

Nikhilesh Chawla

List of Publications by Year in descending order

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306
papers

11,923
citations

26567

56
h-index

42291

92
g-index

318
all docs

318
docs citations

318
times ranked

7554
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanical Behavior of Particle Reinforced Metal Matrix Composites. <i>Advanced Engineering Materials</i> , 2001, 3, 357-370.	1.6	628
2	Tensile behavior of high performance natural (sisal) fibers. <i>Composites Science and Technology</i> , 2008, 68, 3438-3443.	3.8	318
3	Deformation behavior of (Cu, Ag)â€“Sn intermetallics by nanoindentation. <i>Acta Materialia</i> , 2004, 52, 4291-4303.	3.8	284
4	Microstructure and mechanical behavior of porous sintered steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 390, 98-112.	2.6	277
5	Three-dimensional visualization and microstructure-based modeling of deformation in particle-reinforced composites. <i>Acta Materialia</i> , 2006, 54, 1541-1548.	3.8	242
6	Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC p composite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1998, 29, 2843-2854.	1.1	224
7	Microstructure and deformation behavior of biocompatible TiO2 nanotubes on titanium substrateâ†. <i>Acta Biomaterialia</i> , 2007, 3, 359-367.	4.1	220
8	Three-dimensional (3D) microstructure visualization and finite element modeling of the mechanical behavior of SiC particle reinforced aluminum composites. <i>Scripta Materialia</i> , 2004, 51, 161-165.	2.6	198
9	Creep deformation behavior of Snâ€“3.5Ag solder/Cu couple at small length scales. <i>Acta Materialia</i> , 2004, 52, 4527-4535.	3.8	196
10	Effects of cooling rate on the microstructure and tensile behavior of a Sn-3.5wt.%Ag solder. <i>Journal of Electronic Materials</i> , 2003, 32, 1414-1420.	1.0	180
11	Metal-matrix composites in ground transportation. <i>Jom</i> , 2006, 58, 67-70.	0.9	176
12	Influence of reflow and thermal aging on the shear strength and fracture behavior of Sn-3.5Ag solder/Cu joints. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005, 36, 55-64.	1.1	162
13	Effect of particle orientation anisotropy on the tensile behavior of metal matrix composites: experiments and microstructure-based simulation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 391, 342-353.	2.6	155
14	Youngâ€™s modulus of (Cu, Ag)â€“Sn intermetallics measured by nanoindentation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 364, 240-243.	2.6	153
15	Influence of initial morphology and thickness of Cu6Sn5 and Cu3Sn intermetallics on growth and evolution during thermal aging of Sn-Ag solder/Cu joints. <i>Journal of Electronic Materials</i> , 2003, 32, 1403-1413.	1.0	143
16	Microstructure-based modeling of the deformation behavior of particle reinforced metal matrix composites. <i>Journal of Materials Science</i> , 2006, 41, 913-925.	1.7	128
17	The influence of microencapsulated phase change material (PCM) characteristics on the microstructure and strength of cementitious composites: Experiments and finite element simulations. <i>Cement and Concrete Composites</i> , 2016, 73, 29-41.	4.6	128
18	Damage evolution in SiC particle reinforced Al alloy matrix composites by X-ray synchrotron tomography. <i>Acta Materialia</i> , 2010, 58, 6194-6205.	3.8	124

