Matthew P Miller

List of Publications by Year
in descending order

51 papers	1,308 citations	304602 22 h-index	360920 35 g-index
53 all docs	53 docs citations	53 times ranked	795 citing authors

#	Article	IF	Citations
1	High-energy diffraction microscopy at the advanced photon source. Jom, 2011, 63, 70-77.	0.9	157
2	In situ single-grain peak profile measurements on Tiâ€“7Al during tensile deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 524, 46-54.	2.6	79
3	Quantitative analysis of crystal scale deformation heterogeneity during cyclic plasticity using high-energy X-ray diffraction and finite-element simulation. Acta Materialia, 2014, 75, 259-272.	3.8	57
4	Modeling large strain multiaxial effects in FCC polycrystals. International Journal of Plasticity, 1996, 12, 875-902.	4.1	54
5	Experimental measurement of lattice strain pole figures using synchrotron x rays. Review of Scientific Instruments, 2005, 76, 113903.	0.6	54
6	Measuring and modeling distributions of stress state in deforming polycrystals. Acta Materialia, 2008, 56, 3927-3939.	3.8	53
7	On the mechanical behaviour of AA 7075-T6 during cyclic loading. International Journal of Fatigue, 2003, 25, 267-281.	2.8	46
8	A direct method for the determination of the mean orientation-dependent elastic strains and stresses in polycrystalline materials from strain pole figures. Journal of Applied Crystallography, 2006, 39, 358-368.	1.9	44
9	A Creep-Fatigue-Oxidation Microcrack Propagation Model for Thermomechanical Fatigue. Journal of Engineering Materials and Technology, Transactions of the ASME, 1992, 114, 282-288.	0.8	42
10	Determining the strengths of HCP slip systems using harmonic analyses of lattice strain distributions. Acta Materialia, 2018, 144, 92-106.	3.8	42
11	Connecting heterogeneous single slip to diffraction peak evolution in high-energy monochromatic X-ray experiments. Journal of Applied Crystallography, 2014, 47, 887-898.	1.9	41
12	A framework for generating synthetic diffraction images from deforming polycrystals using crystal-based finite element formulations. Computational Materials Science, 2013, 77, 456-466.	1.4	40
13	A methodology to determine the elastic moduli of crystals by matching experimental and simulated lattice strain pole figures using discrete harmonics. Acta Materialia, 2017, 126, 469-480.	3.8	37
14	A novel optimization-based pole-figure inversion method: comparison with WIMV and maximum entropy methods. Journal of Applied Crystallography, 2006, 39, 697-713.	1.9	36
15	Understanding local deformation in metallic polycrystals using high energy X-rays and finite elements. Current Opinion in Solid State and Materials Science, 2014, 18, 286-299.	5.6	36
16	The Effect of Stress-State on the Large Strain Inelastic Deformation Behavior of 304L Stainless Steel. Journal of Engineering Materials and Technology, Transactions of the ASME, 1996, 118, 28-36.	0.8	30
17	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.	1.1	30
18	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.	1.9	30

