Surya Kalidindi

List of Publications by Year
in descending order

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Version: 2024-02-01

327	19,505	8181	14759
papers	citations	76 h-index	127 g-index

335	335	335	8593
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Convolutional Neural Networks for the Localization of Plastic Velocity Gradient Tensor in Polycrystalline Microstructures. Journal of Engineering Materials and Technology, Transactions of the ASME, 2022, 144, .	1.4	2
2	How important is microstructural feature selection for data-driven structure-property mapping?. MRS Communications, 2022, 12, 95-103.	1.8	5
3	In Situ Transmission Electron Microscopy: Signal processing challenges and examples. IEEE Signal Processing Magazine, 2022, 39, 89-103.	5.6	3
4	A hybrid approach for the efficient computation of polycrystalline yield loci with the accuracy of the crystal plasticity finite element method. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 025015.	2.0	7
5	Machine learning-enabled feature classification of evaporation-driven multi-scale 3D printing. Flexible and Printed Electronics, 2022, 7, 014011.	2.7	1
6	Biomaterialomics: Data science-driven pathways to develop fourth-generation biomaterials. Acta Biomaterialia, 2022, 143, 1-25.	8.3	42
7	Prediction of the Electron Density of States for Crystalline Compounds with Atomistic Line Graph Neural Networks (ALIGNN). Jom, 2022, 74, 1395-1405.	1.9	17
8	Development of a Robust CNN Model for Capturing Microstructure-Property Linkages and Building Property Closures Supporting Material Design. Frontiers in Materials, 2022, 9, .	2.4	14
9	Digital Twins for Materials. Frontiers in Materials, 2022, 9, .	2.4	15
10	Multiresolution investigations of thermally aged steels using spherical indentation stress-strain protocols and image analysis. Mechanics of Materials, 2022, 167, 104265.	3.2	3
11	Efficient generation of anisotropic N-field microstructures from 2-point statistics using multi-output Gaussian random fields. Acta Materialia, 2022, 232, 117927.	7.9	18
12	Bayesian analysis of parametric uncertainties and model form probabilities for two different crystal plasticity models of lamellar grains in Î±+Î² Titanium alloys. International Journal of Plasticity, 2022, 154, 103289.	8.8	15
13	High-throughput characterization of the cyclic response of Ti-6Al-4V using spherical microindentation stressâ€“strain protocols. International Journal of Fatigue, 2022, 161, 106921.	5.7	0
14	Machine learning-enabled feature classification of evaporation-driven multi-scale 3D printing.. Flexible and Printed Electronics, 2022, 7, .	2.7	0
15	Study of a Bimodal Î±â€“Î² Ti Alloy Microstructure Using Multi-Resolution Spherical Indentation Stress-Strain Protocols. Journal of Composites Science, 2022, 6, 162.	3.0	2
16	Digital Protocols for Statistical Quantification of Microstructures From Microscopy Images of Polycrystalline Nickel-Based Superalloys. Integrating Materials and Manufacturing Innovation, 2022, 11, 313-326.	2.6	6
17	Bayesian estimation of single ply anisotropic elastic constants from spherical indentations on multi-laminate polymer-matrix fiber-reinforced composite samples. Meccanica, 2021, 56, 1575-1586.	2.0	11
18	Texture-sensitive prediction of micro-spring performance using Gaussian process models calibrated to finite element simulations. Materials and Design, 2021, 197, 109198.	7.0	7

