Nikhilesh Chawla

List of Publications by Year
in descending order

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306 papers	11,923 citations	26630 56 h-index	42399 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. Advanced Engineering Materials, 2001, 3, 357-370.	3.5	628
2	Tensile behavior of high performance natural (sisal) fibers. Composites Science and Technology, 2008, 68, 3438-3443.	7.8	318
3	Deformation behavior of (Cu, Ag)â€“Sn intermetallics by nanoindentation. Acta Materialia, 2004, 52, 4291-4303.	7.9	284
4	Microstructure and mechanical behavior of porous sintered steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 390, 98-112.	5.6	277
5	Three-dimensional visualization and microstructure-based modeling of deformation in particle-reinforced composites. Acta Materialia, 2006, 54, 1541-1548.	7.9	242
6	Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC p composite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 2843-2854.	2.2	224
7	Microstructure and deformation behavior of biocompatible TiO2 nanotubes on titanium substrateâ˜†. Acta Biomaterialia, 2007, 3, 359-367.	8.3	220
8	Three-dimensional (3D) microstructure visualization and finite element modeling of the mechanical behavior of SiC particle reinforced aluminum composites. Scripta Materialia, 2004, 51, 161-165.	5.2	198
9	Creep deformation behavior of Snâ€“3.5Ag solder/Cu couple at small length scales. Acta Materialia, 2004, 52, 4527-4535.	7.9	196
10	Effects of cooling rate on the microstructure and tensile behavior of a Sn-3.5wt.%Ag solder. Journal of Electronic Materials, 2003, 32, 1414-1420.	2.2	180
11	Metal-matrix composites in ground transportation. Jom, 2006, 58, 67-70.	1.9	176
12	Influence of reflow and thermal aging on the shear strength and fracture behavior of Sn-3.5Ag solder/Cu joints. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 55-64.	2.2	162
13	Effect of particle orientation anisotropy on the tensile behavior of metal matrix composites: experiments and microstructure-based simulation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 391, 342-353.	5.6	155
14	Youngâ€™s modulus of (Cu, Ag)â€“Sn intermetallics measured by nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 364, 240-243.	5.6	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. Journal of Electronic Materials, 2003, 32, 1403-1413.	2.2	143
16	Microstructure-based modeling of the deformation behavior of particle reinforced metal matrix composites. Journal of Materials Science, 2006, 41, 913-925.	3.7	128
17	The influence of microencapsulated phase change material (PCM) characteristics on the microstructure and strength of cementitious composites: Experiments and finite element simulations. Cement and Concrete Composites, 2016, 73, 29-41.	10.7	128
18	Damage evolution in SiC particle reinforced Al alloy matrix composites by X-ray synchrotron tomography. Acta Materialia, 2010, 58, 6194-6205.	7.9	124

#	Article	IF	Citations
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.	7.8	118
21	Microstructure-based simulation of thermomechanical behavior of composite materials by object-oriented finite element analysis. Materials Characterization, 2002, 49, 395-407.	4.4	114
22	Mechanical properties of Cu6Sn5 intermetallic by micropillar compression testing. Scripta Materialia, 2010, 63, 480-483.	5.2	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.	11.0	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.	7.9	106
25	Effects of cooling rate on creep behavior of a Sn-3.5Ag alloy. Journal of Electronic Materials, 2004, 33, 1596-1607.	2.2	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.	5.6	100
27	Spall strength dependence on grain size and strain rate in tantalum. Acta Materialia, 2018, 158, 313-329.	7.9	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.	2.2	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.	5.6	90
30	Mechanical Behavior of Multilayered Nanoscale Metal-Ceramic Composites. Advanced Engineering Materials, 2005, 7, 1099-1108.	3.5	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.	5.6	86