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19	Stress and deformation heterogeneity in individual grains within polycrystals subjected to fully reversed cyclic loading. Journal of the Mechanics and Physics of Solids, 2015, 79, 157-185.	2.3	29
20	Quantifying the uncertainty of synchrotron-based lattice strain measurements. Journal of Strain Analysis for Engineering Design, 2011, 46, 663-681.	1.0	26
21	An accelerated methodology for the evaluation of critical properties in polyphase alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 1627-1641.	1.1	22
22	A two-scale methodology for determining the residual stresses in polycrystalline solids using high energy X-ray diffraction data. Journal of the Mechanics and Physics of Solids, 2013, 61, 428-449.	2.3	22
23	Analyzing shear band formation with high resolution X-ray diffraction. Acta Materialia, 2018, 147, 133-148.	3.8	22
24	Influence of slip system hardening assumptions on modeling stress dependence of work hardening. Journal of the Mechanics and Physics of Solids, 1997, 45, 1781-1804.	2.3	20
25	A methodology for measuring and modeling crystallographic texture gradients in processed alloys. International Journal of Plasticity, 2001, 17, 783-805.	4.1	19
26	The evolution of crystalline stresses of a polycrystalline metal during cyclic loading. International Journal of Plasticity, 2002, 18, 941-969.	4.1	18
27	A computational framework for evaluating residual stress distributions from diffraction-based lattice strain data. Computer Methods in Applied Mechanics and Engineering, 2013, 265, 120-135.	3.4	18
28	Determining heterogeneous slip activity on multiple slip systems from single crystal orientation pole figures. Acta Materialia, 2016, 116, 200-211.	3.8	18
29	Integrating experiments and simulations to estimate uncertainty in lattice strain measurements. Journal of Strain Analysis for Engineering Design, 2014, 49, 33-50.	1.0	14
30	Development of grain-scale slip activity and lattice rotation fields in Inconel 718. Acta Materialia, 2022, 226, 117627.	3.8	14
31	A methodology for measuring in situ lattice strain of bulk polycrystalline material under cyclic load. Review of Scientific Instruments, 2007, 78, 023910.	0.6	13
32	Quantitative Stress Analysis of Recrystallized OFHC Cu Subject to Deformation In Situ. Journal of Engineering Materials and Technology, Transactions of the ASME, 2008, 130, .	0.8	13
33	A Mechanical Testing Capability for Measuring the Microscale Deformation Behavior of Structural Materials. Experimental Mechanics, 2012, 52, 461-479.	1.1	13
34	Determination of residual stress in a microtextured Î± titanium component using high-energy synchrotron X-rays. Journal of Strain Analysis for Engineering Design, 2016, 51, 358-374.	1.0	12
35	Characterizing heterogeneous intragranular deformations in polycrystalline solids using diffraction-based and mechanics-based metrics. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 055008.	0.8	11
36	Influence of modelling variables on the distribution of lattice strains in a deformed polycrystal, with reference to neutron diffraction experiments. Modelling and Simulation in Materials Science and Engineering, 2004, 12, 633-663.	0.8	10

#	Article	IF	Citations
37	InSitÎ¼@CHESS, a Resource for Studying Structural Materials. Synchrotron Radiation News, 2017, 30, 4-8.	0.2	9
38	Microstructure-Based Estimation of Strength and Ductility Distributions for $$alpha +eta $$ Titanium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 2411-2434.	1.1	9
39	Representing the Effect of Crystallographic Texture on the Anisotropic Performance Behavior of Rolled Aluminum Plate. Journal of Engineering Materials and Technology, Transactions of the ASME, 2000, 122, 10-17.	0.8	8
40	The influence of crystallographic texture and slip system strength on deformation induced shape changes in AA 7050 thick plate. Mechanics of Materials, 2002, 34, 605-625.	1.7	8
41	High-energy Needs and Capabilities to Study Multiscale Phenomena in Crystalline Materials. Synchrotron Radiation News, 2012, 25, 18-26.	0.2	8
42	A Slip-Based Model for Strength Evolution During Cyclic Loading. Journal of Engineering Materials and Technology, Transactions of the ASME, 2004, 126, 329-338.	0.8	7
43	The Design of a Software Environment for Organizing, Sharing, and Archiving Materials Data. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 2301-2318.	1.1	7
44	Mechanical Metrics of Virtual Polycrystals (MechMet). Integrating Materials and Manufacturing Innovation, 2021, 10, 265-285.	1.2	7
45	An experimental system for high temperature X-ray diffraction studies with in situ mechanical loading. Review of Scientific Instruments, 2013, 84, 033902.	0.6	6
46	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.	3.8	6
47	Experimental Study of Internal Variable Evolution in SS304L, at Multiple Rates and Temperatures. Journal of Engineering Materials and Technology, Transactions of the ASME, 1999, 121, 162-171.	0.8	5
48	Statistical Characterization of Intragrain Misorientations at Large Strains Using High-Energy X-Ray Diffraction: Application to Hydrogen Embrittlement. Integrating Materials and Manufacturing Innovation, 2019, 8, 423-439.	1.2	3
49	A Direct Method for Determining the Orientation-Dependent Lattice Strain Distribution Function from Diffraction Strain Pole Figures. Materials Science Forum, 2005, 495-497, 1073-1078.	0.3	2
50	Sparse modeling of space- and time-varying diffraction response of a progressively loaded aluminum alloy. Materials Characterization, 2018, 145, 713-723.	1.9	1
51	A Formulation for the Pseudo-Saturation Behavior Observed During Variable Amplitude Multiaxial Cyclic Plasticity. AIP Conference Proceedings, 2004, , .	0.3	0