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19	Correlation of Measured Load-Displacement Curves in Small Punch Tests with Tensile Stress-Strain Curves. Acta Materialia, 2021, 204, 116501.	7.9	25
20	A machine learning framework for the temporal evolution of microstructure during static recrystallization of polycrystalline materials simulated by cellular automaton. Computational Materials Science, 2021, 188, 110132.	3.0	25
21	Analysis of Fatigue Indicator Parameters for Ti-6Al-4V microstructures using extreme value statistics in the HCF regime. International Journal of Fatigue, 2021, 145, 106096.	5.7	12
22	Critical Comparison of Spherical Microindentation, Small Punch Test, and Uniaxial Tensile Testing for Selective Laser Melted Inconel 718. Applied Sciences (Switzerland), 2021, 11, 1061.	2.5	9
23	Mechanical Responses of Primary-Î± Ti Grains in Polycrystalline Samples: Part Iâ€"Measurements of Spherical Indentation Stressâ€"Strain Curves. Integrating Materials and Manufacturing Innovation, 2021, 10, 82-98.	2.6	2
24	Mechanical Responses of Primary-Î± Ti Grains in Polycrystalline Samples: Part Iiâ€"Bayesian Estimation of Crystal-Level Elastic-Plastic Mechanical Properties from Spherical Indentation Measurements. Integrating Materials and Manufacturing Innovation, 2021, 10, 99-114.	2.6	9
25	Critical comparison of image analysis workflows for quantitative cell morphological evaluation in assessing cell response to biomaterials. Biomedical Materials (Bristol), 2021, 16, 034101.	3.3	2
26	Addressing biases in spectral databases for increasing accuracy and computational efficiency of crystal plasticity computations. International Journal of Plasticity, 2021, 138, 102945.	8.8	4
27	Digital Representation and Quantification of Discrete Dislocation Structures. Jom, 2021, 73, 2143-2158.	1.9	5
28	Automated Image Processing Workflow for Morphological Analysis of Fluorescence Microscopy Cell Images. Jom, 2021, 73, 2356.	1.9	7
29	Autonomous Development of a Machine-Learning Model for the Plastic Response of Two-Phase Composites from Micromechanical Finite Element Models. Jom, 2021, 73, 2085-2095.	1.9	15
30	Recurrent localization networks applied to the Lippmann-Schwinger equation. Computational Materials Science, 2021, 192, 110356.	3.0	4
31	Decoding defect statistics from diffractograms via machine learning. Npj Computational Materials, 2021, 7, .	8.7	6
32	Machine learning approaches for feature engineering of the crystal structure: Application to the prediction of the formation energy of cubic compounds. Physical Review Materials, 2021, 5, .	2.4	6
33	Materials graph ontology. Materials Letters, 2021, 295, 129836.	2.6	7
34	Evaluation of the influence of B and Nb microalloying on the microstructure and strength of 18% Ni maraging steels (C350) using hardness, spherical indentation and tensile tests. Acta Materialia, 2021, 215, 117071.	7.9	7
35	Carbon stoichiometry and mechanical properties of high entropy carbides. Acta Materialia, 2021, 215, 117051.	7.9	28
36	A Generalized and Modular Framework for Digital Generation of Composite Microstructures. Journal of Composites Science, 2021, 5, 211.	3.0	8

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37	Lamellar Level Correlations Between Mechanical Behavior and Composition in Mouse Bone. Jom, 2021, 73, 3034-3045.	1.9	1
38	Microstructure Quantification and Multiresolution Mechanical Characterization of Ti-Based Bulk Metallic Glass-Matrix Composites. Jom, 2021, 73, 3312-3322.	1.9	4
39	Reduced-order models for microstructure-sensitive effective thermal conductivity of woven ceramic matrix composites with residual porosity. Composite Structures, 2021, 274, 114399.	5.8	20
40	A generalizable artificial intelligence tool for identification and correction of self-supporting structures in additive manufacturing processes. Additive Manufacturing, 2021, 46, 102191.	3.0	7
41	Semi-automatic image analysis of particle morphology of cellulose nanocrystals. Cellulose, 2021, 28, 2183-2201.	4.9	13
42	New Insights into the Microstructural Changes During the Processing of Dual-Phase Steels from Multiresolution Spherical Indentation Stressâ€“Strain Protocols. Metals, 2020, 10, 18.	2.3	13
43	Voxelized Atomic Structure Potentials: Predicting Atomic Forces with the Accuracy of Quantum Mechanics Using Convolutional Neural Networks. Journal of Physical Chemistry Letters, 2020, 11, 9093-9099.	4.6	10
44	Feature engineering of material structure for AI-based materials knowledge systems. Journal of Applied Physics, 2020, 128, .	2.5	39
45	Evaluation of Tiâ€“Mn Alloys for Additive Manufacturing Using High-Throughput Experimental Assays and Gaussian Process Regression. Materials, 2020, 13, 4641.	2.9	12
46	Reduced-Order Models for Ranking Damage Initiation in Dual-Phase Composites Using Bayesian Neural Networks. Jom, 2020, 72, 4359-4369.	1.9	4
47	Mining the Correlations Between Optical Micrographs and Mechanical Properties of Cold-Rolled HSLA Steels Using Machine Learning Approaches. Integrating Materials and Manufacturing Innovation, 2020, 9, 240-256.	2.6	15
48	A digital workflow for learning the reduced-order structure-property linkages for permeability of porous membranes. Acta Materialia, 2020, 195, 668-680.	7.9	16
49	Editorial: Machine Learning and Data Mining in Materials Science. Frontiers in Materials, 2020, 7, .	2.4	16
50	High-Throughput Exploration of the Process Space in 18% Ni (350) Maraging Steels via Spherical Indentation Stressâ€“Strain Protocols and Gaussian Process Models. Integrating Materials and Manufacturing Innovation, 2020, 9, 199-212.	2.6	10
51	A Framework for the Systematic Design of Segmentation Workflows. Integrating Materials and Manufacturing Innovation, 2020, 9, 70-88.	2.6	14
52	Computationally Efficient Crystal Plasticity Simulations Using Spectral Databases. , 2020, , 1685-1710.		0
53	Data Analytics on Phase-Field Simulation Datasets. , 2020, , 177-204.		0
54	Localization models for the plastic response of polycrystalline materials using the material knowledge systems framework. Modelling and Simulation in Materials Science and Engineering, 2019, 27, 074008.	2.0	8

