Stephen Niezgoda

List of Publications by Year
in descending order

60	2,927	218677	175258
papers	citations	26 h-index	52 g-index

61	61	61	2039
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Pressure amplification and modelization in laser shock peening of Ti-6Al-4V and AA7085 with adhesive-backed opaque overlays. Journal of Materials Processing Technology, 2022, 299, 117381.	6.3	9
2	Development of the Cube Component $$ left({left{ 001 ight}leftlangle {100} ightangle }) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 712 Td Nucleation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 503-522.	2.2	5
3	High-precision orientation mapping from spherical harmonic transform indexing of electron backscatter diffraction patterns. Ultramicroscopy, 2021, 222, 113187.	1.9	5
4	Bayesian inference for polycrystalline materials. Stat, 2021, 10, e340.	0.4	0
5	Measurement and characterization of nanosecond laser driven shockwaves utilizing photon Doppler velocimetry. Journal of Applied Physics, 2021, 129, .	2.5	8
6	Probabilistic Reconstruction of Austenite Microstructure from Electron Backscatter Diffraction Observations of Martensite. Microscopy and Microanalysis, 2021, 27, 1035-1055.	0.4	8
7	Comparison of full field predictions of crystal plasticity simulations using the Voce and the dislocation density based hardening laws. International Journal of Plasticity, 2021, 147, 103099.	8.8	14
8	Bayesian Calibration of Expensive Computer Experiments. , 2021, , .		0
9	Characterization of Martensite Orientation Relationships in Steels and Ferrous Alloys from EBSD Data Using Bayesian Inference. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 142-153.	2.2	8
10	A Rapid Throughput System for Shock and Impact Characterization: Design and Examples in Compaction, Spallation, and Impact Welding. Journal of Manufacturing and Materials Processing, 2020, 4, 116.	2.2	5
11	Uncertainty Quantification Accounting for Model Discrepancy Within a Random Effects Bayesian Framework. Integrating Materials and Manufacturing Innovation, 2020, 9, 181-198.	2.6	8
12	Finite strain phase-field microelasticity theory for modeling microstructural evolution. Acta Materialia, 2020, 191, 253-269.	7.9	17
13	Development of Bulk Metallic Glass Matrix Composites (BMGMC) by Additive Manufacturing: Modelling and Simulation â€“ A Review: Part B. Advanced Materials Research, 2019, 1154, 40-79.	0.3	1
14	Uncertainty Quantification for Parameter Estimation and Response Prediction. Integrating Materials and Manufacturing Innovation, 2019, 8, 273-293.	2.6	9
15	Application of the Maximum Flowâ€“Minimum Cut Algorithm to Segmentation and Clustering of Materials Datasets. Microscopy and Microanalysis, 2019, 25, 924-941.	0.4	10
16	Slip transmission assisted by Shockley partials across <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>/</mml:mo><mml:mi>Î²</mml:mi></mml:mrow></mml:math> interfaces in Ti-alloys. Acta Materialia, 2019, 171, 291-305.	7.9	27
17	Analysis of Misorientation Relationships Between Austenite Parents and Twins. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 837-855.	2.2	9
18	Bayesian Inference for Crystallographic Texture Uncertainty Quantification. , 2019, , .		1

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19	Modeling of trans-grain twin transmission in AZ31 via a neighborhood-based viscoplastic self-consistent model. International Journal of Plasticity, 2019, 117, 21-32.	8.8	26
20	Validation and Uncertainty Quantification for Manufacturing Design Accounting for Material Variability. , 2018, , .		1
21	Ensemble Predictions of Material Behavior for ICMSE. , 2018, , .		0
22	Microstructural and micromechanical evolution during dynamic recrystallization. International Journal of Plasticity, 2018, 100, 52-68.	8.8	66
23	Machine Learningâ€“Based Reduce Order Crystal Plasticity Modeling for ICME Applications. Integrating Materials and Manufacturing Innovation, 2018, 7, 214-230.	2.6	36
24	Perspectives on the Impact of Machine Learning, Deep Learning, and Artificial Intelligence on Materials, Processes, and Structures Engineering. Integrating Materials and Manufacturing Innovation, 2018, 7, 157-172.	2.6	205
25	Heterogeneous<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mtext>Î³â€²</mml:mtext></mml:math>microstructures in nickel-base superalloys and their influence on tensile and creep performance. International Journal of Plasticity, 2018, 109, 153-168.	8.8	12
26	A homogenized primary creep model of nickel-base superalloys and its application to determining micro-mechanistic characteristics. International Journal of Plasticity, 2018, 110, 202-219.	8.8	15
27	Modeling the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>/</mml:mo><mml:mi>Ï‰</mml:mi></mml:mrow></mml:math> thermal stability in shocked Zr: A coupling between dislocation removal and phase transformation. Acta Materialia, 2018, 156, 104-115.	7.9	8
28	Influence of deformation induced nanoscale twinning and FCC-HCP transformation on hardening and texture development in medium-entropy CrCoNi alloy. Acta Materialia, 2018, 158, 38-52.	7.9	135
29	Non-Intrusive Stochastic Modeling to Account for Microstructure Variability. , 2017, , .		0
30	Abnormal texture development in magnesium alloy Mgâ€“3Alâ€“1Zn during large strain electroplastic rolling: Effect of pulsed electric current. International Journal of Plasticity, 2016, 87, 86-99.	8.8	51
31	Efficient computation of the angularly resolved chord length distributions and lineal path functions in large microstructure datasets. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 075002.	2.0	36
32	Threeâ€dimensional imaging of shear bands in bulk metallic glass composites. Journal of Microscopy, 2016, 264, 304-310.	1.8	9
33	An integrated full-field model of concurrent plastic deformation and microstructure evolution: Application to 3D simulation of dynamic recrystallization in polycrystalline copper. International Journal of Plasticity, 2016, 80, 38-55.	8.8	89
34	Long-time behavior of the Ï‰â†’Î± transition in shocked zirconium: Interplay of nucleation and plastic deformation. Acta Materialia, 2016, 108, 138-142.	7.9	5
35	Symmetrized Bingham distribution for representing texture: parameter estimation with respect to crystal and sample symmetries. Journal of Applied Crystallography, 2016, 49, 1315-1319.	4.5	4
36	Analysis of tractionâ€free assumption in highâ€resolution EBSD measurements. Journal of Microscopy, 2015, 260, 73-85.	1.8	27