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19	Metal Matrix Composites. , 2013, , .		119
20	Microstructure-based modeling of crack growth in particle reinforced composites. Composites Science and Technology, 2006, 66, 1980-1994.	3.8	118
21	Microstructure-based simulation of thermomechanical behavior of composite materials by object-oriented finite element analysis. Materials Characterization, 2002, 49, 395-407.	1.9	114
22	Mechanical properties of Cu ₆ Sn ₅ intermetallic by micropillar compression testing. Scripta Materialia, 2010, 63, 480-483.	2.6	111
23	Effective properties of a fly ash geopolymer: Synergistic application of X-ray synchrotron tomography, nanoindentation, and homogenization models. Cement and Concrete Research, 2015, 78, 252-262.	4.6	107
24	Correlation between tensile and indentation behavior of particle-reinforced metal matrix composites: an experimental and numerical study. Acta Materialia, 2001, 49, 3219-3229.	3.8	106
25	Effects of cooling rate on creep behavior of a Sn-3.5Ag alloy. Journal of Electronic Materials, 2004, 33, 1596-1607.	1.0	104
26	Three dimensional (3D) microstructure-based modeling of interfacial decohesion in particle reinforced metal matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 557, 113-118.	2.6	100
27	Spall strength dependence on grain size and strain rate in tantalum. Acta Materialia, 2018, 158, 313-329.	3.8	100
28	The effect of matrix microstructure on the tensile and fatigue behavior of SiC particle-reinforced 2080 Al matrix composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 531-540.	1.1	93
29	On the correlation between hardness and tensile strength in particle reinforced metal matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 297, 44-47.	2.6	90
30	Mechanical Behavior of Multilayered Nanoscale Metal-Ceramic Composites. Advanced Engineering Materials, 2005, 7, 1099-1108.	1.6	90
31	Mechanical behavior and microstructure characterization of sinter-forged SiC particle reinforced aluminum matrix composites. Journal of Light Metals, 2002, 2, 215-227.	0.8	87
32	Thermal expansion anisotropy in extruded SiC particle reinforced 2080 aluminum alloy matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 426, 314-322.	2.6	86
33	Thermomechanical behaviour of environmentally benign Pb-free solders. International Materials Reviews, 2009, 54, 368-384.	9.4	86
34	Quantifying the effect of porosity on the evolution of deformation and damage in Sn-based solder joints by X-ray microtomography and microstructure-based finite element modeling. Acta Materialia, 2012, 60, 4017-4026.	3.8	86
35	Micropillar compression of Al/SiC nanolaminates. Acta Materialia, 2010, 58, 6628-6636.	3.8	84
36	3D microstructural characterization and mechanical properties of constituent particles in Al 7075 alloys using X-ray synchrotron tomography and nanoindentation. Journal of Alloys and Compounds, 2014, 602, 163-174.	2.8	84

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37	Evaluation of Micro-Pillar Compression Tests for Accurate Determination of Elastic-Plastic Constitutive Relations. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012, 79, .	1.1	82
38	High temperature micropillar compression of Al/SiC nanolaminates. <i>Acta Materialia</i> , 2013, 61, 4439-4451.	3.8	81
39	Fatigue crack initiation and propagation of binder-treated powder metallurgy steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2002, 33, 73-81.	1.1	78
40	Deformation analysis of lap-shear testing of solder joints. <i>Acta Materialia</i> , 2005, 53, 2633-2642.	3.8	77
41	An experimental investigation of the fatigue behavior of sisal fibers. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 516, 90-95.	2.6	76
42	Interfacial fracture toughness of Pb-free solders. <i>Microelectronics Reliability</i> , 2009, 49, 269-287.	0.9	76
43	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. <i>Acta Materialia</i> , 2016, 114, 25-32.	3.8	75
44	Understanding fatigue crack growth in aluminum alloys by in situ X-ray synchrotron tomography. <i>International Journal of Fatigue</i> , 2013, 57, 79-85.	2.8	74
45	The effects of cooling rate on microstructure and mechanical behavior of Sn-3.5Ag solder. <i>Jom</i> , 2003, 55, 56-60.	0.9	73
46	Indentation behavior of metal-ceramic multilayers at the nanoscale: Numerical analysis and experimental verification. <i>Acta Materialia</i> , 2010, 58, 2033-2044.	3.8	72
47	Microstructure and mechanical behavior of novel rare earth-containing Pb-Free solders. <i>Journal of Electronic Materials</i> , 2006, 35, 2088-2097.	1.0	68
48	Indentation mechanics and fracture behavior of metal/ceramic nanolaminate composites. <i>Journal of Materials Science</i> , 2008, 43, 4383-4390.	1.7	68
49	Mechanisms for Sn whisker growth in rare earth-containing Pb-free solders. <i>Acta Materialia</i> , 2009, 57, 4588-4599.	3.8	68
50	Modeling the effect of particle clustering on the mechanical behavior of SiC particle reinforced Al matrix composites. <i>Journal of Materials Science</i> , 2006, 41, 5731-5734.	1.7	66
51	In situ X-ray synchrotron tomographic imaging during the compression of hyper-elastic polymeric materials. <i>Journal of Materials Science</i> , 2016, 51, 171-187.	1.7	66
52	Modeling and characterizing anisotropic inclusion orientation in heterogeneous material via directional cluster functions and stochastic microstructure reconstruction. <i>Journal of Applied Physics</i> , 2014, 115, .	1.1	64
53	Accurate modeling and reconstruction of three-dimensional percolating filamentary microstructures from two-dimensional micrographs via dilation-erosion method. <i>Materials Characterization</i> , 2014, 89, 33-42.	1.9	63
54	Three-dimensional microstructure characterization of Ag ₃ Sn intermetallics in Sn-rich solder by serial sectioning. <i>Materials Characterization</i> , 2004, 52, 225-230.	1.9	60

