: Short-time Existence and Uniqueness of the Solution. <i>Archive for Rational Mechanics and Analysis</i> , 2006, 181, 449-504.  | 1.1  | 48        |
| 50 | Segregation and wetting transition at dislocations. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 1773-1783.                                | 1.1  | 19        |
| 51 | Issues in the coarse-graining of dislocation energetics and dynamics. <i>Scripta Materialia</i> , 2006, 54, 735-739.   | 2.6  | 15        |
| 52 | Recrystallization kinetics: A coupled coarse-grained dislocation density and phase-field approach. <i>Physical Review B</i> , 2007, 76, .  | 1.1  | 26        |
| 53 | Athermal Resistance to Interface Motion in the Phase-Field Theory of Microstructure Evolution. <i>Physical Review Letters</i> , 2007, 99, 245701.  | 2.9  | 63        |
| 54 | Determination of the Phase-Field Parameters for Computer Simulation of Heat Treatment Process of Ultra Thin Al Film. <i>Materials Transactions</i> , 2007, 48, 1998-2001.                              | 0.4  | 5         |
| 55 | Modelling size effects using 3D density-based dislocation dynamics. <i>Philosophical Magazine</i> , 2007, 87, 1283-1306.   | 0.7  | 29        |

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 56 | Phase-field crystal modeling and classical density functional theory of freezing. <i>Physical Review B</i> , 2007, 75, .  | 1.1  | 506       |
| 57 | <i>Applied Computational Materials Modeling.</i> , 2007, , .  |      | 8         |
| 58 | Modelling of dislocation-induced martensitic transformation in anisotropic crystals. <i>Philosophical Magazine</i> , 2007, 87, 1545-1563.   | 0.7  | 18        |
| 59 | Modeling dislocation by coupling Peierlsâ€Nabarro and element-free Galerkin methods. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2007, 196, 1915-1923.   | 3.4  | 36        |
| 60 | Phase field microelasticity modeling of heterogeneous nucleation and growth in martensitic alloys. <i>Acta Materialia</i> , 2007, 55, 565-574.  | 3.8  | 115       |
| 61 | Nonlinear elasticity theory of dislocation formation and composition change in binary alloys in three dimensions. <i>Acta Materialia</i> , 2007, 55, 2375-2384.   | 3.8  | 14        |
| 62 | Nucleation of ordered particles at dislocations and formation of split patterns. <i>Acta Materialia</i> , 2007, 55, 2579-2586.  | 3.8  | 17        |
| 63 | Phase field modeling of channel dislocation activity and $\hat{\Gamma}^3$ rafting in single crystal Niâ€Al. <i>Acta Materialia</i> , 2007, 55, 5369-5381.   | 3.8  | 88        |
| 64 | A discrete mechanics approach to dislocation dynamics in BCC crystals. <i>Journal of the Mechanics and Physics of Solids</i> , 2007, 55, 615-647.   | 2.3  | 23        |
| 65 | On XFEM applications to dislocations and interfaces. <i>International Journal of Plasticity</i> , 2007, 23, 1721-1738.  | 4.1  | 92        |
| 66 | Phase Field Modeling of Microstructural Evolution in Solids: Effect of Coupling among Different Extended Defects. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 1630-1637. | 1.1  | 8         |
| 67 | On a new extended finite element method for dislocations: Core enrichment and nonlinear formulationâ†. <i>Journal of the Mechanics and Physics of Solids</i> , 2008, 56, 200-214.   | 2.3  | 54        |
| 68 | A computational method for dislocationâ€precipitate interaction. <i>Journal of the Mechanics and Physics of Solids</i> , 2008, 56, 1534-1553.   | 2.3  | 85        |
| 69 | A generalized Peierlsâ€Nabarro model for curved dislocations and core structures of dislocation loops in Al and Cu. <i>Acta Materialia</i> , 2008, 56, 1447-1460.   | 3.8  | 77        |
| 70 | Contributions from elastic inhomogeneity and from plasticity to $\hat{\Gamma}^3$ rafting in single-crystal Niâ€Al. <i>Acta Materialia</i> , 2008, 56, 6156-6173.  | 3.8  | 85        |
| 71 | Viscoplasticity of heterogeneous metallic materials. <i>Materials Science and Engineering Reports</i> , 2008, 62, 67-123.   | 14.8 | 150       |
| 72 | Phase-field modeling of microstructure evolutions in magnetic materials. <i>Science and Technology of Advanced Materials</i> , 2008, 9, 013006.   | 2.8  | 63        |
| 73 | The phase field technique for modeling multiphase materials. <i>Reports on Progress in Physics</i> , 2008, 71, 106501.  | 8.1  | 181       |

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 74 | An introduction to phase-field modeling of microstructure evolution. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2008, 32, 268-294.                             | 0.7  | 717       |
| 75 | Microdynamics Simulation. , 2008, , .   |      | 42        |
| 76 | Defect-induced incompatibility of elastic strains: Dislocations within the Landau theory of martensitic phase transformations. <i>Physical Review B</i> , 2008, 78, .                         | 1.1  | 32        |
| 77 | Effect of ferroelastic twin walls on local polarization switching: Phase-field modeling. <i>Applied Physics Letters</i> , 2008, 93, .   | 1.5  | 35        |
| 78 | Influence of interfacial dislocations on hysteresis loops of ferroelectric films. <i>Journal of Applied Physics</i> , 2008, 104, .  | 1.1  | 41        |
| 79 | An improvement on the three-dimensional phase-field microelasticity theory for elastically and structurally inhomogeneous solids. <i>Scripta Materialia</i> , 2009, 60, 901-904.              | 2.6  | 18        |
| 80 | Microtwinning and other shearing mechanisms at intermediate temperatures in Ni-based superalloys. <i>Progress in Materials Science</i> , 2009, 54, 839-873.                                   | 16.0 | 305       |
| 81 | Evolution of orientation distributions of $\gamma'$ and $\gamma''$ phases during creep deformation of Ni-base single crystal superalloys. <i>Acta Materialia</i> , 2009, 57, 1078-1085.       | 3.8  | 9         |
| 82 | $\gamma''$ rafting in single crystal blade alloys: A simulation study. <i>Materials Science and Technology</i> , 2009, 25, 205-212.   | 0.8  | 24        |
| 83 | Phase-field models in materials science. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2009, 17, 073001.   | 0.8  | 963       |
| 84 | Phase field methods: Microstructures, mechanical properties and complexity. <i>Comptes Rendus Physique</i> , 2010, 11, 245-256.   | 0.3  | 73        |
| 85 | Interface propagation and microstructure evolution in phase field models of stress-induced martensitic phase transformations. <i>International Journal of Plasticity</i> , 2010, 26, 395-422. | 4.1  | 127       |
| 86 | Shearing of $\gamma''$ precipitates by $\gamma'$ dislocation ribbons in Ni-base superalloys: A phase field approach. <i>Acta Materialia</i> , 2010, 58, 4110-4119.                            | 3.8  | 56        |
