Darren C Pagan

List of Publications by Year
in descending order

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	Local Structure and Short-Range Order in a NiCoCr Solid Solution Alloy. Physical Review Letters, 2017, 118, 205501.	7.8	283
2	Modeling slip system strength evolution in Ti-7Al informed by in-situ grain stress measurements. Acta Materialia, 2017, 128, 406-417.	7.9	97
3	Local lattice distortion in NiCoCr, FeCoNiCr and FeCoNiCrMn concentrated alloys investigated by synchrotron X-ray diffraction. Materials and Design, 2018, 155, 1-7.	7.0	96
4	Evolution of local lattice distortion under irradiation in medium- and high-entropy alloys. Materialia, 2018, 2, 73-81.	2.7	67
5	In situ grain fracture mechanics during uniaxial compaction of granular solids. Journal of the Mechanics and Physics of Solids, 2018, 112, 273-290.	4.8	57
6	Measuring Ti-7Al slip system strengths at elevated temperature using high-energy X-ray diffraction. Scripta Materialia, 2018, 142, 96-100.	5.2	54
7	Chemical complexity induced local structural distortion in NiCoFeMnCr high-entropy alloy. Materials Research Letters, 2018, 6, 450-455.	8.7	54
8	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. Integrating Materials and Manufacturing Innovation, 2019, 8, 318-334.	2.6	45
9	Connecting heterogeneous single slip to diffraction peak evolution in high-energy monochromatic X-ray experiments. Journal of Applied Crystallography, 2014, 47, 887-898.	4.5	41
10	Quantification of cyclic twinning-detwinning behavior during low-cycle fatigue of pure magnesium using high energy X-ray diffraction. International Journal of Fatigue, 2019, 125, 314-323.	5.7	39
11	Dissolution and initial hydration behavior of tricalcium aluminate in low activity sulfate solutions. Cement and Concrete Research, 2020, 130, 105989.	11.0	35
12	Exploring new links between crystal plasticity models and high-energy X-ray diffraction microscopy. Current Opinion in Solid State and Materials Science, 2019, 23, 100763.	11.5	32
13	Understanding Micromechanical Material Behavior Using Synchrotron X-rays and In Situ Loading. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4360-4376.	2.2	30
14	An algorithm for resolving intragranular orientation fields using coupled far-field and near-field high energy X-ray diffraction microscopy. Materials Characterization, 2020, 165, 110366.	4.4	30
15	Quantifying microscale drivers for fatigue failure via coupled synchrotron X-ray characterization and simulations. Nature Communications, 2020, 11, 3189.	12.8	30
16	In-situ study of planar slip in a commercial aluminum-lithium alloy using high energy X-ray diffraction microscopy. Acta Materialia, 2019, 173, 231-241.	7.9	29
17	Three-dimensional in situ characterization of phase transformation induced austenite grain refinement in nickel-titanium. Scripta Materialia, 2019, 162, 361-366.	5.2	28
18	Characterization of the crystal structure, kinematics, stresses and rotations in angular granular quartz during compaction. Journal of Applied Crystallography, 2018, 51, 1021-1034.	4.5	26

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19	Effect of the scanning strategy on the formation of residual stresses in additively manufactured Ti-6Al-4V. Additive Manufacturing, 2021, 45, 102003.	3.0	26
20	Structureâ€Property Relationships of a High Strength Superelastic NiTiâ€“1Hf Alloy. Advanced Engineering Materials, 2018, 20, 1800046.	3.5	23
21	Analyzing shear band formation with high resolution X-ray diffraction. Acta Materialia, 2018, 147, 133-148.	7.9	22
22	Ferroelastic twin reorientation mechanisms in shape memory alloys elucidated with 3D X-ray microscopy. Journal of the Mechanics and Physics of Solids, 2019, 124, 897-928.	4.8	22
23	In situ tensile study of PM-HIP and wrought 316â€L stainless steel and Inconel 625 alloys with high energy diffraction microscopy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 738, 380-388.	5.6	21
24	Investigation of porosity, texture, and deformation behavior using high energy X-rays during in-situ tensile loading in additively manufactured 316L stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 810, 141034.	5.6	20
25	An in-situ study of stress evolution and fracture growth during compression of concrete. International Journal of Solids and Structures, 2019, 168, 26-40.	2.7	19
26	Determining heterogeneous slip activity on multiple slip systems from single crystal orientation pole figures. Acta Materialia, 2016, 116, 200-211.	7.9	18
27	Comparative assessment of backstress models using high-energy X-ray diffraction microscopy experiments and crystal plasticity finite element simulations. International Journal of Plasticity, 2021, 136, 102887.	8.8	17
28	Elastoplastic transition in a metastable Î²-Titanium alloy, Timetal-18 â€“ An in-situ synchrotron X-ray diffraction study. International Journal of Plasticity, 2021, 139, 102947.	8.8	16
29	Heterogeneous Internal Strain Evolution in Commercial Purity Titanium Due to Anisotropic Coefficients of Thermal Expansion. Jom, 2020, 72, 39-47.	1.9	13
30	Unsupervised learning of dislocation motion. Acta Materialia, 2019, 181, 510-518.	7.9	12
31	Micromechanical response quantification using high-energy X-rays during phase transformations in additively manufactured 17-4 stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 565-573.	5.6	11
32	In-situ high energy X-ray diffraction study of the elastic response of a metastable Î²-titanium alloy. Acta Materialia, 2020, 197, 300-308.	7.9	11
33	Evaluating the grain-scale deformation behavior of a single-phase FCC high entropy alloy using synchrotron high energy diffraction microscopy. Acta Materialia, 2021, 215, 117120.	7.9	11
34	InSitÎ¼@CHESS, a Resource for Studying Structural Materials. Synchrotron Radiation News, 2017, 30, 4-8.	0.8	9
35	Utilizing a novel lattice orientation based stress characterization method to study stress fields of shear bands. Journal of the Mechanics and Physics of Solids, 2019, 128, 105-116.	4.8	8
36	Dynamic recovery observed in distinct grains within a polycrystalline nickel-based superalloy during cyclic high temperature fatigue via high energy X-ray diffraction microscopy. Scripta Materialia, 2021, 192, 37-42.	5.2	8