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37	Isothermal annealing of shocked zirconium: Stability of the two-phase Î±/Ï‰ microstructure. Acta Materialia, 2015, 91, 101-111.	7.9	12
38	Microstructure and transformation texture evolution during Î± precipitation in polycrystalline Î±/Î² titanium alloys â€“ A simulation study. Acta Materialia, 2015, 94, 224-243.	7.9	41
39	Numerical study of the stress state of a deformation twin in magnesium. Acta Materialia, 2015, 84, 349-358.	7.9	191
40	The kinetics of the Ï‰ to Î± phase transformation in Zr, Ti: Analysis of data from shock-recovered samples and atomistic simulations. Acta Materialia, 2014, 77, 191-199.	7.9	40
41	Stochastic modeling of twin nucleation in polycrystals: An application in hexagonal close-packed metals. International Journal of Plasticity, 2014, 56, 119-138.	8.8	134
42	Introducing Grain Boundary Influenced Stochastic Effects into Constitutive Models. Jom, 2013, 65, 419-430.	1.9	16
43	Unsupervised Learning for Efficient Texture Estimation From Limited Discrete Orientation Data. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 4891-4905.	2.2	14
44	Novel microstructure quantification framework for databasing, visualization, and analysis of microstructure data. Integrating Materials and Manufacturing Innovation, 2013, 2, 54-80.	2.6	98
45	Spatially resolved in situ strain measurements from an interior twinned grain in bulk polycrystalline AZ31 alloy. Acta Materialia, 2013, 61, 3612-3620.	7.9	61
46	Estimating the response of polycrystalline materials using sets of weighted statistical volume elements. Acta Materialia, 2012, 60, 5284-5299.	7.9	54
47	Quantification of strain and orientation measurement error in cross-correlation EBSD in hexagonal close-packed materials. Scripta Materialia, 2012, 67, 818-821.	5.2	7
48	Understanding and visualizing microstructure and microstructure variance as a stochastic process. Acta Materialia, 2011, 59, 6387-6400.	7.9	122
49	Microstructure informatics using higher-order statistics and efficient data-mining protocols. Jom, 2011, 63, 34-41.	1.9	138
50	A new framework for computationally efficient structureâ€“structure evolution linkages to facilitate high-fidelity scale bridging in multi-scale materials models. Acta Materialia, 2011, 59, 699-707.	7.9	62
51	Multi-scale modeling of elastic response of three-dimensional voxel-based microstructure datasets using novel DFT-based knowledge systems. Acta Materialia, 2010, 58, 2716-2725.	7.9	68
52	Microstructure sensitive design for performance optimization. Progress in Materials Science, 2010, 55, 477-562.	32.8	326
53	Optimized structure based representative volume element sets reflecting the ensemble-averaged 2-point statistics. Acta Materialia, 2010, 58, 4432-4445.	7.9	99
54	Representation of the orientation distribution function and computation of first-order elastic properties closures using discrete Fourier transforms. Acta Materialia, 2009, 57, 3916-3923.	7.9	59

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55	Gradient-based microstructure reconstructions from distributions using fast Fourier transforms. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 494, 68-72.	5.6	104
56	Microstructure reconstructions from 2-point statistics using phase-recovery algorithms. Acta Materialia, 2008, 56, 942-948.	7.9	264
57	Delineation of the space of 2-point correlations in a composite material system. Acta Materialia, 2008, 56, 5285-5292.	7.9	131
58	Effect of Reinforcement Size on the Scratch Resistance and Crystallinity of HVOF Sprayed Nylon-11/Ceramic Composite Coatings. Journal of Thermal Spray Technology, 2006, 15, 731-738.	3.1	7
59	Demonstration of near Field High Energy X-Ray Diffraction Microscopy on High-Z Ceramic Nuclear Fuel Material. Materials Science Forum, 0, 777, 112-117.	0.3	9
60	Spectral Methods in the Statistical Description and Design of Microstructure. Ceramic Transactions, 0, , 687-699.	0.1	0