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55	Application of Gaussian process regression models for capturing the evolution of microstructure statistics in aging of nickel-based superalloys. Acta Materialia, 2019, 178, 45-58.	7.9	58
56	Probing Local Mechanical Properties in Polymer-Ceramic Hybrid Acetabular Sockets Using Spherical Indentation Stress-Strain Protocols. Integrating Materials and Manufacturing Innovation, 2019, 8, 257-272.	2.6	6
57	Data Infrastructure Elements in Support of Accelerated Materials Innovation: ELA, PyMKS, and MATIN. Integrating Materials and Manufacturing Innovation, 2019, 8, 441-454.	2.6	12
58	A Bayesian Framework for the Estimation of the Single Crystal Elastic Parameters From Spherical Indentation Stress-Strain Measurements. Frontiers in Materials, 2019, 6, .	2.4	22
59	Deep learning based domain knowledge integration for small datasets: Illustrative applications in materials informatics. , 2019, , .		9
60	Bayesian Sequential Design of Experiments for Extraction of Single-Crystal Material Properties from Spherical Indentation Measurements on Polycrystalline Samples. Jom, 2019, 71, 2671-2679.	1.9	15
61	Gaussian-Process-Driven Adaptive Sampling for Reduced-Order Modeling of Texture Effects in Polycrystalline Alpha-Ti. Jom, 2019, 71, 2646-2656.	1.9	15
62	A Bayesian framework for materials knowledge systems. MRS Communications, 2019, 9, 518-531.	1.8	23
63	A Review of the Application of Machine Learning and Data Mining Approaches in Continuum Materials Mechanics. Frontiers in Materials, 2019, 6, .	2.4	223
64	Periprosthetic biomechanical response towards dental implants, with functional gradation, for single/multiple dental loss. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 94, 249-258.	3.1	20
65	A Comparative Study of the Efficacy of Local/Global and Parametric/Nonparametric Machine Learning Methods for Establishing Structureâ€“Property Linkages in High-Contrast 3D Elastic Composites. Integrating Materials and Manufacturing Innovation, 2019, 8, 67-81.	2.6	15
66	Application of Gaussian process autoregressive models for capturing the time evolution of microstructure statistics from phase-field simulations for sintering of polycrystalline ceramics. Modelling and Simulation in Materials Science and Engineering, 2019, 27, 084006.	2.0	22
67	Study of Local Mechanical Responses in an Epoxyâ€“Carbon Fiber Laminate Composite Using Spherical Indentation Stressâ€“Strain Protocols. Integrating Materials and Manufacturing Innovation, 2019, 8, 495-508.	2.6	2
68	Establishing structure-property localization linkages for elastic deformation of three-dimensional high contrast composites using deep learning approaches. Acta Materialia, 2019, 166, 335-345.	7.9	125
69	Materials knowledge system for nonlinear composites. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 180-196.	6.6	34
70	Reduced-order microstructure-sensitive protocols to rank-order the transition fatigue resistance of polycrystalline microstructures. International Journal of Fatigue, 2019, 119, 1-10.	5.7	33
71	Materials informatics. Journal of Intelligent Manufacturing, 2019, 30, 2307-2326.	7.3	90
72	Spherical Nanoindentation Stress-Strain Analysis of Ion-Irradiated Tungsten. Minerals, Metals and Materials Series, 2019, , 617-635.	0.4	0

