

Darren C Pagan

List of Publications by Year in descending order

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54
papers

1,439
citations

361413

20
h-index

330143

37
g-index

54
all docs

54
docs citations

54
times ranked

1298
citing authors

#	ARTICLE	IF	CITATIONS
1	Grain reorientation and stress-state evolution during cyclic loading of an α -Ti alloy below the elastic limit. <i>International Journal of Fatigue</i> , 2022, 156, 106614.	5.7	5
2	Quantifying the effect of macrozones on the cold-dwell fatigue response of UD-rolled Ti-6Al-4V using high-energy X-ray diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 834, 142498.	5.6	3
3	Laser based directed energy deposition system for operando synchrotron x-ray experiments. <i>Review of Scientific Instruments</i> , 2022, 93, .	1.3	3
4	Dynamic recovery observed in distinct grains within a polycrystalline nickel-based superalloy during cyclic high temperature fatigue via high energy X-ray diffraction microscopy. <i>Scripta Materialia</i> , 2021, 192, 37-42.	5.2	8
5	Comparative assessment of backstress models using high-energy X-ray diffraction microscopy experiments and crystal plasticity finite element simulations. <i>International Journal of Plasticity</i> , 2021, 136, 102887.	8.8	17
6	Grain-resolved temperature-dependent anisotropy in hexagonal Ti-7Al revealed by synchrotron X-ray diffraction. <i>Materials Characterization</i> , 2021, 174, 110943.	4.4	5
7	Elastoplastic transition in a metastable β -Titanium alloy, Timetal-18 β : An in-situ synchrotron X-ray diffraction study. <i>International Journal of Plasticity</i> , 2021, 139, 102947.	8.8	16
8	Investigation of porosity, texture, and deformation behavior using high energy X-rays during in-situ tensile loading in additively manufactured 316L stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 810, 141034.	5.6	20
9	Statistical aspects of grain-level strain evolution and reorientation during the heating and elastic-plastic loading of a Ni-base superalloy at elevated temperature. <i>Materialia</i> , 2021, 16, 101063.	2.7	8
10	Evaluating the grain-scale deformation behavior of a single-phase FCC high entropy alloy using synchrotron high energy diffraction microscopy. <i>Acta Materialia</i> , 2021, 215, 117120.	7.9	11
11	Effect of the scanning strategy on the formation of residual stresses in additively manufactured Ti-6Al-4V. <i>Additive Manufacturing</i> , 2021, 45, 102003.	3.0	26
12	Refinements in phase fraction determination of textured alloys from transmission diffraction data. <i>Journal of Applied Crystallography</i> , 2021, 54, 1480-1489.	4.5	5
13	Epitaxial re-solidification of laser-melted Ni-Mn-Ga single crystal. <i>Acta Materialia</i> , 2021, 219, 117236.	7.9	3
14	Large rotations of the grain-scale stress tensor during yielding set the stage for failure. <i>International Journal of Plasticity</i> , 2021, 146, 103087.	8.8	4
15	Interpretation of intragranular strain fields in high-energy synchrotron X-ray experiments via finite element simulations and analysis of incompatible deformation. <i>Materials and Design</i> , 2021, 210, 110053.	7.0	7
16	Analysis of a three-dimensional slip field in a hexagonal Ti alloy from in-situ high-energy X-ray diffraction microscopy data. <i>Acta Materialia</i> , 2021, 221, 117372.	7.9	6
17	Heterogeneous Internal Strain Evolution in Commercial Purity Titanium Due to Anisotropic Coefficients of Thermal Expansion. <i>Jom</i> , 2020, 72, 39-47.	1.9	13
18	In-Situ Grain Resolved Stress Characterization During Damage Initiation in Cu-10%W Alloy. <i>Jom</i> , 2020, 72, 48-56.	1.9	7