| 87 | A perspective on trends in multiscale plasticity. <i>International Journal of Plasticity</i> , 2010, 26, 1280-1309.   | 4.1  | 240       |
| 88 | Phase field modeling of defects and deformation. <i>Acta Materialia</i> , 2010, 58, 1212-1235.  | 3.8  | 365       |
| 89 | A new version fast multipole method for evaluating the stress field of dislocation ensembles. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2010, 18, 045006.        | 0.8  | 21        |
| 90 | GaN nanostructure design for optimal dislocation filtering. <i>Journal of Applied Physics</i> , 2010, 108, 074313.  | 1.1  | 10        |
| 91 | Three-dimensional model of martensitic transformations with elasto-plastic effects. <i>Philosophical Magazine</i> , 2010, 90, 1495-1510.  | 0.7  | 18        |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 92  | The Khachaturyan theory of elastic inclusions: Recollections and results. Philosophical Magazine, 2010, 90, 3-35.  | 0.7 | 18        |
| 93  | Large-scale three-dimensional phase field simulation of $\gamma'$ -rafting and creep deformation. Philosophical Magazine, 2010, 90, 405-436.   | 0.7 | 98        |
| 94  | Coupling phase field and viscoplasticity to study rafting in Ni-based superalloys. Philosophical Magazine, 2010, 90, 375-404.  | 0.7 | 125       |
| 95  | Density-amplitude formulation of the phase-field crystal model for two-phase coexistence in two and three dimensions. Philosophical Magazine, 2010, 90, 237-263.                                       | 0.7 | 49        |
| 96  | Phase-field modeling of fracture in liquid. Journal of Applied Physics, 2011, 110, 033531.   | 1.1 | 21        |
| 97  | Influence of the stacking fault energy surface on partial dislocations in fcc metals with a three-dimensional phase field dislocations dynamics model. Physical Review B, 2011, 84, .                  | 1.1 | 88        |
| 98  | Modeling structural transformations in binary alloys with phase field crystals. Physical Review B, 2011, 84, .   | 1.1 | 94        |
| 99  | Phase-field-crystal methodology for modeling of structural transformations. Physical Review E, 2011, 83, 031601.   | 0.8 | 107       |
| 100 | Application of phase-field modeling to irradiation effects in materials. Current Opinion in Solid State and Materials Science, 2011, 15, 125-133.  | 5.6 | 37        |
| 101 | Prediction of Mechanical Behaviour in Ni-Base Superalloys Using the Phase Field Model of Dislocations. Advanced Materials Research, 0, 278, 150-155.   | 0.3 | 5         |
| 102 | Microscopic Phase-Field Modeling of Edge and Screw Dislocation Core Structures and Peierls Stresses of BCC Iron. Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals, 2011, 75, 104-109. | 0.2 | 7         |
| 103 | A phase-field model for incoherent martensitic transformations including plastic accommodation processes in the austenite. Journal of the Mechanics and Physics of Solids, 2011, 59, 2082-2102.        | 2.3 | 69        |
| 104 | Creep deformation and rafting in nickel-based superalloys simulated by the phase-field method using classical flow and creep theories. Acta Materialia, 2011, 59, 6378-6386.                           | 3.8 | 34        |
| 105 | Dislocation decorrelation and relationship to deformation microtwins during creep of a $\gamma'$ precipitate strengthened Ni-based superalloy. Acta Materialia, 2011, 59, 7325-7339.                   | 3.8 | 150       |
| 106 | Modeling dislocation diffusionally coupled dislocation shearing of $\gamma'$ precipitates in Ni-base superalloys. Acta Materialia, 2011, 59, 3484-3497.  | 3.8 | 57        |
| 107 | Deformation patterning driven by rate dependent non-convex strain gradient plasticity. Journal of the Mechanics and Physics of Solids, 2011, 59, 1-17.   | 2.3 | 70        |
| 108 | Phase field modeling of crack propagation. Philosophical Magazine, 2011, 91, 75-95.  | 0.7 | 139       |
| 109 | Computational Methods for Microstructure-Property Relationships. , 2011, , .   |     | 45        |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 110 | Mathematical concepts for the micromechanical modelling of dislocation dynamics with a phase-field approach. Philosophical Magazine, 2011, 91, 97-121.  | 0.7  | 12        |
| 111 | Poling and Depoling Effects on Dielectric Properties and Domain Structures in Relaxor $24\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3$ - $46\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ near a Morphotropic Phase Boundary Composition. Japanese Journal of Applied Physics, 2012, 51, 09LC06.  | 0.8  | 30        |
| 112 | The role of phase compatibility in martensite. Journal of Applied Physics, 2012, 111, 103517.   | 1.1  | 20        |
| 113 | Advanced phase-field approach to dislocation evolution. Physical Review B, 2012, 86, .  | 1.1  | 68        |
| 115 | Phase Field Simulation of the Sub-Block Microstructure in Lath Martensitic Steels. Materials Transactions, 2012, 53, 1822-1825.   | 0.4  | 10        |
| 116 | Domain structures and dielectric properties resulting from tweed precursors of relaxor ferroelectric solid-solution single-crystal $24\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3$ - $46\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - $30\text{PbTiO}_3$ . IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 1919-1924. | 1.7  | 2         |
| 117 | Phase-field-crystal models for condensed matter dynamics on atomic length and diffusive time scales: an overview. Advances in Physics, 2012, 61, 665-743.   | 35.9 | 303       |
| 118 | Shearing of $\hat{\Gamma}^3$ precipitates in Ni-base superalloys: a phase field study incorporating the effective $\hat{\Gamma}^3$ -surface. Philosophical Magazine, 2012, 92, 608-634.   | 0.7  | 30        |
| 119 | An object-oriented finite element framework for multiphysics phase field simulations. Computational Materials Science, 2012, 51, 20-29.   | 1.4  | 217       |
| 120 | Phase Field Methods. , 2012, , 411-432.   |      | 9         |
| 121 | Coarse-grained atomistic modeling and simulation of inelastic material behavior. Acta Mechanica Solida Sinica, 2012, 25, 244-261.   | 1.0  | 8         |
| 122 | Phase field approach for simulating solid-state dewetting problems. Acta Materialia, 2012, 60, 5578-5592.   | 3.8  | 79        |
| 124 | Double kink mechanisms for discrete dislocations in BCC crystals. International Journal of Fracture, 2012, 174, 29-40.  | 1.1  | 7         |
| 125 | A phase field model incorporating strain gradient viscoplasticity: Application to rafting in Ni-base superalloys. Journal of the Mechanics and Physics of Solids, 2012, 60, 1243-1256.  | 2.3  | 80        |
| 126 | Electromechanical simulations of dislocations. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 035003.   | 0.8  | 6         |
