Edmund Tarleton

List of Publications by Year
in descending order

62	1,925	257101 24	264894 42
papers	citations	h-index	g-index

64	64	64	1839
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On the role of intergranular nanocavities in long-term stress corrosion cracking of Alloy 690. Acta Materialia, 2022, 222, 117453.	3.8	19
2	Modelling the nucleation and propagation of cracks at twin boundaries. International Journal of Fracture, 2022, 233, 17-38.	1.1	7
3	Cold dwell behaviour of Ti6Al alloy: Understanding load shedding using digital image correlation and dislocation based crystal plasticity simulations. Journal of Materials Science and Technology, 2022, 128, 254-272.	5.6	6
4	Computation of Burgers vectors from elastic strain and lattice rotation data. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	1.0	0
5	Coupling a discrete twin model with cohesive elements to understand twin-induced fracture. International Journal of Fracture, 2021, 227, 173-192.	1.1	13
6	Dislocation dynamics modelling of the creep behaviour of particle-strengthened materials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210083.	1.0	6
7	An in-situ synchrotron diffraction study of stress relaxation in titanium: Effect of temperature and oxygen on cold dwell fatigue. Acta Materialia, 2021, 213, 116937.	3.8	8
8	Evaluation of local stress state due to grain-boundary sliding during creep within a crystal plasticity finite element multi-scale framework. International Journal of Mechanical Sciences, 2021, 211, 106715.	3.6	8
9	Neper2CAE and PyCiGen: Scripts to generate polycrystals and interface elements in Abaqus. SoftwareX, 2021, 13, 100651.	1.2	11
10	Crystal plasticity finite element modelling of coarse-grained <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si98.svg"><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow></mml:math>-uranium. Computational Materials Science, 2020, 171, 109276.	1.4	16
11	A new method to model dislocation self-climb dominated by core diffusion. Journal of the Mechanics and Physics of Solids, 2020, 135, 103783.	2.3	18
12	Dislocation density distribution at slip band-grain boundary intersections. Acta Materialia, 2020, 182, 172-183.	3.8	60
13	Tensionâ€“compression asymmetry of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si3.svg"><mml:mrow><mml:mo>â€ˆ</mml:mo><mml:mi>c</mml:mi><mml:mo linebreak="goodbreak">+</mml:mo><mml:mi>a</mml:mi><mml:mo>â€‰</mml:mo></mml:mrow></mml:math> slip in Tiâ€“6Al. Scripta Materialia, 2020, 178, 119-123.	2.6	21
14	Characterisation of slip and twin activity using digital image correlation and crystal plasticity finite element simulation: Application to orthorhombic Î±-uranium. Journal of the Mechanics and Physics of Solids, 2020, 135, 103800.	2.3	20
15	Formation of prismatic dislocation loops during unloading in nanoindentation. Scripta Materialia, 2020, 189, 112-116.	2.6	7
16	Scratching the surface: Elastic rotations beneath nanoscratch and nanoindentation tests. Acta Materialia, 2020, 200, 116-126.	3.8	28
17	Orientation dependence of the nano-indentation behaviour of pure Tungsten. Scripta Materialia, 2020, 189, 135-139.	2.6	7
18	Modified deformation behaviour of self-ion irradiated tungsten: A combined nano-indentation, HR-EBSD and crystal plasticity study. International Journal of Plasticity, 2020, 135, 102817.	4.1	24

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19	Cold creep of titanium: Analysis of stress relaxation using synchrotron diffraction and crystal plasticity simulations. Acta Materialia, 2020, 199, 561-577.	3.8	22
20	A phase field model for the growth and characteristic thickness of deformation-induced twins. Journal of the Mechanics and Physics of Solids, 2020, 143, 104061.	2.3	20
21	An improved method to model dislocation self-climb. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 055012.	0.8	8
22	A modelling framework for coupled hydrogen diffusion and mechanical behaviour of engineering components. Computational Mechanics, 2020, 66, 189-220.	2.2	21
23	Simulating hydrogen in fcc materials with discrete dislocation plasticity. International Journal of Hydrogen Energy, 2020, 45, 14565-14577.	3.8	9
24	Influence of hydrogen core force shielding on dislocation junctions in iron. Physical Review Materials, 2020, 4, .	0.9	4
25	In situ measurement and modelling of the growth and length scale of twins in Î± -uranium. Physical Review Materials, 2020, 4, .	0.9	7
26	Helical dislocations: Observation of vacancy defect bias of screw dislocations in neutron irradiated Feâ€“9Cr. Acta Materialia, 2019, 181, 173-184.	3.8	32
27	Orientation-dependent indentation response of helium-implanted tungsten. Applied Physics Letters, 2019, 114, 221905.	1.5	11
28	Spherical indentation of copper: Crystal plasticity vs experiment. Materialia, 2019, 7, 100368.	1.3	19
29	Comparison of self-consistent and crystal plasticity FE approaches for modelling the high-temperature deformation of 316H austenitic stainless steel. International Journal of Solids and Structures, 2019, 171, 54-80.	1.3	30
30	The influence of hydrogen on Lomer junctions. Scripta Materialia, 2019, 166, 173-177.	2.6	6
31	Incorporating hydrogen in mesoscale models. Computational Materials Science, 2019, 163, 282-289.	1.4	10
32	Hardening and Strain Localisation in Helium-Ion-Implanted Tungsten. Scientific Reports, 2019, 9, 18354.	1.6	24
33	Discrete dislocation plasticity HELPs understand hydrogen effects in bcc materials. Journal of the Mechanics and Physics of Solids, 2019, 123, 41-60.	2.3	51
34	The hardness and modulus of polycrystalline beryllium from nano-indentation. International Journal of Plasticity, 2019, 116, 62-80.	4.1	19
35	Consistent determination of geometrically necessary dislocation density from simulations and experiments. International Journal of Plasticity, 2018, 109, 18-42.	4.1	94
36	Calculating dislocation displacements on the surface of a volume. Modelling and Simulation in Materials Science and Engineering, 2018, 26, 085007.	0.8	5