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73	Computationally efficient predictions of crystal plasticity based forming limit diagrams using a spectral database. International Journal of Plasticity, 2018, 103, 168-187.	8.8	25
74	Material structure-property linkages using three-dimensional convolutional neural networks. Acta Materialia, 2018, 146, 76-84.	7.9	214
75	Quantifying the mechanical effects of He, W and HeÂ+ÂW ion irradiation on tungsten with spherical nanoindentation. Journal of Materials Science, 2018, 53, 5296-5316.	3.7	39
76	Multiresolution mechanical characterization of hierarchical materials: Spherical nanoindentation on martensitic Fe-Ni-C steels. Acta Materialia, 2018, 153, 257-269.	7.9	26
77	Estimating mechanical properties from spherical indentation using Bayesian approaches. Materials and Design, 2018, 147, 92-105.	7.0	61
78	Phonon transport properties of two-dimensional electride Ca2Nâ€”A first-principles study. Applied Physics Letters, 2018, 113, .	3.3	11
79	Computationally Efficient Crystal Plasticity Simulations Using Spectral Databases. , 2018, , 1-26.		0
80	Application of chord length distributions and principal component analysis for quantification and representation of diverse polycrystalline microstructures. Materials Characterization, 2018, 145, 671-685.	4.4	40
81	Data-Driven Materials Investigations: The Next Frontier in Understanding and Predicting Fatigue Behavior. Jom, 2018, 70, 1143-1146.	1.9	22
82	Deep learning approaches for mining structure-property linkages in high contrast composites from simulation datasets. Computational Materials Science, 2018, 151, 278-287.	3.0	219
83	Data-driven reduced-order models for rank-ordering the high cycle fatigue performance of polycrystalline microstructures. Materials and Design, 2018, 154, 170-183.	7.0	49
84	Reduced-Order Microstructure-Sensitive Models for Damage Initiation in Two-Phase Composites. Integrating Materials and Manufacturing Innovation, 2018, 7, 97-115.	2.6	18
85	A new framework for rotationally invariant two-point spatial correlations in microstructure datasets. Acta Materialia, 2018, 158, 53-64.	7.9	36
86	Spherical Nanoindentation Stress-Strain Analysis of Ion-Irradiated Tungsten. Minerals, Metals and Materials Series, 2018, , 617-635.	0.4	1
87	Application of spherical indentation and the materials knowledge system framework to establishing microstructure-yield strength linkages from carbon steel scoops excised from high-temperature exposed components. Acta Materialia, 2018, 144, 758-767.	7.9	45
88	Structure-processing correlations and mechanical properties in freeze-cast Ti-6Al-4V with highly aligned porosity and a lightweight Ti-6Al-4V-PMMA composite with excellent energy absorption capability. Acta Materialia, 2017, 132, 182-192.	7.9	32
89	Crystal Plasticity Modeling of Microstructure Evolution and Mechanical Fields During Processing of Metals Using Spectral Databases. Jom, 2017, 69, 830-838.	1.9	17
90	Analytics on large microstructure datasets using two-point spatial correlations: Coarsening of dendritic structures. Acta Materialia, 2017, 132, 374-388.	7.9	20