| 127 | Effective $\hat{\Gamma}^3$ -surfaces in $\{111\}$ plane in FCC Ni and L12 Ni <sub>3</sub> Al intermetallic compound. Physics of Metals and Metallography, 2013, 114, 545-552.   | 0.3  | 16        |
| 128 | The key role of dislocation dissociation in the plastic behaviour of single crystal nickel-based superalloy with low stacking fault energy: Three-dimensional discrete dislocation dynamics modelling. Journal of the Mechanics and Physics of Solids, 2013, 61, 2454-2472.   | 2.3  | 36        |
| 129 | Grain Growth in Multiple Scales of Polycrystalline AZ31 Magnesium Alloy by Phase-Field Simulation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 1599-1610.  | 1.1  | 12        |



| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 130 | Effect of microstructural uncertainty on the yield stress of nanocrystalline nickel. <i>Acta Materialia</i> , 2013, 61, 1413-1420.   | 3.8 | 14        |
| 131 | Dependence of equilibrium stacking fault width in fcc metals on the $\gamma$ -surface. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 025015.  | 0.8 | 45        |
| 133 | Interface stress for nonequilibrium microstructures in the phase field approach: Exact analytical results. <i>Physical Review B</i> , 2013, 87, .  | 1.1 | 28        |
| 134 | Numerical simulation of irradiation hardening in Zirconium. <i>Journal of Nuclear Materials</i> , 2013, 438, 209-217.  | 1.3 | 18        |
| 135 | Multicomponent phase-field crystal model for structural transformations in metal alloys. <i>Physical Review B</i> , 2013, 87, .  | 1.1 | 56        |
| 136 | Elasto-plastic phase-field simulation of martensitic transformation in lath martensite steels. <i>Philosophical Magazine</i> , 2013, 93, 1739-1747.  | 0.7 | 9         |
| 137 | Phase-Field Model for Microstructure Evolution at the Mesoscopic Scale. <i>Annual Review of Materials Research</i> , 2013, 43, 89-107.   | 4.3 | 215       |
| 138 | Thermodynamically consistent phase field approach to phase transformations with interface stresses. <i>Acta Materialia</i> , 2013, 61, 4305-4319.  | 3.8 | 63        |
| 139 | Nonlocal damage model using the phase field method: Theory and applications. <i>International Journal of Solids and Structures</i> , 2013, 50, 3136-3151.  | 1.3 | 61        |
| 140 | Key computational modeling issues in Integrated Computational Materials Engineering. <i>CAD Computer Aided Design</i> , 2013, 45, 4-25.  | 1.4 | 267       |
| 141 | Ferroelastic Behavior in Relaxor $24\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3 \sim 46\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3 \sim 30\text{PbTl}$ Shear Stresses along [001] Direction. <i>Journal of the Physical Society of Japan</i> , 2013, 82, 054712. | 0.7 | 3         |
| 142 | Deconstructing the high-temperature deformation of phase-separating alloys. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 075011.   | 0.8 | 2         |
| 143 | Modeling of Nonlocal Damage Using the Phase Field Method. , 2013, , 1-32.  |     | 1         |
| 144 | Unprecedented grain size effect on stacking fault width. <i>APL Materials</i> , 2013, 1, .   | 2.2 | 20        |
| 145 | Classical density functional theory and the phase-field crystal method using a rational function to describe the two-body direct correlation function. <i>Physical Review E</i> , 2013, 87, 013313.  | 0.8 | 14        |
| 146 | The Change in Domain Structures from Tweed in Rhombohedral Phase to Twin Structure in Orthorhombic One with Stress in Relaxor Ferroelectric Solid Solutions. <i>Ferroelectrics</i> , 2013, 443, 37-44.   | 0.3 | 0         |
| 147 | On the incorporation of cubic and hexagonal interfacial energy anisotropy in phase field models using higher order tensor terms. <i>Philosophical Magazine</i> , 2014, 94, 3331-3352.  | 0.7 | 13        |
| 148 | A phase field model for dislocation climb. <i>Applied Physics Letters</i> , 2014, 104, 011903.   | 1.5 | 41        |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 149 | Influence of shape anisotropy of self-interstitials on dislocation sink efficiencies in Zr: Multiscale modeling. <i>Physical Review B</i> , 2014, 90, .  | 1.1 | 16        |
| 150 | Dynamic Discrete Dislocation Plasticity. <i>Advances in Applied Mechanics</i> , 2014, , 93-224.  | 1.4 | 10        |
| 151 | Modelling crystal plasticity by 3D dislocation dynamics and the finite element method: The Discrete-Continuous Model revisited. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 63, 491-505.                       | 2.3 | 91        |
| 152 | Investigation of coherency loss by prismatic punching with a nonlinear elastic model. <i>Acta Materialia</i> , 2014, 71, 80-88.  | 3.8 | 31        |
| 153 | Continuum framework for dislocation structure, energy and dynamics of dislocation arrays and low angle grain boundaries. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 69, 175-194.                              | 2.3 | 33        |
| 154 | Phase-Field Crystal Model for Fe Connected to MEAM Molecular Dynamics Simulations. <i>Jom</i> , 2014, 66, 429-436.   | 0.9 | 31        |
| 155 | Ferroelastic domain switching dynamics under electrical and mechanical excitations. <i>Nature Communications</i> , 2014, 5, 3801.  | 5.8 | 135       |
| 156 | Effects of confinements on morphology of In <sub>x</sub> Ga <sub>1-x</sub> As thin film grown on sub-micron patterned GaAs substrate: Elastoplastic phase field model. <i>Journal of Applied Physics</i> , 2014, 116, 114313.    | 1.1 | 2         |
| 157 | Phase field microelasticity model of dislocation climb: Methodology and applications. <i>Acta Materialia</i> , 2014, 79, 396-410.  | 3.8 | 29        |
| 158 | Simulations of Dislocation Structure and Response. <i>Annual Review of Condensed Matter Physics</i> , 2014, 5, 375-407.  | 5.2 | 42        |
| 159 | A simulation study of $\hat{\Gamma}^2$ 1 precipitation on dislocations in an Mg-rare earth alloy. <i>Acta Materialia</i> , 2014, 77, 133-150.  | 3.8 | 60        |
| 160 | Stacking fault emission from grain boundaries: Material dependencies and grain size effects. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 600, 200-210. | 2.6 | 37        |
| 161 | Quantitative phase field model for dislocation sink strength calculations. <i>Computational Materials Science</i> , 2014, 88, 50-60.   | 1.4 | 31        |
| 162 | Predicting structure and energy of dislocations and grain boundaries. <i>Acta Materialia</i> , 2014, 74, 125-131.  | 3.8 | 54        |
| 163 | First-order morphological transition of ferroelastic domains in ferroelectric thin films. <i>Acta Materialia</i> , 2014, 75, 188-197.  | 3.8 | 16        |
