

# David M Collins

## List of Publications by Year in descending order

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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	A crystal plasticity model that accounts for grain size effects and slip system interactions on the deformation of austenitic stainless steels. <i>International Journal of Plasticity</i> , 2022, 152, 103249.	8.8	26
2	Macroscopic analysis of time dependent plasticity in Ti alloys. <i>Journal of Materials Science and Technology</i> , 2022, , .	10.7	0
3	Mechanisms controlling ductility loss from abrupt Strain Path Changes in a low carbon steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 843, 143091.	5.6	3
4	On the Rate Dependence of Precipitate Formation and Dissolution in a Nickel-Base Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 2480-2495.	2.2	6
5	Implementing and evaluating far-field 3D X-ray diffraction at the I12 JEEP beamline, Diamond Light Source. <i>Journal of Synchrotron Radiation</i> , 2022, 29, 1043-1053.	2.4	2
6	Ultra-high temperature deformation in a single crystal superalloy: Mesoscale process simulation and micromechanisms. <i>Acta Materialia</i> , 2021, 203, 116468.	7.9	19
7	Correlative Synchrotron X-ray Imaging and Diffraction of Directed Energy Deposition Additive Manufacturing. <i>Acta Materialia</i> , 2021, 209, 116777.	7.9	47
8	An in-situ synchrotron diffraction study of stress relaxation in titanium: Effect of temperature and oxygen on cold dwell fatigue. <i>Acta Materialia</i> , 2021, 213, 116937.	7.9	8
9	Dislocation density distribution at slip band-grain boundary intersections. <i>Acta Materialia</i> , 2020, 182, 172-183.	7.9	60
10	Relating micro-segregation to site specific high temperature deformation in single crystal nickel-base superalloy castings. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 773, 138862.	5.6	12
11	Spinodal decomposition versus classical $\Gamma$ nucleation in a nickel-base superalloy powder: An in-situ neutron diffraction and atomic-scale analysis. <i>Acta Materialia</i> , 2020, 200, 959-970.	7.9	25
12	Cold creep of titanium: Analysis of stress relaxation using synchrotron diffraction and crystal plasticity simulations. <i>Acta Materialia</i> , 2020, 199, 561-577.	7.9	22
13	Identifying heating rate dependent oxidation reactions on a nickel-based superalloy using synchrotron diffraction. <i>Acta Materialia</i> , 2019, 181, 570-583.	7.9	19
14	An analytical method to extract irradiation hardening from nanoindentation hardness-depth curves. <i>Journal of Nuclear Materials</i> , 2018, 498, 274-281.	2.7	47
15	Statistical effects in X-ray diffraction lattice strain measurements of ferritic steel using crystal plasticity. <i>Materials and Design</i> , 2018, 153, 159-165.	7.0	8
16	History Dependence of the Microstructure on Time-Dependent Deformation During In-Situ Cooling of a Nickel-Based Single-Crystal Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 3963-3972.	2.2	6
17	In-situ neutron diffraction during stress relaxation of a single crystal nickel-base superalloy. <i>Scripta Materialia</i> , 2017, 131, 103-107.	5.2	22
18	On cold dwell facet fatigue in titanium alloy aero-engine components. <i>International Journal of Fatigue</i> , 2017, 97, 177-189.	5.7	76

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19	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
20	A synchrotron X-ray diffraction study of non-proportional strain-path effects. Acta Materialia, 2017, 124, 290-304.	7.9	30
21	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
22	Measurements of stress fields near a grain boundary: Exploring blocked arrays of dislocations in 3D. Acta Materialia, 2015, 96, 229-236.	7.9	76
23	Time-resolved synchrotron diffractometry of phase transformations in high strength nickel-based superalloys. Acta Materialia, 2015, 94, 244-256.	7.9	33
24	A synchrotron X-ray diffraction study of in situ biaxial deformation. Acta Materialia, 2015, 90, 46-58.	7.9	48
25	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
26	A modelling approach to yield strength optimisation in a nickel-base superalloy. International Journal of Plasticity, 2014, 54, 96-112.	8.8	122
27	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
28	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
29	Grain growth behaviour during near- $\hat{3}\hat{a}^2$ solvus thermal exposures in a polycrystalline nickel-base superalloy. Acta Materialia, 2013, 61, 3378-3391.	7.9	66
30	Lattice misfit during ageing of a polycrystalline nickel-base superalloy. Acta Materialia, 2013, 61, 7791-7804.	7.9	63
31	Texture, hardening and non-proportionality of strain in BCC polycrystal deformation. International Journal of Plasticity, 2013, 50, 170-192.	8.8	33
32	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
33	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