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91	Materials Knowledge Systems in Pythonâ€"a Data Science Framework for Accelerated Development of Hierarchical Materials. Integrating Materials and Manufacturing Innovation, 2017, 6, 36-53.	2.6	67
92	Data science approaches for microstructure quantification and feature identification in porous membranes. Journal of Membrane Science, 2017, 540, 88-97.	8.2	39
93	Extracting knowledge from molecular mechanics simulations of grain boundaries using machine learning. Acta Materialia, 2017, 133, 100-108.	7.9	44
94	Extraction of Process-Structure Evolution Linkages from X-ray Scattering Measurements Using Dimensionality Reduction and Time Series Analysis. Integrating Materials and Manufacturing Innovation, 2017, 6, 147-159.	2.6	25
95	Data-driven reduced order models for effective yield strength and partitioning of strain in multiphase materials. Journal of Computational Physics, 2017, 346, 242-261.	3.8	50
96	Context Aware Machine Learning Approaches for Modeling Elastic Localization in Three-Dimensional Composite Microstructures. Integrating Materials and Manufacturing Innovation, 2017, 6, 160-171.	2.6	28
97	Process-Structure Linkages Using a Data Science Approach: Application to Simulated Additive Manufacturing Data. Integrating Materials and Manufacturing Innovation, 2017, 6, 54-68.	2.6	89
98	Reduced-order structure-property linkages for polycrystalline microstructures based on 2-point statistics. Acta Materialia, 2017, 129, 428-438.	7.9	123
99	Estimating the slip resistance from spherical nanoindentation and orientation measurements in polycrystalline samples of cubic metals. International Journal of Plasticity, 2017, 92, 19-30.	8.8	35
100	Extraction of reduced-order process-structure linkages from phase-field simulations. Acta Materialia, 2017, 124, 182-194.	7.9	83
101	Mechanical Characterization of Mesoscale Interfaces Using Indentation Techniques. Jom, 2017, 69, 22-29.	1.9	8
102	Prediction of microscale plastic strain rate fields in two-phase composites subjected to an arbitrary macroscale strain rate using the materials knowledge system framework. Acta Materialia, 2017, 141, 230-240.	7.9	15
103	Probing nanoscale damage gradients in ion-irradiated metals using spherical nanoindentation. Scientific Reports, 2017, 7, 11918.	3.3	35
104	Strategies for rapid parametric assessment of microstructure-sensitive fatigue for HCP polycrystals. International Journal of Fatigue, 2017, 104, 231-242.	5.7	37
105	Solidification in 4D: from Dendrites to Eutectics. Microscopy and Microanalysis, 2017, 23, 320-321.	0.4	1
106	Development of high throughput assays for establishing process-structure-property linkages in multiphase polycrystalline metals: Application to dual-phase steels. Acta Materialia, 2017, 123, 55-69.	7.9	98
107	Microstructure-based knowledge systems for capturing process-structure evolution linkages. Current Opinion in Solid State and Materials Science, 2017, 21, 129-140.	11.5	31
108	Microstructure-based knowledge systems for capturing process-structure evolution linkages. Acta Materialia, 2017, 21, .	7.9	0

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109	On capturing the grain-scale elastic and plastic anisotropy of alpha-Ti with spherical nanoindentation and electron back-scattered diffraction. Acta Materialia, 2016, 117, 23-34.	7.9	55
110	Quantification and classification of microstructures in ternary eutectic alloys using 2-point spatial correlations and principal component analyses. Acta Materialia, 2016, 110, 131-141.	7.9	69
111	Nacre-like hybrid films: Structure, properties, and the effect of relative humidity. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 140-150.	3.1	23
112	Correlation of spherical nanoindentation stress-strain curves to simple compression stress-strain curves for elastic-plastic isotropic materials using finite element models. Acta Materialia, 2016, 112, 295-302.	7.9	129
113	The materials innovation ecosystem: A key enabler for the Materials Genome Initiative. MRS Bulletin, 2016, 41, 326-337.	3.5	71
114	Mechanical characterization of Ti-6Al-4V titanium alloy at multiple length scales using spherical indentation stress-strain measurements. Materials and Design, 2016, 111, 463-472.	7.0	48
115	High throughput exploration of process-property linkages in Al-6061 using instrumented spherical microindentation and microstructurally graded samples. Integrating Materials and Manufacturing Innovation, 2016, 5, 192-211.	2.6	48
116	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
117	Vision for Data and Informatics in the Future Materials Innovation Ecosystem. Jom, 2016, 68, 2126-2137.	1.9	58
118	Role of materials data science and informatics in accelerated materials innovation. MRS Bulletin, 2016, 41, 596-602.	3.5	42
119	Analytics for microstructure datasets produced by phase-field simulations. Acta Materialia, 2016, 103, 192-203.	7.9	75
120	Investigations of orientation and length scale effects on micromechanical responses in polycrystalline zirconium using spherical nanoindentation. Scripta Materialia, 2016, 113, 241-245.	5.2	22
121	Versatile algorithms for the computation of 2-point spatial correlations in quantifying material structure. Integrating Materials and Manufacturing Innovation, 2016, 5, 1-15.	2.6	111
122	Studies of grain boundary regions in deformed polycrystalline aluminum using spherical nanoindentation. International Journal of Plasticity, 2016, 81, 87-101.	8.8	65
123	Effect of microstructure on oxygen rich layer evolution and its impact on fatigue life during high-temperature application of Î±/Î² titanium. Acta Materialia, 2016, 107, 377-389.	7.9	51
124	Microstructure taxonomy based on spatial correlations: Application to microstructure coarsening. Acta Materialia, 2016, 108, 176-185.	7.9	13
125	Statistical construction of 3-D microstructures from 2-D exemplars collected on oblique sections. Acta Materialia, 2016, 102, 136-148.	7.9	40
126	Microstructure Function. , 2015, , 33-73.		1