| 164 | Phase field approach to martensitic phase transformations with large strains and interface stresses. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 70, 154-189.  | 2.3 | 83        |
| 165 | Multi-scale modelling of Suzuki segregation in $\hat{\Gamma}^3$ precipitates in Ni and Co-base superalloys. <i>MATEC Web of Conferences</i> , 2014, 14, 15003.   | 0.1 | 8         |
| 166 | Phase-field simulation of lenticular martensite and inheritance of the accommodation dislocations. <i>MATEC Web of Conferences</i> , 2015, 33, 02009.  | 0.1 | 1         |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 167 | Phase-Field Modelling on the Formation Process of LPSO Structure in Mg-Y-Zn System. <i>Materials Transactions</i> , 2015, 56, 937-942.  | 0.4 | 2         |
| 168 | Guided Self-Assembly of Nano-Precipitates into Mesocrystals. <i>Scientific Reports</i> , 2015, 5, 16530.  | 1.6 | 12        |
| 169 | A single theory for some quasi-static, supersonic, atomic, and tectonic scale applications of dislocations. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 84, 145-195.  | 2.3 | 48        |
| 170 | Alternative transmission mode and long stacking fault formation during a dissociated screw dislocation across a coherent sliding interface. <i>Journal Physics D: Applied Physics</i> , 2015, 48, 395301.                       | 1.3 | 1         |
| 171 | Phase-field Simulation of Habit Plane Formation during Martensitic Transformation in Low-carbon Steels. <i>ISIJ International</i> , 2015, 55, 2455-2462.  | 0.6 | 14        |
| 172 | Phase field modeling of a glide dislocation transmission across a coherent sliding interface. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2015, 23, 035002.  | 0.8 | 10        |
| 173 | Interaction between phase transformations and dislocations at the nanoscale. Part 2: Phase field simulation examples. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 82, 164-185.                                | 2.3 | 78        |
| 174 | Thermodynamically consistent phase field approach to dislocation evolution at small and large strains. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 82, 345-366.   | 2.3 | 38        |
| 175 | Relationship between monolayer stacking faults and twins in nanocrystals. <i>Acta Materialia</i> , 2015, 88, 207-217.   | 3.8 | 26        |
| 176 | Variant selection by dislocations during $\beta$ precipitation in $\beta$ titanium alloys. <i>Acta Materialia</i> , 2015, 88, 218-231.  | 3.8 | 133       |
| 177 | Finite element analysis of discrete edge dislocations: Configurational forces and conserved integrals. <i>International Journal of Solids and Structures</i> , 2015, 62, 52-65.   | 1.3 | 19        |
| 178 | A Review of Quantitative Phase-Field Crystal Modeling of Solid-Liquid Structures. <i>Jom</i> , 2015, 67, 186-201.   | 0.9 | 48        |
| 179 | A Rate-Theory Approach to Irradiation Damage Modeling with Random Cascades in Space and Time. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 93-101.                  | 1.1 | 6         |
| 180 | Numerical evaluation of dislocation loop sink strengths: A phase-field approach. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2015, 352, 31-35.   | 0.6 | 10        |
| 181 | A phase-field approach to solid-solid phase transformations via intermediate interfacial phases under stress tensor. <i>International Journal of Solids and Structures</i> , 2015, 71, 39-56.                                   | 1.3 | 22        |
| 182 | Atomistically determined phase-field modeling of dislocation dissociation, stacking fault formation, dislocation slip, and reactions in fcc systems. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 77, 109-122. | 2.3 | 52        |
| 183 | Interaction between phase transformations and dislocations at the nanoscale. Part 1. General phase field approach. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 82, 287-319.                                   | 2.3 | 83        |
| 184 | Phase field based nonlocal anisotropic damage mechanics model. <i>Physica D: Nonlinear Phenomena</i> , 2015, 308, 11-25.  | 1.3 | 34        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 185 | Phase-field model coupling cracks and dislocations at finite strain. <i>Acta Materialia</i> , 2015, 92, 197-208.  | 3.8 | 9         |
| 186 | Phase-Field Simulation of Orowan Strengthening by Coherent Precipitate Plates in an Aluminum Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 3287-3301.                 | 1.1 | 41        |
| 187 | A FFT-based formulation for efficient mechanical fields computation in isotropic and anisotropic periodic discrete dislocation dynamics. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2015, 23, 065009.       | 0.8 | 63        |
| 188 | Small strain elasto-plastic multiphase-field model. <i>Computational Mechanics</i> , 2015, 55, 27-35.   | 2.2 | 20        |
| 189 | A phase field model coupling lithium diffusion and stress evolution with crack propagation and application in lithium ion batteries. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 287-297.                                    | 1.3 | 91        |
| 190 | An integrated fast Fourier transform-based phase-field and crystal plasticity approach to model recrystallization of three dimensional polycrystals. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 285, 829-848. | 3.4 | 96        |
| 191 | Numerical investigation of the interaction between the martensitic transformation front and the plastic strain in austenite. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 76, 65-83.                                   | 2.3 | 18        |
| 192 | Formation Mechanism of Lath Martensite in Steels. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , 2016, 80, 669-683.   | 0.2 | 3         |
| 193 | Phase field simulations of plastic strain-induced phase transformations under high pressure and large shear. <i>Physical Review B</i> , 2016, 94, .   | 1.1 | 76        |
| 194 | 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.                                     | 2.3 | 28        |
| 195 | Pattern formation during interfacial reaction in-between liquid Sn and Cu substrates – A simulation study. <i>Acta Materialia</i> , 2016, 113, 245-258.   | 3.8 | 22        |
| 196 | Developing micro-scale crystal plasticity model based on phase field theory for modeling dislocations in heteroepitaxial structures. <i>International Journal of Plasticity</i> , 2016, 81, 267-283.                                    | 4.1 | 13        |
| 197 | Coupled gradient damage – Viscoplasticity model for ductile materials: Phase field approach. <i>International Journal of Plasticity</i> , 2016, 83, 55-73.  | 4.1 | 27        |