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37	Statistical aspects of grain-level strain evolution and reorientation during the heating and elastic-plastic loading of a Ni-base superalloy at elevated temperature. Materialia, 2021, 16, 101063.	2.7	8
38	In-Situ Grain Resolved Stress Characterization During Damage Initiation in Cu-10%W Alloy. Jom, 2020, 72, 48-56.	1.9	7
39	Interpretation of intragranular strain fields in high-energy synchrotron X-ray experiments via finite element simulations and analysis of incompatible deformation. Materials and Design, 2021, 210, 110053.	7.0	7
40	An experimental system for high temperature X-ray diffraction studies with in situ mechanical loading. Review of Scientific Instruments, 2013, 84, 033902.	1.3	6
41	A Finite Energy Bandwidth-Based Diffraction Simulation Framework for Thermal Processing Applications. Jom, 2020, 72, 4539-4550.	1.9	6
42	Analysis of a three-dimensional slip field in a hexagonal Ti alloy from in-situ high-energy X-ray diffraction microscopy data. Acta Materialia, 2021, 221, 117372.	7.9	6
43	Grain-resolved temperature-dependent anisotropy in hexagonal Ti-7Al revealed by synchrotron X-ray diffraction. Materials Characterization, 2021, 174, 110943.	4.4	5
44	Refinements in phase fraction determination of textured alloys from transmission diffraction data. Journal of Applied Crystallography, 2021, 54, 1480-1489.	4.5	5
45	Heterogeneity and inelasticity of deformation in a notched martensitic NiTi shape memory alloy specimen. Acta Materialia, 2020, 194, 49-59.	7.9	5
46	Grain reorientation and stress-state evolution during cyclic loading of an <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e541" altimg="si1.svg"><mml:mi>Î±</mml:mi></mml:math>-Ti alloy below the elastic limit. International Journal of Fatigue, 2022, 156, 106614.	5.7	5
47	Large rotations of the grain-scale stress tensor during yielding set the stage for failure. International Journal of Plasticity, 2021, 146, 103087.	8.8	4
48	Micromechanical Response of Crystalline Phases in Alternate Cementitious Materials using 3-Dimensional X-ray Techniques. Scientific Reports, 2019, 9, 18456.	3.3	3
49	Epitaxial re-solidification of laser-melted Ni-Mn-Ga single crystal. Acta Materialia, 2021, 219, 117236.	7.9	3
50	Quantifying the effect of macrozones on the cold-dwell fatigue response of UD-rolled Ti-6Al-4V using high-energy X-ray diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 834, 142498.	5.6	3
51	Laser based directed energy deposition system for operando synchrotron x-ray experiments. Review of Scientific Instruments, 2022, 93, .	1.3	3
52	Informing Mechanical Model Development Using Lower-Dimensional Descriptions of Lattice Distortion. Integrating Materials and Manufacturing Innovation, 2020, 9, 459-471.	2.6	2
53	Automated Grain Yield Behavior Classification. Jom, 2019, 71, 3513-3520.	1.9	1
54	Three-Dimensional in situ Reconstructions of Microstructures with Bimodal Grain Size Distributions. Microscopy and Microanalysis, 2019, 25, 370-371.	0.4	0