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55	Numerical simulation of the effect of particle spatial distribution and strength on tensile behavior of particle reinforced composites. <i>Computational Materials Science</i> , 2008, 44, 496-506.	1.4	59
56	On the relationship between solder-controlled and intermetallic compound (IMC)-controlled fracture in Sn-based solder joints. <i>Scripta Materialia</i> , 2012, 66, 586-589.	2.6	58
57	Axial fatigue behavior of binder-treated versus diffusion alloyed powder metallurgy steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 308, 180-188.	2.6	57
58	Porous hierarchical TiO ₂ nanostructures: Processing and microstructure relationships. <i>Acta Materialia</i> , 2009, 57, 854-867.	3.8	57
59	Dendritic morphology of $\hat{\pm}$ -Mg during the solidification of Mg-based alloys: 3D experimental characterization by X-ray synchrotron tomography and phase-field simulations. <i>Scripta Materialia</i> , 2011, 65, 855-858.	2.6	56
60	Nanoindentation Behavior of Nanolayered Metal-Ceramic Composites. <i>Journal of Materials Engineering and Performance</i> , 2005, 14, 417-423.	1.2	54
61	Microstructure Characterization and Creep Behavior of Pb-Free Sn-Rich Solder Alloys: Part II. Creep Behavior of Bulk Solder and Solder/Copper Joints. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 349-362.	1.1	54
62	Mechanical properties of intermetallic inclusions in Al 7075 alloys by micropillar compression. <i>Intermetallics</i> , 2015, 62, 69-75.	1.8	54
63	High-Frequency Fatigue Behavior of Woven-Fiber-Reinforced Polymer-Derived Ceramic-Matrix Composites. <i>Journal of the American Ceramic Society</i> , 1998, 81, 1221-1230.	1.9	53
64	Characterization of fatigue behavior of long fiber reinforced thermoplastic (LFT) composites. <i>Materials Characterization</i> , 2009, 60, 537-544.	1.9	53
65	On the Correlation Between Fatigue Striation Spacing and Crack Growth Rate: A Three-Dimensional (3-D) X-ray Synchrotron Tomography Study. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011, 42, 3845-3848.	1.1	53
66	The Effect of Crystallographic Orientation on the Mechanical Behavior of Cu ₆ Sn ₅ by Micropillar Compression Testing. <i>Journal of Electronic Materials</i> , 2012, 41, 2083-2088.	1.0	53
67	Novel rare-earth-containing lead-free solders with enhanced ductility. <i>Jom</i> , 2006, 58, 57-62.	0.9	52
68	Rate-dependent behavior of Sn alloy-Cu couples: Effects of microstructure and composition on mechanical shock resistance. <i>Acta Materialia</i> , 2012, 60, 4336-4348.	3.8	51
69	Modeling and predicting microstructure evolution in lead/tin alloy via correlation functions and stochastic material reconstruction. <i>Acta Materialia</i> , 2013, 61, 3370-3377.	3.8	51
70	Monotonic and Cyclic Fatigue Behavior of High-Performance Ceramic Fibers. <i>Journal of the American Ceramic Society</i> , 2005, 88, 101-108.	1.9	50
71	Measurement of localized corrosion rates at inclusion particles in AA7075 by in situ three dimensional (3D) X-ray synchrotron tomography. <i>Corrosion Science</i> , 2016, 104, 330-335.	3.0	50
72	Three-dimensional (3D) visualization of reflow porosity and modeling of deformation in Pb-free solder joints. <i>Materials Characterization</i> , 2010, 61, 433-439.	1.9	49