| 198 | Predicting Coherency Loss of $\gamma'$ Precipitates in IN718 Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 3235-3247.  | 1.1 | 46        |
| 199 | Simulation of dislocation recovery in lath martensite steels using the phase-field method. <i>Computational Materials Science</i> , 2016, 119, 108-113.   | 1.4 | 16        |
| 200 | Fast Fourier transform discrete dislocation dynamics. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016, 24, 085005.  | 0.8 | 21        |
| 201 | Dislocations via incompatibilities in phase-field models of microstructure evolution. <i>Physical Review B</i> , 2016, 94, .  | 1.1 | 6         |
| 202 | Deformation mechanisms of D022 ordered intermetallic phase in superalloys. <i>Acta Materialia</i> , 2016, 118, 350-361.   | 3.8 | 41        |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 203 | Coupling the Phase Field Method for diffusive transformations with dislocation density-based crystal plasticity: Application to Ni-based superalloys. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 94, 473-489. | 2.3 | 59        |
| 204 | Insights from a minimal model of dislocation-assisted rafting in single crystal Nickel-based superalloys. <i>Scripta Materialia</i> , 2016, 123, 42-45.  | 2.6 | 32        |
| 205 | Theoretical and computational comparison of models for dislocation dissociation and stacking fault/core formation in fcc crystals. <i>Journal of the Mechanics and Physics of Solids</i> , 2016, 95, 719-741.                    | 2.3 | 41        |
| 206 | Multiphase phase field theory for temperature-induced phase transformations: Formulation and application to interfacial phases. <i>Acta Materialia</i> , 2016, 105, 244-257.   | 3.8 | 66        |
| 207 | Phase field approach to dislocation evolution at large strains: Computational aspects. <i>International Journal of Solids and Structures</i> , 2016, 82, 95-110.   | 1.3 | 22        |
| 208 | Understanding dislocation mechanics at the mesoscale using phase field dislocation dynamics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150166.                 | 1.6 | 53        |
| 209 | A field theory of strain/curvature incompatibility for coupled fracture and plasticity. <i>International Journal of Solids and Structures</i> , 2016, 82, 16-38.   | 1.3 | 6         |
| 210 | Two-scale FE-FFT- and phase-field-based computational modeling of bulk microstructural evolution and macroscopic material behavior. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 305, 89-110.            | 3.4 | 77        |
| 211 | Intermittency in Crystal Plasticity Informed by Lattice Symmetry. <i>Journal of Elasticity</i> , 2016, 123, 85-96.   | 0.9 | 12        |
| 212 | A phase field dislocation dynamics model for a bicrystal interface system: An investigation into dislocation slip transmission across cube-on-cube interfaces. <i>International Journal of Plasticity</i> , 2016, 79, 293-313.   | 4.1 | 49        |
| 213 | A simulation study of the distribution of $\text{L}^{2\alpha}$ precipitates in a crept Mg-Gd-Zr alloy. <i>Computational Materials Science</i> , 2017, 130, 152-164.  | 1.4 | 15        |
| 214 | A dislocation dynamics-assisted phase field model for Nickel-based superalloys: The role of initial dislocation density and external stress during creep. <i>Journal of Alloys and Compounds</i> , 2017, 703, 389-395.           | 2.8 | 24        |
| 215 | Phase-field simulation of rafting kinetics in a nickel-based single crystal superalloy. <i>Intermetallics</i> , 2017, 85, 187-196.   | 1.8 | 35        |
| 216 | A continuum model for dislocation pile-up problems. <i>Acta Materialia</i> , 2017, 128, 428-439.   | 3.8 | 20        |
| 217 | Three-dimensional phase-field model of dislocations for a heterogeneous face-centered cubic crystal. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 105, 95-115.  | 2.3 | 24        |
| 218 | Multiscale modelling of the morphology and spatial distribution of $\text{L}^{2\alpha}$ precipitates in Al-Cu alloys. <i>Acta Materialia</i> , 2017, 132, 611-626.   | 3.8 | 64        |
| 219 | Modeling elasto-viscoplasticity in a consistent phase field framework. <i>International Journal of Plasticity</i> , 2017, 96, 242-263.   | 4.1 | 15        |
| 220 | On the plastic driving force of grain boundary migration: A fully coupled phase field and crystal plasticity model. <i>Computational Materials Science</i> , 2017, 128, 320-330.   | 1.4 | 22        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 221 | Field Dislocation Mechanics for heterogeneous elastic materials: A numerical spectral approach. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 315, 921-942.                | 3.4 | 33        |
| 222 | Phase field simulation of microstructures of Mg and Al alloys. <i>Materials Science and Technology</i> , 2017, 33, 2159-2172.   | 0.8 | 10        |
| 223 | 3D phase-field modelling of dislocation loop sink strengths. <i>Journal of Nuclear Materials</i> , 2017, 483, 62-81.  | 1.3 | 11        |
| 224 | Electroelastic fields for a piezoelectric threading dislocation in various growth orientations of gallium nitride. <i>European Journal of Mechanics, A/Solids</i> , 2017, 61, 279-292.            | 2.1 | 11        |
| 225 | Nanoscale mechanisms for high-pressure mechanochemistry: a phase field study. <i>Journal of Materials Science</i> , 2018, 53, 13343-13363.  | 1.7 | 38        |
| 226 | Dislocation dynamics and crystal plasticity in the phase-field crystal model. <i>Physical Review B</i> , 2018, 97, .  | 1.1 | 42        |
| 227 | Improved phase field model of dislocation intersections. <i>Npj Computational Materials</i> , 2018, 4, .  | 3.5 | 16        |
| 228 | Multiphase-field model of small strain elasto-plasticity according to the mechanical jump conditions. <i>Computational Mechanics</i> , 2018, 62, 1399-1412.                                       | 2.2 | 20        |
| 229 | Dislocation-density dynamics for modeling the cores and Peierls stress of curved dislocations. <i>International Journal of Plasticity</i> , 2018, 104, 1-22.                                      | 4.1 | 18        |
| 230 | Geometrically linear continuum theory of dislocations revisited from a thermodynamical perspective. <i>Archive of Applied Mechanics</i> , 2018, 88, 141-173.                                      | 1.2 | 2         |
| 231 | Effects of single- and dual-element ion implantation on tribomechanical properties of Cronidur 30 bearing steel. <i>Surface and Coatings Technology</i> , 2018, 344, 303-311.                     | 2.2 | 20        |
| 232 | Multidimensional stability analysis of the phase-field method for fracture with a general degradation function and energy split.. <i>Computational Mechanics</i> , 2018, 61, 181-205.             | 2.2 | 18        |
