

Remi Dingreville

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77
papers

1,361
citations

16
h-index

35
g-index

86
ext. papers

1,666
ext. citations

4.9
avg, IF

5.13
L-index

#	Paper	IF	Citations
77	Surface free energy and its effect on the elastic behavior of nano-sized particles, wires and films. <i>Journal of the Mechanics and Physics of Solids</i> , 2005 , 53, 1827-1854	5	579
76	Interfacial excess energy, excess stress and excess strain in elastic solids: Planar interfaces. <i>Journal of the Mechanics and Physics of Solids</i> , 2008 , 56, 1944-1954	5	79
75	A semi-analytical method to compute surface elastic properties. <i>Acta Materialia</i> , 2007 , 55, 141-147	8.4	74
74	The third Sandia fracture challenge: predictions of ductile fracture in additively manufactured metal. <i>International Journal of Fracture</i> , 2019 , 218, 5-61	2.3	43
73	The effect of microstructural representation on simulations of microplastic ratcheting. <i>International Journal of Plasticity</i> , 2010 , 26, 617-633	7.6	39
72	From coherent to incoherent mismatched interfaces: A generalized continuum formulation of surface stresses. <i>Journal of the Mechanics and Physics of Solids</i> , 2014 , 72, 40-60	5	36
71	A semi-analytical method for quantifying the size-dependent elasticity of nanostructures. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2008 , 16, 025002	2	32
70	Traction-separation relationships for hydrogen induced grain boundary embrittlement in nickel via molecular dynamics simulations. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 650, 354-364	5.3	29
69	On the interaction of solutes with grain boundaries. <i>Acta Materialia</i> , 2016 , 104, 237-249	8.4	22
68	Identification of dominant damage accumulation processes at grain boundaries during irradiation in nanocrystalline Fe: A statistical study. <i>Acta Materialia</i> , 2016 , 110, 306-323	8.4	22
67	Microstructure morphology and concentration modulation of nanocomposite thin-films during simulated physical vapor deposition. <i>Acta Materialia</i> , 2020 , 188, 181-191	8.4	21
66	Review of the synergies between computational modeling and experimental characterization of materials across length scales. <i>Journal of Materials Science</i> , 2016 , 51, 1178-1203	4.3	21
65	Multi-morphology lattices lead to improved plastic energy absorption. <i>Materials and Design</i> , 2020 , 194, 108883	8.1	20
64	Multi-scale simulation of radiation damage accumulation and subsequent hardening in neutron-irradiated Fe. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016 , 24, 015005	2	20
63	A primer on selecting grain boundary sets for comparison of interfacial fracture properties in molecular dynamics simulations. <i>Scientific Reports</i> , 2017 , 7, 8332	4.9	18
62	A semi-analytical method to estimate interface elastic properties. <i>Computational Materials Science</i> , 2009 , 46, 83-91	3.2	18
61	Investigation of grain-scale microstructural variability in tantalum using crystal plasticity-finite element simulations. <i>Computational Materials Science</i> , 2016 , 117, 437-444	3.2	15