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73	Oxidation Behavior of Rare-Earth-Containing Pb-Free Solders. <i>Journal of Electronic Materials</i> , 2009, 38, 210-220.	1.0	48
74	Prediction of bulk tensile behavior of dual phase stainless steels using constituent behavior from micropillar compression experiments. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 534, 220-227.	2.6	48
75	Microstructural evolution and deformation behavior of Al-Cu alloys: A Transmission X-ray Microscopy (TXM) and micropillar compression study. <i>Acta Materialia</i> , 2018, 144, 419-431.	3.8	47
76	Tailoring TiO ₂ nanotube growth during anodic oxidation by crystallographic orientation of Ti. <i>Scripta Materialia</i> , 2009, 60, 874-877.	2.6	46
77	Growth orientations and morphologies of β -Mg dendrites in Mg-Zn alloys. <i>Scripta Materialia</i> , 2012, 67, 629-632.	2.6	46
78	Fatigue crack growth in SiC particle reinforced Al alloy matrix composites at high and low R-ratios by in situ X-ray synchrotron tomography. <i>International Journal of Fatigue</i> , 2014, 68, 136-143.	2.8	46
79	Microstructure-based modeling of the influence of particle spatial distribution and fracture on crack growth in particle-reinforced composites. <i>Acta Materialia</i> , 2007, 55, 6064-6073.	3.8	45
80	<i>In Situ</i> Investigation of High Humidity Stress Corrosion Cracking of 7075 Aluminum Alloy by Three-Dimensional (3D) X-ray Synchrotron Tomography. <i>Materials Research Letters</i> , 2014, 2, 217-220.	4.1	45
81	Mechanical characterization of microconstituents in a cast duplex stainless steel by micropillar compression. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 598, 98-105.	2.6	45
82	Temperature-dependent mechanical properties of an austenitic-ferritic stainless steel studied by in situ tensile loading in a scanning electron microscope (SEM). <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 580, 159-168.	2.6	44
83	3D time-resolved observations of corrosion and corrosion-fatigue crack initiation and growth in peak-aged Al 7075 using synchrotron X-ray tomography. <i>Corrosion Science</i> , 2018, 138, 340-352.	3.0	43
84	Diffusivity and micro-hardness of blended cement materials exposed to external sulfate attack. <i>Cement and Concrete Composites</i> , 2012, 34, 76-85.	4.6	42
85	Microscale deformation behavior of bicrystal boundaries in pure tin (Sn) using micropillar compression. <i>Acta Materialia</i> , 2016, 120, 56-67.	3.8	42
86	In situ experimental techniques to study the mechanical behavior of materials using X-ray synchrotron tomography. <i>Integrating Materials and Manufacturing Innovation</i> , 2014, 3, 109-122.	1.2	41
87	Effect of gallium addition on the microstructure and micromechanical properties of constituents in Nb Si based alloys. <i>Journal of Alloys and Compounds</i> , 2017, 704, 89-100.	2.8	40
88	Three-dimensional (3D) visualization and microstructure-based modeling of deformation in a Sn-rich solder. <i>Scripta Materialia</i> , 2006, 54, 1627-1631.	2.6	39
89	Nanoindentation of rare earth-Sn intermetallics in Pb-free solders. <i>Intermetallics</i> , 2010, 18, 1016-1020.	1.8	39
90	Mechanical properties of metal-ceramic nanolaminates: Effect of constraint and temperature. <i>Acta Materialia</i> , 2018, 142, 37-48.	3.8	39