| 233 | Stability analysis of the phase-field method for fracture with a general degradation function and plasticity induced crack generation. <i>Mechanics of Materials</i> , 2018, 116, 33-48.          | 1.7 | 31        |
| 234 | Quantitative 3D phase field modelling of solidification using next-generation adaptive mesh refinement. <i>Computational Materials Science</i> , 2018, 142, 153-171.                              | 1.4 | 45        |
| 235 | Graphics processing unit accelerated phase field dislocation dynamics: Application to bi-metallic interfaces. <i>Advances in Engineering Software</i> , 2018, 115, 248-267.                       | 1.8 | 15        |
| 236 | A review of slip transfer: applications of mesoscale techniques. <i>Journal of Materials Science</i> , 2018, 53, 5584-5603.   | 1.7 | 24        |
| 237 | The influence of anisotropy on the core structure of Shockley partial dislocations within FCC materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2018, 26, 015010. | 0.8 | 15        |
| 238 | Multiscale Crystalline Plasticity for Materials Design. , 2018, , 105-146.  |     | 5         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 239 | Hierarchical multiscale modeling of plasticity in copper: From single crystals to polycrystalline aggregates. <i>International Journal of Plasticity</i> , 2018, 101, 188-212.   | 4.1 | 44        |
| 240 | Formation Mechanism of Lath Martensite in Steels. <i>Materials Transactions</i> , 2018, 59, 151-164.   | 0.4 | 4         |
| 241 | Scale-Free Modeling of Coupled Evolution of Discrete Dislocation Bands and Multivariant Martensitic Microstructure. <i>Physical Review Letters</i> , 2018, 121, 205701.  | 2.9 | 17        |
| 242 | Nanoembryonic thermoelastic equilibrium and enhanced properties of defected pretransitional materials. <i>Npj Computational Materials</i> , 2018, 4, .   | 3.5 | 13        |
| 243 | A 3D crystal plasticity model for coherency loss during precipitation. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2018, 26, 065008.  | 0.8 | 5         |
| 244 | Connecting Lower and Higher Scales in Crystal Plasticity Modeling. , 2018, , 1-21.   |     | 1         |
| 245 | Shearing of $\gamma'$ particles in Co-base and Co-Ni-base superalloys. <i>Acta Materialia</i> , 2018, 161, 99-109.   | 3.8 | 45        |
| 246 | Nonclassical Symmetry Solutions for Fourth-Order Phase Field Reaction-Diffusion. <i>Symmetry</i> , 2018, 10, 72.   | 1.1 | 8         |
| 247 | Atomistic phase field chemomechanical modeling of dislocation-solute-precipitate interaction in Ni-Al-Co. <i>Acta Materialia</i> , 2019, 175, 250-261.   | 3.8 | 51        |
| 248 | Modeling dislocations with arbitrary character angle in face-centered cubic transition metals using the phase-field dislocation dynamics method with full anisotropic elasticity. <i>Mechanics of Materials</i> , 2019, 139, 103200. | 1.7 | 28        |
| 249 | GD3: generalized discrete defect dynamics. <i>Materials Theory</i> , 2019, 3, .  | 2.2 | 14        |
| 250 | Density functional theory calculations of generalized stacking fault energy surfaces for eight face-centered cubic transition metals. <i>Journal of Applied Physics</i> , 2019, 126, .   | 1.1 | 39        |
| 251 | A comparison of different continuum approaches in modeling mixed-type dislocations in Al. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019, 27, 074004.   | 0.8 | 32        |
| 252 | Investigating the effect of elastic anisotropy on martensitic phase transformations at the nanoscale. <i>Computational Materials Science</i> , 2019, 167, 168-182.   | 1.4 | 23        |
| 254 | A nano-embryonic mechanism for superelasticity, elastic softening, invar and elinvar effects in defected pre-transitional materials. <i>Acta Materialia</i> , 2019, 171, 240-252.  | 3.8 | 19        |
| 255 | Thermodynamic dislocation theory: Finite deformations. <i>International Journal of Engineering Science</i> , 2019, 139, 1-10.  | 2.7 | 7         |
| 256 | Slip transmission assisted by Shockley partials across $\Sigma$ interfaces in Ti-alloys. <i>Acta Materialia</i> , 2019, 171, 291-305.  | 3.8 | 27        |
| 257 | Effect of Ta on the microstructure of high performance Ni-based powder metallurgy superalloys. <i>Science China Technological Sciences</i> , 2019, 62, 1961-1967.  | 2.0 | 5         |



| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 258 | A fractional phase-field model using an infinitesimal generator of $\hat{L}$ stable Lévy process. Journal of Computational Physics, 2019, 384, 253-269.   | 1.9 | 8         |
| 259 | Phase-field-based calculations of the disregistry fields of static extended dislocations in FCC metals. Philosophical Magazine, 2019, 99, 1400-1428.  | 0.7 | 37        |
| 260 | Predicting grain boundary structure and energy in BCC metals by integrated atomistic and phase-field modeling. Acta Materialia, 2019, 164, 799-809.   | 3.8 | 22        |
| 261 | Multiscale Modeling of Interfaces, Dislocations, and Dislocation Field Plasticity. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2019, , 195-297.  | 0.3 | 10        |
| 262 | Mesoscale Models. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2019, , .  | 0.3 | 7         |
| 263 | Phase field simulation of martensitic transformation in pre-strained nanocomposite shape memory alloys. Acta Materialia, 2019, 164, 99-109.   | 3.8 | 32        |
| 264 | A 3D phase field dislocation dynamics model for body-centered cubic crystals. Computational Materials Science, 2020, 171, 109217.   | 1.4 | 26        |
| 265 | Phase Field Methods. , 2020, , 779-813.   |     | 3         |
| 266 | Driving forces on dislocations " An analytical and finite element study. International Journal of Solids and Structures, 2020, 190, 181-198.  | 1.3 | 7         |
| 267 | A coarse-grained phase-field crystal model of plastic motion. Journal of the Mechanics and Physics of Solids, 2020, 137, 103856.  | 2.3 | 31        |
| 268 | Generalised stacking fault energy of Ni-Al and Co-Al-W superalloys: Density-functional theory calculations. Materialia, 2020, 9, 100555.  | 1.3 | 20        |
| 269 | A phase field model for dislocations in hexagonal close packed crystals. Journal of the Mechanics and Physics of Solids, 2020, 137, 103823.   | 2.3 | 20        |
| 270 | A two-dimensional numerical study of liquid water breakthrough in gas diffusion layer based on phase field method. Journal of Power Sources, 2020, 448, 227352.   | 4.0 | 12        |
| 271 | A Review on Cementitious Self-Healing and the Potential of Phase-Field Methods for Modeling Crack-Closing and Fracture Recovery. Materials, 2020, 13, 5265.   | 1.3 | 22        |
| 272 | Influence of Interfacial Stress on Microstructural Evolution in NiAl Alloys. JETP Letters, 2020, 112, 173-179.  | 0.4 | 33        |