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127	Statistical Quantification of Material Structure. , 2015, , 75-110.		1
128	Reduced-Order Representations of Spatial Correlations. , 2015, , 111-127.		0
129	Generalized Composite Theories. , 2015, , 129-143.		0
130	Structureâ€“Property Linkages. , 2015, , 145-189.		3
131	Processâ€“Structure Linkages. , 2015, , 191-205.		0
132	Materials Innovation Cyberinfrastructure. , 2015, , 207-212.		0
133	In situ X-ray nanotomography of metal surfaces during electropolishing. Scientific Reports, 2015, 5, 15257.	3.3	4
134	Machine learning approaches for elastic localization linkages in high-contrast composite materials. Integrating Materials and Manufacturing Innovation, 2015, 4, 192-208.	2.6	56
135	Representation and calibration of elastic localization kernels for a broad class of cubic polycrystals. Acta Materialia, 2015, 94, 26-35.	7.9	50
136	Grain-scale measurement of slip resistances in aluminum polycrystals using spherical nanoindentation. Acta Materialia, 2015, 90, 27-36.	7.9	46
137	Application of data science tools to quantify and distinguish between structures and models in molecular dynamics datasets. Nanotechnology, 2015, 26, 344006.	2.6	35
138	Materials Data Science: Current Status and Future Outlook. Annual Review of Materials Research, 2015, 45, 171-193.	9.3	198
139	Spherical nanoindentation stressâ€“strain curves. Materials Science and Engineering Reports, 2015, 91, 1-36.	31.8	255
140	Structureâ€“property linkages using a data science approach: Application to a non-metallic inclusion/steel composite system. Acta Materialia, 2015, 91, 239-254.	7.9	160
141	Data science and cyberinfrastructure: critical enablers for accelerated development of hierarchical materials. International Materials Reviews, 2015, 60, 150-168.	19.3	85
142	Crystal plasticity finite element simulations using a database of discrete Fourier transforms. International Journal of Plasticity, 2015, 66, 71-84.	8.8	47
143	Materials, Data, and Informatics. , 2015, , 1-32.		4
144	Calibrated Localization Relationships for Polycrystalline Aggregates by Using Materials Knowledge System. , 2015, , 221-228.		0

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145	Understanding pop-ins in spherical nanoindentation. Applied Physics Letters, 2014, 105, .	3.3	51
146	Workflow for integrating mesoscale heterogeneities in materials structure with process simulation of titanium alloys. Integrating Materials and Manufacturing Innovation, 2014, 3, 322-343.	2.6	17
147	Dependence of mechanical properties on crystal orientation of semi-crystalline polyethylene structures. Polymer, 2014, 55, 4248-4257.	3.8	28
148	Extracting single-crystal elastic constants from polycrystalline samples using spherical nanoindentation and orientation measurements. Acta Materialia, 2014, 79, 108-116.	7.9	45
149	Calibrated localization relationships for elastic response of polycrystalline aggregates. Acta Materialia, 2014, 81, 151-160.	7.9	71
150	A data-driven approach to establishing microstructureâ€“property relationships in porous transport layers of polymer electrolyte fuel cells. Journal of Power Sources, 2014, 245, 144-153.	7.8	72
151	Strong cube recrystallization texture in silicon steel by twin-roll casting process. Acta Materialia, 2014, 76, 106-117.	7.9	145
152	Mechanical characterization of grain boundaries using nanoindentation. Current Opinion in Solid State and Materials Science, 2014, 18, 196-204.	11.5	59
153	Exploration of data science techniques to predict fatigue strength of steel from composition and processing parameters. Integrating Materials and Manufacturing Innovation, 2014, 3, 90-108.	2.6	170
154	Influence of deformation twinning on static annealing of AZ31 Mg alloy. Acta Materialia, 2013, 61, 5966-5978.	7.9	161
155	Resolving macro- and micro-porous layer interaction in polymer electrolyte fuel cells using focused ion beam and X-ray computed tomography. Electrochimica Acta, 2013, 87, 201-212.	5.2	66
156	Novel microstructure quantification framework for databasing, visualization, and analysis of microstructure data. Integrating Materials and Manufacturing Innovation, 2013, 2, 54-80.	2.6	98
157	Effect of the continuous stiffness measurement on the mechanical properties extracted using spherical nanoindentation. Acta Materialia, 2013, 61, 3744-3751.	7.9	50
158	Key computational modeling issues in Integrated Computational Materials Engineering. CAD Computer Aided Design, 2013, 45, 4-25.	2.7	267
159	Microstructure Informatics. , 2013, , 443-466.		7
160	Microstructure-Driven Analysis of Two-Phase Transport in Diffusion Media of PEFCs. ECS Transactions, 2013, 50, 513-519.	0.5	2
161	Morphological Analyses of Polymer Electrolyte Fuel Cell Electrodes with Nanoâ€Scale Computed Tomography Imaging. Fuel Cells, 2013, 13, 935-945.	2.4	42
162	Tensors and Rotations. , 2013, , 23-44.		2