60	Multiscale simulations of electron and ion dynamics in self-irradiated silicon. <i>Physical Review B</i> , 2020 , 102,	3.3	14
59	Irradiation resistance of nanostructured interfaces in Zr/Nb metallic multilayers. <i>Journal of Materials Research</i> , 2019 , 34, 2239-2251	2.5	13
58	Synchronous parallel spatially resolved stochastic cluster dynamics. <i>Computational Materials Science</i> , 2016 , 120, 43-52	3.2	12
57	Characterizing single isolated radiation-damage events from molecular dynamics via virtual diffraction methods. <i>Journal of Applied Physics</i> , 2018 , 123, 165902	2.5	11
56	In situ TEM investigation of self-ion irradiation of nanoporous gold. <i>Journal of Materials Science</i> , 2019 , 54, 7271-7287	4.3	10
55	Cavity Evolution at Grain Boundaries as a Function of Radiation Damage and Thermal Conditions in Nanocrystalline Nickel. <i>Materials Research Letters</i> , 2016 , 4, 96-103	7.4	10
54	A stochastic approach to capture crystal plasticity. <i>International Journal of Plasticity</i> , 2011 , 27, 1432-1444	4.6	10
53	Accelerating phase-field-based microstructure evolution predictions via surrogate models trained by machine learning methods. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	10
52	Mechanics of point defect diffusion near dislocations and grain boundaries: A chemomechanical framework. <i>Computational Materials Science</i> , 2018 , 144, 99-112	3.2	10
51	Compositional and structural origins of radiation damage mitigation in high-entropy alloys. <i>Journal of Applied Physics</i> , 2020 , 128, 125904	2.5	9
50	A data-driven surrogate model to rapidly predict microstructure morphology during physical vapor deposition. <i>Applied Mathematical Modelling</i> , 2020 , 88, 589-603	4.5	9
49	Wave propagation and dispersion in elasto-plastic microstructured materials. <i>International Journal of Solids and Structures</i> , 2014 , 51, 2226-2237	3.1	8
48	Spectrum of embrittling potencies and relation to properties of symmetric-tilt grain boundaries. <i>Acta Materialia</i> , 2021 , 205, 116527	8.4	8
47	Microscopic and Macroscopic Characterization of Grain Boundary Energy and Strength in Silicon Carbide via Machine-Learning Techniques. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 3311-3324	9.5	8
46	Reduced-order atomistic cascade method for simulating radiation damage in metals. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 045402	1.8	7
45	Density Functional Analysis of Fluorite-Structured (Ce, Zr)O ₂ /CeO ₂ Interfaces. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 14678-14687	3.8	7
44	Revealing inconsistencies in X-ray width methods for nanomaterials. <i>Nanoscale</i> , 2019 , 11, 22456-22466	7.7	7
43	First-Principles Structural, Mechanical, and Thermodynamic Calculations of the Negative Thermal Expansion Compound Zr(WO)(PO). <i>ACS Omega</i> , 2018 , 3, 15780-15788	3.9	7

42	Displacement rate and temperature equivalence in stochastic cluster dynamics simulations of irradiated pure Fe. <i>Journal of Nuclear Materials</i> , 2016 , 480, 129-137	3.3	6
41	Misfit dislocation networks in semi-coherent miscible phase boundaries: An example for U ₃ Zr interfaces. <i>Computational Materials Science</i> , 2018 , 154, 194-203	3.2	6
40	Electron Beam Effects during In-Situ Annealing of Self-Ion Irradiated Nanocrystalline Nickel. <i>Materials Research Society Symposia Proceedings</i> , 2015 , 1809, 13-18		6
39	Characterizing the Tensile Strength of Metastable Grain Boundaries in Silicon Carbide Using Machine Learning. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 24809-24821	3.8	5
38	Design and analysis of forward and reverse models for predicting defect accumulation, defect energetics, and irradiation conditions. <i>Computational Materials Science</i> , 2018 , 148, 272-285	3.2	5
37	Mechanics of finite cracks in dissimilar anisotropic elastic media considering interfacial elasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2017 , 99, 1-18	5	5
36	Hybrid Monte Carlo Simulation of Stress-Induced Texture Evolution with Inelastic Effects. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011 , 42, 575-581	2.3	5
35	In situ Transmission Electron Microscopy He ⁺ implantation and thermal aging of nanocrystalline iron. <i>Journal of Nuclear Materials</i> , 2016 , 482, 139-146	3.3	5
34	Atomistic simulations of temperature and direction dependent threshold displacement energies in Fe and Uranium. <i>Computational Materials Science</i> , 2019 , 157, 75-86	3.2	5
33	Pressure-Induced Formation and Mechanical Properties of 2D Diamond Boron Nitride. <i>Advanced Science</i> , 2021 , 8, 2002541	13.6	5
32	Understanding the plasticity contributions during laser-shock loading and spall failure of Cu microstructures at the atomic scales. <i>Computational Materials Science</i> , 2021 , 198, 110668	3.2	5
31	Multiresolution Modeling of the Dynamic Loading of Metal Matrix Composites. <i>Jom</i> , 2013 , 65, 203-214	2.1	4
30	An embedded-atom method potential parameterized for sulfur-induced embrittlement of nickel. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019 , 27, 085016	2	4
29	Elastic Green's Function in Anisotropic Bimaterials Considering Interfacial Elasticity. <i>Journal of Elasticity</i> , 2018 , 131, 277-296	1.5	3
28	Scaling laws and stability of nano-sized defect clusters in niobium via atomistic simulations and statistical analysis. <i>Journal of Materials Science</i> , 2019 , 54, 14002-14028	4.3	3
27	Benchmark problems for the Mesoscale Multiphysics Phase Field Simulator (MEMPHIS). 2020 ,		3
26	Compositionally-Driven Formation Mechanism of Hierarchical Morphologies in Co-Deposited Immiscible Alloy Thin Films. <i>Nanomaterials</i> , 2021 , 11,	5.4	3
25	Grain-boundary fracture mechanisms in Li ₇ La ₃ Zr ₂ O ₁₂ (LLZO) solid electrolytes: When phase transformation acts as a temperature-dependent toughening mechanism. <i>Journal of the Mechanics and Physics of Solids</i> , 2022 , 160, 104791	5	2