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19	In-situ high energy X-ray diffraction study of the elastic response of a metastable β -titanium alloy. <i>Acta Materialia</i> , 2020, 197, 300-308.	7.9	11
20	Understanding Micromechanical Material Behavior Using Synchrotron X-rays and In Situ Loading. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 4360-4376.	2.2	30
21	A Finite Energy Bandwidth-Based Diffraction Simulation Framework for Thermal Processing Applications. <i>Jom</i> , 2020, 72, 4539-4550.	1.9	6
22	Informing Mechanical Model Development Using Lower-Dimensional Descriptions of Lattice Distortion. <i>Integrating Materials and Manufacturing Innovation</i> , 2020, 9, 459-471.	2.6	2
23	An algorithm for resolving intragranular orientation fields using coupled far-field and near-field high energy X-ray diffraction microscopy. <i>Materials Characterization</i> , 2020, 165, 110366.	4.4	30
24	Quantifying microscale drivers for fatigue failure via coupled synchrotron X-ray characterization and simulations. <i>Nature Communications</i> , 2020, 11, 3189.	12.8	30
25	Dissolution and initial hydration behavior of tricalcium aluminate in low activity sulfate solutions. <i>Cement and Concrete Research</i> , 2020, 130, 105989.	11.0	35
26	Heterogeneity and inelasticity of deformation in a notched martensitic NiTi shape memory alloy specimen. <i>Acta Materialia</i> , 2020, 194, 49-59.	7.9	5
27	Three-Dimensional in situ Reconstructions of Microstructures with Bimodal Grain Size Distributions. <i>Microscopy and Microanalysis</i> , 2019, 25, 370-371.	0.4	0
28	Elastic Residual Strain and Stress Measurements and Corresponding Part Deflections of 3D Additive Manufacturing Builds of IN625 AM-Bench Artifacts Using Neutron Diffraction, Synchrotron X-Ray Diffraction, and Contour Method. <i>Integrating Materials and Manufacturing Innovation</i> , 2019, 8, 318-334.	2.6	45
29	Exploring new links between crystal plasticity models and high-energy X-ray diffraction microscopy. <i>Current Opinion in Solid State and Materials Science</i> , 2019, 23, 100763.	11.5	32
30	Unsupervised learning of dislocation motion. <i>Acta Materialia</i> , 2019, 181, 510-518.	7.9	12
31	Automated Grain Yield Behavior Classification. <i>Jom</i> , 2019, 71, 3513-3520.	1.9	1
32	Micromechanical response quantification using high-energy X-rays during phase transformations in additively manufactured 17-4 stainless steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 759, 565-573.	5.6	11
33	An in-situ study of stress evolution and fracture growth during compression of concrete. <i>International Journal of Solids and Structures</i> , 2019, 168, 26-40.	2.7	19
34	In-situ study of planar slip in a commercial aluminum-lithium alloy using high energy X-ray diffraction microscopy. <i>Acta Materialia</i> , 2019, 173, 231-241.	7.9	29
35	Quantification of cyclic twinning-detwinning behavior during low-cycle fatigue of pure magnesium using high energy X-ray diffraction. <i>International Journal of Fatigue</i> , 2019, 125, 314-323.	5.7	39
36	Utilizing a novel lattice orientation based stress characterization method to study stress fields of shear bands. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 128, 105-116.	4.8	8

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37	Micromechanical Response of Crystalline Phases in Alternate Cementitious Materials using 3-Dimensional X-ray Techniques. <i>Scientific Reports</i> , 2019, 9, 18456.	3.3	3
38	Three-dimensional in situ characterization of phase transformation induced austenite grain refinement in nickel-titanium. <i>Scripta Materialia</i> , 2019, 162, 361-366.	5.2	28
39	Ferroelastic twin reorientation mechanisms in shape memory alloys elucidated with 3D X-ray microscopy. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 124, 897-928.	4.8	22
40	Analyzing shear band formation with high resolution X-ray diffraction. <i>Acta Materialia</i> , 2018, 147, 133-148.	7.9	22
41	Measuring Ti-7Al slip system strengths at elevated temperature using high-energy X-ray diffraction. <i>Scripta Materialia</i> , 2018, 142, 96-100.	5.2	54
42	In situ grain fracture mechanics during uniaxial compaction of granular solids. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 112, 273-290.	4.8	57
43	In situ tensile study of PM-HIP and wrought 316L stainless steel and Inconel 625 alloys with high energy diffraction microscopy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 738, 380-388.	5.6	21
44	Local lattice distortion in NiCoCr, FeCoNiCr and FeCoNiCrMn concentrated alloys investigated by synchrotron X-ray diffraction. <i>Materials and Design</i> , 2018, 155, 1-7.	7.0	96
45	Structure-Property Relationships of a High Strength Superelastic NiTi-1Hf Alloy. <i>Advanced Engineering Materials</i> , 2018, 20, 1800046.	3.5	23
46	Evolution of local lattice distortion under irradiation in medium- and high-entropy alloys. <i>Materialia</i> , 2018, 2, 73-81.	2.7	67
47	Characterization of the crystal structure, kinematics, stresses and rotations in angular granular quartz during compaction. <i>Journal of Applied Crystallography</i> , 2018, 51, 1021-1034.	4.5	26
48	Chemical complexity induced local structural distortion in NiCoFeMnCr high-entropy alloy. <i>Materials Research Letters</i> , 2018, 6, 450-455.	8.7	54
49	Modeling slip system strength evolution in Ti-7Al informed by in-situ grain stress measurements. <i>Acta Materialia</i> , 2017, 128, 406-417.	7.9	97
50	InSi ^{1/4} @CHESS, a Resource for Studying Structural Materials. <i>Synchrotron Radiation News</i> , 2017, 30, 4-8.	0.8	9
51	Local Structure and Short-Range Order in a NiCoCr Solid Solution Alloy. <i>Physical Review Letters</i> , 2017, 118, 205501.	7.8	283
52	Determining heterogeneous slip activity on multiple slip systems from single crystal orientation pole figures. <i>Acta Materialia</i> , 2016, 116, 200-211.	7.9	18
53	Connecting heterogeneous single slip to diffraction peak evolution in high-energy monochromatic X-ray experiments. <i>Journal of Applied Crystallography</i> , 2014, 47, 887-898.	4.5	41
54	An experimental system for high temperature X-ray diffraction studies with <i>in situ</i> mechanical loading. <i>Review of Scientific Instruments</i> , 2013, 84, 033902.	1.3	6