33	Thermomechanical behaviour of environmentally benign Pb-free solders. International Materials Reviews, 2009, 54, 368-384.	19.3	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.	7.9	86
35	Micropillar compression of Al/SiC nanolaminates. Acta Materialia, 2010, 58, 6628-6636.	7.9	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.	5.5	84

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37	Evaluation of Micro-Pillar Compression Tests for Accurate Determination of Elastic-Plastic Constitutive Relations. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	2.2	82
38	High temperature micropillar compression of Al/SiC nanolaminates. Acta Materialia, 2013, 61, 4439-4451.	7.9	81
39	Fatigue crack initiation and propagation of binder-treated powder metallurgy steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 73-81.	2.2	78
40	Deformation analysis of lap-shear testing of solder joints. Acta Materialia, 2005, 53, 2633-2642.	7.9	77
41	An experimental investigation of the fatigue behavior of sisal fibers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 516, 90-95.	5.6	76
42	Interfacial fracture toughness of Pb-free solders. Microelectronics Reliability, 2009, 49, 269-287.	1.7	76
43	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. Acta Materialia, 2016, 114, 25-32.	7.9	75
44	Understanding fatigue crack growth in aluminum alloys by in situ X-ray synchrotron tomography. International Journal of Fatigue, 2013, 57, 79-85.	5.7	74
45	The effects of cooling rate on microstructure and mechanical behavior of Sn-3.5Ag solder. Jom, 2003, 55, 56-60.	1.9	73
46	Indentation behavior of metalâ€“ceramic multilayers at the nanoscale: Numerical analysis and experimental verification. Acta Materialia, 2010, 58, 2033-2044.	7.9	72
47	Microstructure and mechanical behavior of novel rare earth-containing Pb-Free solders. Journal of Electronic Materials, 2006, 35, 2088-2097.	2.2	68
48	Indentation mechanics and fracture behavior of metal/ceramic nanolaminate composites. Journal of Materials Science, 2008, 43, 4383-4390.	3.7	68
49	Mechanisms for Sn whisker growth in rare earth-containing Pb-free solders. Acta Materialia, 2009, 57, 4588-4599.	7.9	68
50	Modeling the effect of particle clustering on the mechanical behavior of SiC particle reinforced Al matrix composites. Journal of Materials Science, 2006, 41, 5731-5734.	3.7	66
51	In situ X-ray synchrotron tomographic imaging during the compression of hyper-elastic polymeric materials. Journal of Materials Science, 2016, 51, 171-187.	3.7	66
52	Modeling and characterizing anisotropic inclusion orientation in heterogeneous material via directional cluster functions and stochastic microstructure reconstruction. Journal of Applied Physics, 2014, 115, .	2.5	64
53	Accurate modeling and reconstruction of three-dimensional percolating filamentary microstructures from two-dimensional micrographs via dilation-erosion method. Materials Characterization, 2014, 89, 33-42.	4.4	63
54	Three-dimensional microstructure characterization of Ag3Sn intermetallics in Sn-rich solder by serial sectioning. Materials Characterization, 2004, 52, 225-230.	4.4	60

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55	Numerical simulation of the effect of particle spatial distribution and strength on tensile behavior of particle reinforced composites. Computational Materials Science, 2008, 44, 496-506.	3.0	59
56	On the relationship between solder-controlled and intermetallic compound (IMC)-controlled fracture in Sn-based solder joints. Scripta Materialia, 2012, 66, 586-589.	5.2	58
57	Axial fatigue behavior of binder-treated versus diffusion alloyed powder metallurgy steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 308, 180-188.	5.6	57
58	Porous hierarchical TiO2 nanostructures: Processing and microstructure relationships. Acta Materialia, 2009, 57, 854-867.	7.9	57
59	Dendritic morphology of Î±-Mg during the solidification of Mg-based alloys: 3D experimental characterization by X-ray synchrotron tomography and phase-field simulations. Scripta Materialia, 2011, 65, 855-858.	5.2	56