24	Statistical analysis of the interaction between irradiation-induced defects and triple junctions. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2020 , 7,	2.7	2
23	Stress-induced transition from vacancy annihilation to void nucleation near microcracks. <i>International Journal of Solids and Structures</i> , 2021 , 213, 103-110	3.1	2
22	Decoding defect statistics from diffractograms via machine learning. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	2
21	Temperature and radiation effects on brittle versus ductile fracture behavior in miscible phase boundaries: insight from atomistic simulations. <i>International Journal of Fracture</i> , 2021 , 228, 1-13	2.3	2
20	Accelerating phase-field predictions via recurrent neural networks learning the microstructure evolution in latent space. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022 , 397, 115128	5.7	2
19	Synergies between computational modeling and experimental characterization of materials across length scales. <i>Journal of Materials Science</i> , 2016 , 51, 1176-1177	4.3	1
18	Effective elastic modulus of nano-particles		1
17	Compositional effects on the mechanical and thermal properties of MoNbTaTi refractory complex concentrated alloys. <i>Materials and Design</i> , 2022 , 213, 110311	8.1	1
16	Re-examining the silicon self-interstitial charge states and defect levels: A density functional theory and bounds analysis study. <i>AIP Advances</i> , 2020 , 10, 095004	1.5	1
15	Fingerprinting shock-induced deformations via diffraction. <i>Scientific Reports</i> , 2021 , 11, 9872	4.9	1
14	Atomistic Simulation Techniques to Model Hydrogen Segregation and Hydrogen Embrittlement in Metallic Materials 2018 , 1-34		1
13	Size-dependent radiation damage mechanisms in nanowires and nanoporous structures. <i>Acta Materialia</i> , 2021 , 215, 117018	8.4	1
12	Exploring wave propagation in heterogeneous metastructures using the relaxed micromorphic model. <i>Journal of the Mechanics and Physics of Solids</i> , 2021 , 155, 104540	5	1
11	Stability of immiscible nanocrystalline alloys in compositional and thermal fields. <i>Acta Materialia</i> , 2022 , 226, 117620	8.4	0
10	Disconnection-Mediated Transition in Segregation Structures at Twin Boundaries. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 6875-6882	6.4	0
9	Vacancy surface migration mechanisms in dilute nickel-chromium alloys. <i>Scripta Materialia</i> , 2021 , 202, 113998	5.6	0
8	An electronic origin to the oscillatory segregation behavior in Ni-Cr and other BCC defects in FCC metals. <i>Acta Materialia</i> , 2021 , 218, 117215	8.4	0
7	Invariant surface elastic properties in FCC metals and their correlation to bulk properties revealed by machine learning methods. <i>Journal of the Mechanics and Physics of Solids</i> , 2022 , 163, 104852	5	0

- 6 Learning time-dependent deposition protocols to design thin films via genetic algorithms. *Materials and Design*, **2022**, 110815 8.1 0
- 5 Atomistic Simulation Techniques to Model Hydrogen Segregation and Hydrogen Embrittlement in Metallic Materials **2019**, 357-390
- 4 Uncertainty analysis for the net-section-collapse failure criterion of circumferentially cracked cylinders for multiple arbitrary-shaped circumferential cracks. *International Journal of Pressure Vessels and Piping*, **2014**, 123-124, 30-45 2.4
- 3 Parameterized Reduced Order Models Constructed Using Hyper Dual Numbers. *Conference Proceedings of the Society for Experimental Mechanics*, **2014**, 179-192 0.3
- 2 Efficient Stochastic Finite Element Modeling Using Parameterized Reduced Order Models. *Conference Proceedings of the Society for Experimental Mechanics*, **2014**, 193-201 0.3
- 1 Origins of the change in mechanical strength of silicon/gold nanocomposites during irradiation. *Scientific Reports*, **2021**, 11, 19526 4.9