| 273 | Current Challenges and Opportunities in Microstructure-Related Properties of Advanced High-Strength Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 5517-5586. | 1.1 | 115       |
| 274 | Field dislocation mechanics and phase field crystal models. Physical Review B, 2020, 102, .   | 1.1 | 9         |
| 275 | Frank-Read source operation in six body-centered cubic refractory metals. Journal of the Mechanics and Physics of Solids, 2020, 141, 104017.  | 2.3 | 43        |



| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 276 | Effects of interfacial stress in phase field approach for martensitic phase transformation in NiAl shape memory alloys. Applied Physics A: Materials Science and Processing, 2020, 126, 1.    | 1.1 | 28        |
| 277 | A phase field model for dislocation climb under irradiation: Formalism and applications to pure bcc iron and ferritic alloys. International Journal of Plasticity, 2020, 134, 102810.         | 4.1 | 13        |
| 278 | Strain-induced multivariant martensitic transformations: A scale-independent simulation of interaction between localized shear bands and microstructure. Acta Materialia, 2020, 196, 430-443. | 3.8 | 19        |
| 279 | Magnetoelastic equilibrium and super-magnetostriction in highly defected pre-transitional materials. Acta Materialia, 2020, 188, 539-550.   | 3.8 | 7         |
| 280 | Comparative modeling of the disregistry and Peierls stress for dissociated edge and screw dislocations in Al. International Journal of Plasticity, 2020, 129, 102689.                         | 4.1 | 38        |
| 281 | Multi-component chemo-mechanics based on transport relations for the chemical potential. Computer Methods in Applied Mechanics and Engineering, 2020, 365, 113029.                            | 3.4 | 12        |
| 282 | Phase transformations, fracture, and other structural changes in inelastic materials. International Journal of Plasticity, 2021, 140, 102914.   | 4.1 | 37        |
| 283 | Dislocation Assisted Phase Separation: A Phase Field Study. SSRN Electronic Journal, 0, , .   | 0.4 | 0         |
| 284 | Multiphase phase-field approach for solid-solid phase transformations via propagating interfacial phase in HMX. Journal of Applied Physics, 2021, 129, .                                      | 1.1 | 16        |
| 285 | Identification and stability of small-sized dislocations using a direct algorithm. Inverse Problems and Imaging, 2021, .  | 0.6 | 0         |
| 286 | Phase field model of single Shockley stacking fault expansion in 4H-SiC PiN diode. Japanese Journal of Applied Physics, 2021, 60, 024004.   | 0.8 | 5         |
| 287 | Stress-dependence of dislocation dissociation, nucleation and annihilation in elastically anisotropic Cu. International Journal of Plasticity, 2021, 138, 102927.                             | 4.1 | 6         |
| 288 | Spectral discrete dislocation dynamics with anisotropic short range interactions. Computational Materials Science, 2021, 189, 110243.   | 1.4 | 13        |
| 289 | Asymmetric equilibrium core structures of pyramidal-II dislocations in ten hexagonal-close-packed metals. Physical Review Materials, 2021, 5, .   |     |           |
| 290 | Equation of motion for grain boundaries in polycrystals. Npj Computational Materials, 2021, 7, .  | 3.5 | 14        |
| 291 | Phase field model for self-climb of prismatic dislocation loops by vacancy pipe diffusion. International Journal of Plasticity, 2021, 141, 102977.  | 4.1 | 5         |
| 292 | Precipitate Shearing, Fault Energies, and Solute Segregation to Planar Faults in Ni-, CoNi-, and Co-Base Superalloys. Annual Review of Materials Research, 2021, 51, 209-240.                 | 4.3 | 29        |
| 293 | Phase field dislocation dynamics (PFDD) modeling of non-Schmid behavior in BCC metals informed by atomistic simulations. Journal of the Mechanics and Physics of Solids, 2021, 152, 104460.   | 2.3 | 10        |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 294 | Energetics and kinematics of undercooled nonequilibrium interfacial molten layer in cyclo-tetramethylene-tetranitramine crystal. <i>Physica B: Condensed Matter</i> , 2021, 615, 412986.   | 1.3  | 16        |
| 295 | From classical thermodynamics to phase-field method. <i>Progress in Materials Science</i> , 2022, 124, 100868.   | 16.0 | 172       |
| 296 | Phase field study on the microscopic mechanism of grain size dependent cyclic degradation of super-elasticity and shape memory effect in nano-polycrystalline NiTi alloys. <i>International Journal of Plasticity</i> , 2021, 145, 103075.   | 4.1  | 32        |
| 297 | Non-orthogonal computational grids for studying dislocation motion in phase field approaches. <i>Computational Materials Science</i> , 2021, 200, 110834.  | 1.4  | 8         |
| 298 | Phase Field Modeling of Austenite Decomposition and Formation in Steels: An Overview. , 2022, , 527-540.   |      | 0         |
| 299 | A multi-scale algorithm for dislocation creep at elevated temperatures. <i>Theoretical and Applied Mechanics Letters</i> , 2021, 11, 100230.   | 1.3  | 4         |
| 300 | Dislocation Dynamics â€” Phase Field. , 2005, , 2287-2305.   |      | 12        |
| 301 | Simulation-Assisted Design and Accelerated Insertion of Materials. , 2011, , 617-647.  |      | 7         |
| 302 | Phase Field. , 2006, , 1031-1055.  |      | 2         |
| 303 | Title is missing!. , 2003, , .   |      | 1         |
| 304 | A continuum approach to combined $\hat{\Gamma}^3/\hat{\Gamma}^3\hat{\epsilon}^2$ evolution and dislocation plasticity in Nickel-based superalloys. <i>International Journal of Plasticity</i> , 2017, 95, 142-162.   | 4.1  | 49        |
| 305 | Phase-Field Microstructure Modeling. , 2009, , 297-311.  |      | 5         |
| 306 | Deformation Mechanisms in Ni-Base Disk Superalloys at Higher Temperatures. , 2008, , .   |      | 18        |
| 307 | Poling and Depoling Effects on Dielectric Properties and Domain Structures in Relaxor $24\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3$ â€” $46\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ â€” $30\text{PbTiO}_3$ a Morphotropic Phase Boundary Composition. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 09LC06. |      | 3         |
| 308 | Title is missing!. , 2003, , .   |      | 0         |
| 309 | Title is missing!. , 2003, , .   |      | 0         |
| 310 | Level Set Dislocation Dynamics Method. , 2005, , 2307-2323.  |      | 0         |
| 311 | Coarse-Graining Methodologies for Dislocation Energetics and Dynamics. , 2005, , 2325-2335.  |      | 0         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 312 | Phase field simulation of heat treatment process of Cu ultra fine wire. Transactions of the Materials Research Society of Japan, 2008, 33, 237-239.                          | 0.2 | 2         |