60	Nanoindentation Behavior of Nanolayered Metal-Ceramic Composites. Journal of Materials Engineering and Performance, 2005, 14, 417-423.	2.5	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. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 349-362.	2.2	54
62	Mechanical properties of intermetallic inclusions in Al 7075 alloys by micropillar compression. Intermetallics, 2015, 62, 69-75.	3.9	54
63	Highâ€Frequency Fatigue Behavior of Wovenâ€Fiberâ€Fabricâ€Reinforced Polymerâ€Derived Ceramicâ€Matrix Composites. Journal of the American Ceramic Society, 1998, 81, 1221-1230.	3.8	53
64	Characterization of fatigue behavior of long fiber reinforced thermoplastic (LFT) composites. Materials Characterization, 2009, 60, 537-544.	4.4	53
65	On the Correlation Between Fatigue Striation Spacing and Crack Growth Rate: A Three-Dimensional (3-D) X-ray Synchrotron Tomography Study. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3845-3848.	2.2	53
66	The Effect of Crystallographic Orientation on the Mechanical Behavior of Cu6Sn5 by Micropillar Compression Testing. Journal of Electronic Materials, 2012, 41, 2083-2088.	2.2	53
67	Novel rare-earth-containing lead-free solders with enhanced ductility. Jom, 2006, 58, 57-62.	1.9	52
68	Rate-dependent behavior of Sn alloyâ€“Cu couples: Effects of microstructure and composition on mechanical shock resistance. Acta Materialia, 2012, 60, 4336-4348.	7.9	51
69	Modeling and predicting microstructure evolution in lead/tin alloy via correlation functions and stochastic material reconstruction. Acta Materialia, 2013, 61, 3370-3377.	7.9	51
70	Monotonic and Cyclic Fatigue Behavior of Highâ€Performance Ceramic Fibers. Journal of the American Ceramic Society, 2005, 88, 101-108.	3.8	50
71	Measurement of localized corrosion rates at inclusion particles in AA7075 by in situ three dimensional (3D) X-ray synchrotron tomography. Corrosion Science, 2016, 104, 330-335.	6.6	50
72	Three-dimensional (3D) visualization of reflow porosity and modeling of deformation in Pb-free solder joints. Materials Characterization, 2010, 61, 433-439.	4.4	49

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73	Oxidation Behavior of Rare-Earth-Containing Pb-Free Solders. Journal of Electronic Materials, 2009, 38, 210-220.	2.2	48
74	Prediction of bulk tensile behavior of dual phase stainless steels using constituent behavior from micropillar compression experiments. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 534, 220-227.	5.6	48
75	Microstructural evolution and deformation behavior of Al-Cu alloys: A Transmission X-ray Microscopy (TXM) and micropillar compression study. Acta Materialia, 2018, 144, 419-431.	7.9	47
76	Tailoring TiO2 nanotube growth during anodic oxidation by crystallographic orientation of Ti. Scripta Materialia, 2009, 60, 874-877.	5.2	46
77	Growth orientations and morphologies of Î±-Mg dendrites in Mgâ€“Zn alloys. Scripta Materialia, 2012, 67, 629-632.	5.2	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. International Journal of Fatigue, 2014, 68, 136-143.	5.7	46
79	Microstructure-based modeling of the influence of particle spatial distribution and fracture on crack growth in particle-reinforced composites. Acta Materialia, 2007, 55, 6064-6073.	7.9	45
80	In SituInvestigation of High Humidity Stress Corrosion Cracking of 7075 Aluminum Alloy by Three-Dimensional (3D) X-ray Synchrotron Tomography. Materials Research Letters, 2014, 2, 217-220.	8.7	45
81	Mechanical characterization of microconstituents in a cast duplex stainless steel by micropillar compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 598, 98-105.	5.6	45
82	Temperature-dependent mechanical properties of an austeniticâ€“ferritic stainless steel studied by in situ tensile loading in a scanning electron microscope (SEM). Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 580, 159-168.	5.6	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. Corrosion Science, 2018, 138, 340-352.	6.6	43
84	Diffusivity and micro-hardness of blended cement materials exposed to external sulfate attack. Cement and Concrete Composites, 2012, 34, 76-85.	10.7	42
85	Microscale deformation behavior of bicrystal boundaries in pure tin (Sn) using micropillar compression. Acta Materialia, 2016, 120, 56-67.	7.9	42