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37	A multi-scale model for stresses, strains and swelling of reactor components under irradiation. Nuclear Fusion, 2018, 58, 126002.	1.6	61
38	Interstitial-mediated dislocation climb and the weakening of particle-reinforced alloys under irradiation. Physical Review Materials, 2018, 2, .	0.9	7
39	The influence of surface oxides on the mechanical response of oxidized grain boundaries. Thin Solid Films, 2017, 632, 17-22.	0.8	23
40	3D lattice distortions and defect structures in ion-implanted nano-crystals. Scientific Reports, 2017, 7, 45993.	1.6	96
41	Modelling the coupling between hydrogen diffusion and the mechanical behaviour of metals. Computational Materials Science, 2016, 122, 219-228.	1.4	102
42	Measurements of stress fields near a grain boundary: Exploring blocked arrays of dislocations in 3D. Acta Materialia, 2015, 96, 229-236.	3.8	76
43	Bend Testing of Silicon Microcantilevers from 21Â°C to 770Â°C. Jom, 2015, 67, 2914-2920.	0.9	13
44	A micromechanics model for bread dough. , 2015, , .		0
45	Modelling the damage and deformation process in a plastic bonded explosive microstructure under tension using the finite element method. Computational Materials Science, 2015, 110, 91-101.	1.4	55
46	A discrete dislocation plasticity study of the micro-cantilever size effect. Acta Materialia, 2015, 88, 271-282.	3.8	63
47	Dislocation dynamics modelling of radiation damage in thin films. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 045009.	0.8	17
48	Measurement of probability distributions for internal stresses in dislocated crystals. Applied Physics Letters, 2014, 105, .	1.5	30
49	A micromechanical image-based model for the featureless zone of a Feâ€“Ni dissimilar weld. Philosophical Magazine, 2014, 94, 1361-1377.	0.7	13
50	GPU accelerated dislocation dynamics. Journal of Computational Physics, 2014, 272, 619-628.	1.9	9
51	Assessing the precision of strain measurements using electron backscatter diffraction â€“ part 1: Detector assessment. Ultramicroscopy, 2013, 135, 126-135.	0.8	43
52	How oxidized grain boundaries fail. Acta Materialia, 2013, 61, 4707-4713.	3.8	101
53	Mechanical characterization and micromechanical modeling of bread dough. Journal of Rheology, 2013, 57, 249-272.	1.3	66
54	Three-dimensional crack observation, quantification and simulation in a quasi-brittle material. Acta Materialia, 2013, 61, 6276-6289.	3.8	62

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55	Assessing the precision of strain measurements using electron backscatter diffraction â€“ Part 2: Experimental demonstration. Ultramicroscopy, 2013, 135, 136-141.	0.8	27
56	Micromechanical testing of oxidized grain boundaries in Nickel alloys from nuclear reactors. Materials Research Society Symposia Proceedings, 2013, 1519, 1.	0.1	2
57	Micromechanical modelling of alumina trihydrate filled poly (methyl methacrylate) composites. International Journal of Materials and Structural Integrity, 2013, 7, 31.	0.1	3
58	Image-based modelling of binary composites. Computational Materials Science, 2012, 64, 183-186.	1.4	25
59	Brittleâ€“ductile transitions in polycrystalline tungsten. Philosophical Magazine, 2010, 90, 3947-3959.	0.7	129
60	Dislocation dynamic modelling of the brittleâ€“ductile transition in tungsten. Philosophical Magazine, 2009, 89, 2759-2769.	0.7	36
61	The brittleâ€“ductile transition in single-crystal iron. Acta Materialia, 2008, 56, 5123-5129.	3.8	79
62	Polarization spectroscopy in rubidium and cesium. Physical Review A, 2006, 73, .	1.0	116