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91	Fatigue crack growth of SiC particle reinforced metal matrix composites. <i>International Journal of Fatigue</i> , 2010, 32, 856-863.	2.8	38
92	Stiffness loss and density decrease due to thermal cycling in an alumina fiber/magnesium alloy composite. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1995, 203, 75-80.	2.6	37
93	The interactive role of inclusions and SiC reinforcement on the high-cycle fatigue resistance of particle reinforced metal matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2000, 31, 951-957.	1.1	37
94	Three-dimensional (3D) microstructural characterization and quantification of reflow porosity in Sn-rich alloy/copper joints by X-ray tomography. <i>Materials Characterization</i> , 2011, 62, 970-975.	1.9	37
95	Four dimensional (4D) microstructural evolution of Cu ₆ Sn ₅ intermetallic and voids under electromigration in bi-crystal pure Sn solder joints. <i>Acta Materialia</i> , 2020, 189, 118-128.	3.8	37
96	Microstructure Characterization and Creep Behavior of Pb-Free Sn-Rich Solder Alloys: Part I. Microstructure Characterization of Bulk Solder and Solder/Copper Joints. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 340-348.	1.1	36
97	Nanomechanics of biocompatible TiO ₂ nanotubes by Interfacial Force Microscopy (IFM). <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009, 2, 580-587.	1.5	36
98	Three-Dimensional Microstructure Visualization of Porosity and Fe-Rich Inclusions in SiC Particle-Reinforced Al Alloy Matrix Composites by X-Ray Synchrotron Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010, 41, 2121-2128.	1.1	36
99	Effect of layer thickness on the high temperature mechanical properties of Al/SiC nanolaminates. <i>Thin Solid Films</i> , 2014, 571, 260-267.	0.8	36
100	Development of a lab-scale, high-resolution, tube-generated X-ray computed-tomography system for three-dimensional (3D) materials characterization. <i>Materials Characterization</i> , 2014, 92, 36-48.	1.9	36
101	Three-dimensional (3D) microstructure visualization of LaSn ₃ intermetallics in a novel Sn-rich rare-earth-containing solder. <i>Materials Characterization</i> , 2008, 59, 1364-1368.	1.9	35
102	Effect of Rare-Earth (La, Ce, and Y) Additions on the Microstructure and Mechanical Behavior of Sn-3.9Ag-0.7Cu Solder Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010, 41, 610-620.	1.1	35
103	Electromigration Damage Characterization in Sn-3.9Ag-0.7Cu and Sn-3.9Ag-0.7Cu-0.5Ce Solder Joints by Three-Dimensional X-ray Tomography and Scanning Electron Microscopy. <i>Journal of Electronic Materials</i> , 2014, 43, 33-42.	1.0	35
104	Cyclic Stress-Strain Behavior of Particle Reinforced Metal Matrix Composites. <i>Scripta Materialia</i> , 1998, 38, 1595-1600.	2.6	34
105	Characterization of nanoindentation damage in metal/ceramic multilayered films by transmission electron microscopy (TEM). <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 527, 2985-2992.	2.6	34
106	Three dimensional microstructural characterization of nanoscale precipitates in AA7075-T651 by focused ion beam (FIB) tomography. <i>Materials Characterization</i> , 2016, 118, 102-111.	1.9	34
107	Automated correlative segmentation of large Transmission X-ray Microscopy (TXM) tomograms using deep learning. <i>Materials Characterization</i> , 2018, 142, 203-210.	1.9	34
108	Correlating macrohardness and tensile behavior in discontinuously reinforced metal matrix composites. <i>Scripta Materialia</i> , 2000, 42, 427-432.	2.6	33

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109	Focused Ion Beam (FIB) tomography of nanoindentation damage in nanoscale metal/ceramic multilayers. <i>Materials Characterization</i> , 2010, 61, 481-488.	1.9	33
110	High-temperature nanoindentation behavior of Al/SiC multilayers. <i>Philosophical Magazine Letters</i> , 2012, 92, 362-367.	0.5	33
111	On the Nature of the Interface between Ag ₃ Sn Intermetallics and Sn in Sn-3.5Ag Solder Alloys. <i>Journal of Electronic Materials</i> , 2007, 36, 1615-1620.	1.0	32
112	Dendritic Growth in Mg-Based Alloys: Phase-Field Simulations and Experimental Verification by X-ray Synchrotron Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 2562-2574.	1.1	32
113	Thermal-shock behavior of a Nicalon-fiber-reinforced hybrid glass-ceramic composite. <i>Composites Science and Technology</i> , 2001, 61, 1923-1930.	3.8	31
114	Effect of overaging and particle size on tensile deformation and fracture of particle-reinforced aluminum matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2002, 33, 3861-3869.	1.1	31
115	Effect of reinforcement-particle-orientation anisotropy on the tensile and fatigue behavior of metal-matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2004, 35, 53-61.	1.1	31
116	Characterization of Damage Evolution in SiC Particle Reinforced Al Alloy Matrix Composites by In-Situ X-Ray Synchrotron Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011, 42, 2999-3005.	1.1	31
117	A microstructure-guided constitutive modeling approach for random heterogeneous materials: Application to structural binders. <i>Computational Materials Science</i> , 2016, 119, 52-64.	1.4	31
118	Mechanical Behavior of Natural Sisal Fibers. <i>Journal of Biobased Materials and Bioenergy</i> , 2010, 4, 106-113.	0.1	31
119	Measurement and prediction of Young's modulus of a Pb-free solder. <i>Journal of Materials Science: Materials in Electronics</i> , 2004, 15, 385-388.	1.1	30
120	Elastic properties of metal-ceramic nanolaminates measured by nanoindentation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 502, 79-84.	2.6	30
121	Mechanical Characterization of Lead-Free Sn-Ag-Cu Solder Joints by High-Temperature Nanoindentation. <i>Journal of Electronic Materials</i> , 2013, 42, 1085-1091.	1.0	30
122	Micromechanical and in situ shear testing of Al-SiC nanolaminate composites in a transmission electron microscope (TEM). <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 621, 229-235.	2.6	30
123	Stochastic Multi-Scale Reconstruction of 3D Microstructure Consisting of Polycrystalline Grains and Second-Phase Particles from 2D Micrographs. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 1440-1450.	1.1	30
124	Effect of porosity and tension-compression asymmetry on the Bauschinger effect in porous sintered steels. <i>International Journal of Fatigue</i> , 2005, 27, 1233-1243.	2.8	29
125	Mechanical properties of a thermally-aged cast duplex stainless steel by nanoindentation and micropillar compression. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 743, 520-528.	2.6	29
126	Multiscale investigation of corrosion damage initiation and propagation in AA7075-T651 alloy using correlative microscopy. <i>Corrosion Science</i> , 2021, 185, 109429.	3.0	29