86	In situ experimental techniques to study the mechanical behavior of materials using X-ray synchrotron tomography. Integrating Materials and Manufacturing Innovation, 2014, 3, 109-122.	2.6	41
87	Effect of gallium addition on the microstructure and micromechanical properties of constituents in Nb Si based alloys. Journal of Alloys and Compounds, 2017, 704, 89-100.	5.5	40
88	Three-dimensional (3D) visualization and microstructure-based modeling of deformation in a Sn-rich solder. Scripta Materialia, 2006, 54, 1627-1631.	5.2	39
89	Nanoindentation of rare earthâ€“Sn intermetallics in Pb-free solders. Intermetallics, 2010, 18, 1016-1020.	3.9	39
90	Mechanical properties of metal-ceramic nanolaminates: Effect of constraint and temperature. Acta Materialia, 2018, 142, 37-48.	7.9	39

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91	Fatigue crack growth of SiC particle reinforced metal matrix composites. International Journal of Fatigue, 2010, 32, 856-863.	5.7	38
92	Stiffness loss and density decrease due to thermal cycling in an alumina fiber/magnesium alloy composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 203, 75-80.	5.6	37
93	The interactive role of inclusions and SiC reinforcement on the high-cycle fatigue resistance of particle reinforced metal matrix composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 951-957.	2.2	37
94	Three-dimensional (3D) microstructural characterization and quantification of reflow porosity in Sn-rich alloy/copper joints by X-ray tomography. Materials Characterization, 2011, 62, 970-975.	4.4	37
95	Four dimensional (4D) microstructural evolution of Cu6Sn5 intermetallic and voids under electromigration in bi-crystal pure Sn solder joints. Acta Materialia, 2020, 189, 118-128.	7.9	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. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 340-348.	2.2	36
97	Nanomechanics of biocompatible TiO2 nanotubes by Interfacial Force Microscopy (IFM). Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 580-587.	3.1	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. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 2121-2128.	2.2	36
99	Effect of layer thickness on the high temperature mechanical properties of Al/SiC nanolaminates. Thin Solid Films, 2014, 571, 260-267.	1.8	36
100	Development of a lab-scale, high-resolution, tube-generated X-ray computed-tomography system for three-dimensional (3D) materials characterization. Materials Characterization, 2014, 92, 36-48.	4.4	36
101	Three-dimensional (3D) microstructure visualization of LaSn3 intermetallics in a novel Sn-rich rare-earth-containing solder. Materials Characterization, 2008, 59, 1364-1368.	4.4	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. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 610-620.	2.2	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. Journal of Electronic Materials, 2014, 43, 33-42.	2.2	35
104	Cyclic Stress-Strain Behavior of Particle Reinforced Metal Matrix Composites. Scripta Materialia, 1998, 38, 1595-1600.	5.2	34
105	Characterization of nanoindentation damage in metal/ceramic multilayered films by transmission electron microscopy (TEM). Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 2985-2992.	5.6	34
106	Three dimensional microstructural characterization of nanoscale precipitates in AA7075-T651 by focused ion beam (FIB) tomography. Materials Characterization, 2016, 118, 102-111.	4.4	34
107	Automated correlative segmentation of large Transmission X-ray Microscopy (TXM) tomograms using deep learning. Materials Characterization, 2018, 142, 203-210.	4.4	34
108	Correlating macrohardness and tensile behavior in discontinuously reinforced metal matrix composites. Scripta Materialia, 2000, 42, 427-432.	5.2	33

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109	Focused Ion Beam (FIB) tomography of nanoindentation damage in nanoscale metal/ceramic multilayers. Materials Characterization, 2010, 61, 481-488.	4.4	33
110	High-temperature nanoindentation behavior of Al/SiC multilayers. Philosophical Magazine Letters, 2012, 92, 362-367.	1.2	33