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163	Spectral Representation. , 2013, , 45-65.		0
164	Description of the Microstructure. , 2013, , 67-87.		1
165	Spectral Representation of Microstructure. , 2013, , 89-109.		0
166	Symmetry in Microstructure Representation. , 2013, , 111-125.		0
167	Structureâ€“Property Relations. , 2013, , 127-170.		2
168	Homogenization Theories. , 2013, , 171-181.		0
169	Microstructure Hull and Closures. , 2013, , 183-194.		0
170	Design for Performance Optimization. , 2013, , 195-235.		17
171	Microstructure Evolution byÂProcessing. , 2013, , 237-248.		0
172	Higher-Order Microstructure Representation. , 2013, , 249-268.		1
173	Higher-Order Homogenization. , 2013, , 269-301.		0
174	Second-Order Hull, Property Closure, and Design. , 2013, , 303-330.		0
175	Higher-Order Models of Deformation Processing. , 2013, , 331-340.		0
176	Electron Backscatter Diffraction Microscopy and Basic Stereology. , 2013, , 341-371.		6
177	Computationally Efficient, Fully Coupled Multiscale Modeling of Materials Phenomena Using Calibrated Localization Linkages. ISRN Materials Science, 2012, 2012, 1-13.	1.0	22
178	3-D Microstructure Analysis of Fuel Cell Materials: Spatial Distributions of Tortuosity, Void Size and Diffusivity. Journal of the Electrochemical Society, 2012, 159, B299-B307.	2.9	85
179	Estimating the response of polycrystalline materials using sets of weighted statistical volume elements. Acta Materialia, 2012, 60, 5284-5299.	7.9	54
180	Assessment of lamellar level properties in mouse bone utilizing a novel spherical nanoindentation data analysis method. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 13, 102-117.	3.1	35

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181	Microstructure Evolution during Roller Hemming of AZ31B Magnesium Sheet. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 3824-3833.	2.2	6
182	Multi-scale modeling of the elastic response of a structural component made from a composite material using the materials knowledge system. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 055001.	2.0	22
183	Critical evaluation of the indentation data analyses methods for the extraction of isotropic uniaxial mechanical properties using finite element models. Acta Materialia, 2012, 60, 3943-3952.	7.9	82
184	Selection of representative volume elements for pore-scale analysis of transport in fuel cell materials. Journal of Power Sources, 2012, 197, 168-179.	7.8	71
185	Studying grain boundary regions in polycrystalline materials using spherical nano-indentation and orientation imaging microscopy. Journal of Materials Science, 2012, 47, 815-823.	3.7	66
186	A Representative Volume Element Approach for Pore-Scale Modeling of Fuel Cell Materials. ECS Transactions, 2011, 41, 131-139.	0.5	1
187	Microstructure Analysis Tools for Quantification of Key Structural Properties of Fuel Cell Materials. ECS Transactions, 2011, 41, 679-687.	0.5	3
188	Understanding and visualizing microstructure and microstructure variance as a stochastic process. Acta Materialia, 2011, 59, 6387-6400.	7.9	122
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