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127	Electromigration mechanisms in Sn-0.7Cu/Cu couples by four dimensional (4D) X-ray microtomography and electron backscatter diffraction (EBSD). <i>Acta Materialia</i> , 2016, 102, 220-230.	3.8	28
128	3D X-ray microtomography and mechanical characterization of corrosion-induced damage in 7075 aluminium (Al) alloys. <i>Corrosion Science</i> , 2018, 139, 97-113.	3.0	28
129	Surface roughness characterization of Nicalon [®] , _¢ and HI-Nicalon [®] , _¢ ceramic fibers by atomic force microscopy. <i>Materials Characterization</i> , 1995, 35, 199-206.	1.9	27
130	An evaluation of the lap-shear test for Sn-rich solder/Cu couples: Experiments and simulation. <i>Journal of Electronic Materials</i> , 2004, 33, 1589-1595.	1.0	27
131	Thermal Fatigue Behavior of Sn-Rich (Pb-Free) Solders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008, 39, 799-810.	1.1	27
132	Multiscale microstructural characterization of Sn-rich alloys by three dimensional (3D) X-ray synchrotron tomography and focused ion beam (FIB) tomography. <i>Materials Characterization</i> , 2012, 70, 33-41.	1.9	27
133	Direct extraction of spatial correlation functions from limited x-ray tomography data for microstructural quantification. <i>Materials Characterization</i> , 2018, 140, 265-274.	1.9	27
134	Three Dimensional (3D) Microstructural Characterization and Quantitative Analysis of Solidified Microstructures in Magnesium-Based Alloys. <i>Metallography, Microstructure, and Analysis</i> , 2012, 1, 7-13.	0.5	26
135	Deformation mechanisms of ultra-thin Al layers in Al/SiC nanolaminates as a function of thickness and temperature. <i>Philosophical Magazine</i> , 2016, 96, 3336-3355.	0.7	26
136	In Situ X-ray Microtomography of Stress Corrosion Cracking and Corrosion Fatigue in Aluminum Alloys. <i>Jom</i> , 2017, 69, 1404-1414.	0.9	26
137	Quantifying Electrochemical Reactions and Properties of Amorphous Silicon in a Conventional Lithium-Ion Battery Configuration. <i>Chemistry of Materials</i> , 2017, 29, 5831-5840.	3.2	26
138	Analysis of indentation-derived effective elastic modulus of metal-ceramic multilayers. <i>International Journal of Mechanics and Materials in Design</i> , 2008, 4, 391-398.	1.7	25
139	Mechanical behavior of NiTi shape memory alloy fiber reinforced Sn matrix "smart" composites. <i>Journal of Materials Science</i> , 2009, 44, 700-707.	1.7	25
140	Fatigue crack growth behavior of hybrid and prealloyed sintered steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 491, 28-38.	2.6	24
141	Mechanical properties of microconstituents in Nb-Si-Ti alloy by micropillar compression and nanoindentation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 687, 99-106.	2.6	24
142	The role of interfacial coatings on the high frequency fatigue behavior of nicalon/C/SiC composites. <i>Scripta Materialia</i> , 1996, 35, 1411-1416.	2.6	23
143	Hybrid and conventional particle reinforced metal matrix composites by squeeze infiltration casting. <i>Journal of Materials Science Letters</i> , 2002, 21, 337-339.	0.5	23
144	Effect of residual surface stress on the fatigue behavior of a low-alloy powder metallurgy steel. <i>International Journal of Fatigue</i> , 2007, 29, 1978-1984.	2.8	23

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