David M Collins

List of Publications by Year
in descending order

33 papers	1,579 citations	331670 21 h-index	414414 32 g-index
33 all docs	33 docs citations	33 times ranked	1182 citing authors

#	Article	IF	Citations
1	Lengthscale-dependent, elastically anisotropic, physically-based hcp crystal plasticity: Application to cold-dwell fatigue in Ti alloys. International Journal of Plasticity, 2007, 23, 1061-1083.	8.8	384
2	A modelling approach to yield strength optimisation in a nickel-base superalloy. International Journal of Plasticity, 2014, 54, 96-112.	8.8	122
3	A systematic study of hcp crystal orientation and morphology effects in polycrystal deformation and fatigue. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 1467-1489.	2.1	119
4	Crystal plasticity and high-resolution electron backscatter diffraction analysis of full-field polycrystal Ni superalloy strains and rotations under thermal loading. Acta Materialia, 2014, 80, 25-38.	7.9	81
5	Measurements of stress fields near a grain boundary: Exploring blocked arrays of dislocations in 3D. Acta Materialia, 2015, 96, 229-236.	7.9	76
6	On cold dwell facet fatigue in titanium alloy aero-engine components. International Journal of Fatigue, 2017, 97, 177-189.	5.7	76
7	Yield behavior beneath hardness indentations in ductile metals, measured by three-dimensional computed X-ray tomography and digital volume correlation. Acta Materialia, 2015, 82, 468-482.	7.9	67
8	Grain growth behaviour during near-Î³â€² solvus thermal exposures in a polycrystalline nickel-base superalloy. Acta Materialia, 2013, 61, 3378-3391.	7.9	66
9	Lattice misfit during ageing of a polycrystalline nickel-base superalloy. Acta Materialia, 2013, 61, 7791-7804.	7.9	63
10	Dislocation density distribution at slip band-grain boundary intersections. Acta Materialia, 2020, 182, 172-183.	7.9	60
11	A synchrotron X-ray diffraction study of in situ biaxial deformation. Acta Materialia, 2015, 90, 46-58.	7.9	48
12	An analytical method to extract irradiation hardening from nanoindentation hardness-depth curves. Journal of Nuclear Materials, 2018, 498, 274-281.	2.7	47
13	Correlative Synchrotron X-ray Imaging and Diffraction of Directed Energy Deposition Additive Manufacturing. Acta Materialia, 2021, 209, 116777.	7.9	47
14	Texture, hardening and non-proportionality of strain in BCC polycrystal deformation. International Journal of Plasticity, 2013, 50, 170-192.	8.8	33
15	Time-resolved synchrotron diffractometry of phase transformations in high strength nickel-based superalloys. Acta Materialia, 2015, 94, 244-256.	7.9	33
16	A synchrotron X-ray diffraction study of non-proportional strain-path effects. Acta Materialia, 2017, 124, 290-304.	7.9	30
17	Assessment of X-ray diffraction and crystal plasticity lattice strain evolutions under biaxial loading. International Journal of Plasticity, 2016, 83, 1-18.	8.8	28
18	A crystal plasticity model that accounts for grain size effects and slip system interactions on the deformation of austenitic stainless steels. International Journal of Plasticity, 2022, 152, 103249.	8.8	26

#	Article	IF	Citations
19	Spinodal decomposition versus classical Î³â€² nucleation in a nickel-base superalloy powder: An in-situ neutron diffraction and atomic-scale analysis. Acta Materialia, 2020, 200, 959-970.	7.9	25
20	In-situ neutron diffraction during stress relaxation of a single crystal nickel-base superalloy. Scripta Materialia, 2017, 131, 103-107.	5.2	22
21	Cold creep of titanium: Analysis of stress relaxation using synchrotron diffraction and crystal plasticity simulations. Acta Materialia, 2020, 199, 561-577.	7.9	22
22	Identifying heating rate dependent oxidation reactions on a nickel-based superalloy using synchrotron diffraction. Acta Materialia, 2019, 181, 570-583.	7.9	19
23	Ultra-high temperature deformation in a single crystal superalloy: Mesoscale process simulation and micromechanisms. Acta Materialia, 2021, 203, 116468.	7.9	19
24	Coupled effects of texture, hardening and non-proportionality of strain on ductility in ferritic steel. Computational Materials Science, 2013, 80, 113-122.	3.0	13
25	Relating micro-segregation to site specific high temperature deformation in single crystal nickel-base superalloy castings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 773, 138862.	5.6	12
26	The contrasting roles of creep and stress relaxation in the time-dependent deformation during in-situ cooling of a nickel-base single crystal superalloy. Scientific Reports, 2017, 7, 11145.	3.3	8
27	Statistical effects in X-ray diffraction lattice strain measurements of ferritic steel using crystal plasticity. Materials and Design, 2018, 153, 159-165.	7.0	8
28	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.	7.9	8
29	History Dependence of the Microstructure on Time-Dependent Deformation During In-Situ Cooling of a Nickel-Based Single-Crystal Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 3963-3972.	2.2	6
30	On the Rate Dependence of Precipitate Formation and Dissolution in a Nickel-Base Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 2480-2495.	2.2	6
31	Mechanisms controlling ductility loss from abrupt Strain Path Changes in a low carbon steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 843, 143091.	5.6	3
32	Implementing and evaluating far-field 3D X-ray diffraction at the I12 JEEP beamline, Diamond Light Source. Journal of Synchrotron Radiation, 2022, 29, 1043-1053.	2.4	2
33	Macroscopic analysis of time dependent plasticity in Ti alloys. Journal of Materials Science and Technology, 2022, , .	10.7	0