| 313 | Dynamics of Phase Transitions in Solids. , 2009, , 287-321.  |     | 0         |
| 314 | Phase Field Approach. , 2011, , 1091-1115.   |     | 1         |
| 315 | Double kink mechanisms for discrete dislocations in BCC crystals. , 2012, , 29-40.   |     | 0         |
| 316 | Modeling of Nonlocal Damage Using the Phase Field Method. , 2015, , 1541-1576.   |     | 0         |
| 317 | Numerical Investigation of the Interaction between the Martensitic Transformation Front and the Plastic Strain in Austenite. , 2015, , 1281-1288.                            |     | 0         |
| 318 | Concurrent interface shearing and dislocation core change on the glide dislocation-interface interactions: a phase field approach. AIMS Materials Science, 2015, 2, 260-278. | 0.7 | 0         |
| 319 | Withdrawn article "Phase-field simulation of lenticular martensite and inheritance of the accommodation dislocations. MATEC Web of Conferences, 2015, 33, 07006.             | 0.1 | 0         |
| 322 | Multiscale Modeling of Radiation Hardening. , 2018, , 1-32.  |     | 0         |
| 323 | Multiscale Modeling of Radiation Hardening. , 2019, , 167-197.   |     | 0         |
| 324 | FFT based approaches in micromechanics: fundamentals, methods and applications. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 023002.             | 0.8 | 29        |
| 325 | Connecting Lower and Higher Scales in Crystal Plasticity Modeling. , 2020, , 1609-1629.  |     | 1         |
| 326 | Phase-field model and its application in electrochemical energy storage materials. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 226401-226401.                                 | 0.2 | 0         |
| 327 | Dislocation transmission across $\{112\}$ incoherent twin boundary: a combined atomistic and phase-field study. Acta Materialia, 2022, 223, 117447.                          | 3.8 | 18        |
| 328 | Multiscale modeling of deformation and fracture in metallic materials. , 2007, , 369-390.  |     | 0         |
| 329 | Transitions in the morphology and critical stresses of gliding dislocations in multiprincipal element alloys. Physical Review Materials, 2022, 6, .                          | 0.9 | 6         |
| 330 | Phase-field modeling of the interactions between an edge dislocation and an array of obstacles. Computer Methods in Applied Mechanics and Engineering, 2022, 389, 114426.    | 3.4 | 12        |
| 331 | Coarse-grained atomistic modeling of dislocations and generalized crystal plasticity. Journal of Micromechanics and Molecular Physics, 2022, 07, 103-125.                    | 0.7 | 2         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 332 | Generalized stacking fault energy surface mismatch and dislocation transformation. Npj Computational Materials, 2021, 7, .   | 3.5 | 6         |
| 333 | Finite-deformation phase-field microelasticity with application to dislocation core and reaction modeling in fcc crystals. Journal of the Mechanics and Physics of Solids, 2022, , 104897.                                   | 2.3 | 1         |
| 334 | Recent progress in the phase-field dislocation dynamics method. Computational Materials Science, 2022, 210, 111419.  | 1.4 | 6         |
| 335 | Modeling the Dynamics of Dislocation Ensembles. , 2005, , 2269-2286.   |     | 0         |
| 336 | Level Set Dislocation Dynamics Method. , 2005, , 2307-2323.  |     | 0         |
| 337 | Coarse-Graining Methodologies for Dislocation Energetics and Dynamics. , 2005, , 2325-2335.  |     | 0         |
| 338 | A Perspective on Dislocation Dynamics. , 2005, , 2871-2877.  |     | 0         |
| 339 | Nanomaterials physics: A critical review. , 2022, , 207-216.   |     | 0         |
| 340 | Modeling and simulation of microstructure in metallic systems based on multi-physics approaches. Npj Computational Materials, 2022, 8, .   | 3.5 | 10        |
| 341 | Singularity-free theory and adaptive finite element computations of arbitrarily-shaped dislocation loop dynamics in 3D heterogeneous material structures. Journal of the Mechanics and Physics of Solids, 2022, 167, 104954. | 2.3 | 4         |
| 342 | Phase field modeling of dislocations and obstacles in InSb. Journal of Applied Physics, 2022, 132, .   | 1.1 | 2         |
| 343 | A peridynamic approach to solving general discrete dislocation dynamics problems in plasticity and fracture: Part I. Model description and verification. International Journal of Plasticity, 2022, 157, 103401.             | 4.1 | 12        |
| 344 | Dislocation dynamics in heterogeneous nanostructured materials. Journal of the Mechanics and Physics of Solids, 2022, 168, 105031.   | 2.3 | 3         |
| 345 | Defect Energy Calculations of Nickel, Copper and Aluminium (and Their Alloys): Molecular Dynamics Approach. Lecture Notes in Applied and Computational Mechanics, 2022, , 157-186.   | 2.0 | 19        |
| 346 | Dynamic localized phase transformation at stacking faults during creep deformation and new criterion for superalloy design. MRS Communications, 2022, 12, 991-1001.  | 0.8 | 2         |
| 347 | Hierarchical multiscale crystal plasticity framework for plasticity and strain hardening of multi-principal element alloys. Journal of the Mechanics and Physics of Solids, 2022, 169, 105067.                               | 2.3 | 12        |
| 348 | Phase field modeling of topological magnetic structures in ferromagnetic materials: domain wall, vortex, and skyrmion. Acta Mechanica, 0, , .  | 1.1 | 3         |
| 349 | Dislocation assisted phase separation: A phase field study. Acta Materialia, 2023, 244, 118529.  | 3.8 | 4         |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 350 | Phase Field Modeling of Shearing Processes of a Dual-lobed $\gamma$ - $\alpha'$ Coprecipitate. Acta Materialia, 2023, , 118693.   | 3.8 | 0         |
| 351 | Evolution of edge dislocations under elastic and inelastic strains: A nanoscale phase-field study. Mathematics and Mechanics of Solids, 0, , 108128652211405.                 | 1.5 | 1         |
| 352 | A general framework for dislocation models. Computational Materials Science, 2023, 222, 112107.   | 1.4 | 0         |
| 353 | Combined modeling and experimental characterization of Mn segregation and spinodal decomposition along dislocation lines in Fe-Mn alloys. Acta Materialia, 2023, 251, 118873. | 3.8 | 1         |
| 354 | Phase-field Modeling and Simulation of Solid-state Phase Transformations in Steels. ISIJ International, 2023, 63, 395-406.  | 0.6 | 5         |
| 355 | Elastic Stress Driven Instabilities in Thin Films and their Assemblies. , 2023, , 8-1-8-26.   |     | 1         |