111	On the Nature of the Interface between Ag3Sn Intermetallics and Sn in Sn-3.5Ag Solder Alloys. Journal of Electronic Materials, 2007, 36, 1615-1620.	2.2	32
112	Dendritic Growth in Mg-Based Alloys: Phase-Field Simulations and Experimental Verification by X-ray Synchrotron Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 2562-2574.	2.2	32
113	Thermal-shock behavior of a Nicalon-fiber-reinforced hybrid glass-ceramic composite. Composites Science and Technology, 2001, 61, 1923-1930.	7.8	31
114	Effect of overaging and particle size on tensile deformation and fracture of particle-reinforced aluminum matrix composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 3861-3869.	2.2	31
115	Effect of reinforcement-particle-orientation anisotropy on the tensile and fatigue behavior of metal-matrix composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 53-61.	2.2	31
116	Characterization of Damage Evolution in SiC Particle Reinforced Al Alloy Matrix Composites by In-Situ X-Ray Synchrotron Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2999-3005.	2.2	31
117	A microstructure-guided constitutive modeling approach for random heterogeneous materials: Application to structural binders. Computational Materials Science, 2016, 119, 52-64.	3.0	31
118	Mechanical Behavior of Natural Sisal Fibers. Journal of Biobased Materials and Bioenergy, 2010, 4, 106-113.	0.3	31
119	Measurement and prediction of Youngâ€™s modulus of a Pb-free solder. Journal of Materials Science: Materials in Electronics, 2004, 15, 385-388.	2.2	30
120	Elastic properties of metalâ€“ceramic nanolaminates measured by nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 502, 79-84.	5.6	30
121	Mechanical Characterization of Lead-Free Sn-Ag-Cu Solder Joints by High-Temperature Nanoindentation. Journal of Electronic Materials, 2013, 42, 1085-1091.	2.2	30
122	Micromechanical and in situ shear testing of Alâ€“SiC nanolaminate composites in a transmission electron microscope (TEM). Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 621, 229-235.	5.6	30
123	Stochastic Multi-Scale Reconstruction of 3D Microstructure Consisting of Polycrystalline Grains and Second-Phase Particles from 2D Micrographs. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 1440-1450.	2.2	30
124	Effect of porosity and tensionâ€“compression asymmetry on the Bauschinger effect in porous sintered steels. International Journal of Fatigue, 2005, 27, 1233-1243.	5.7	29
125	Mechanical properties of a thermally-aged cast duplex stainless steel by nanoindentation and micropillar compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 743, 520-528.	5.6	29
126	Multiscale investigation of corrosion damage initiation and propagation in AA7075-T651 alloy using correlative microscopy. Corrosion Science, 2021, 185, 109429.	6.6	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). Acta Materialia, 2016, 102, 220-230.	7.9	28
128	3D X-ray microtomography and mechanical characterization of corrosion-induced damage in 7075 aluminium (Al) alloys. Corrosion Science, 2018, 139, 97-113.	6.6	28
129	Surface roughness characterization of Nicalonâ„¢ and HI-Nicalonâ„¢ ceramic fibers by atomic force microscopy. Materials Characterization, 1995, 35, 199-206.	4.4	27
130	An evaluation of the lap-shear test for Sn-rich solder/Cu couples: Experiments and simulation. Journal of Electronic Materials, 2004, 33, 1589-1595.	2.2	27
131	Thermal Fatigue Behavior of Sn-Rich (Pb-Free) Solders. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 799-810.	2.2	27
132	Multiscale microstructural characterization of Sn-rich alloys by three dimensional (3D) X-ray synchrotron tomography and focused ion beam (FIB) tomography. Materials Characterization, 2012, 70, 33-41.	4.4	27
133	Direct extraction of spatial correlation functions from limited x-ray tomography data for microstructural quantification. Materials Characterization, 2018, 140, 265-274.	4.4	27
134	Three Dimensional (3D) Microstructural Characterization and Quantitative Analysis of Solidified Microstructures in Magnesium-Based Alloys. Metallography, Microstructure, and Analysis, 2012, 1, 7-13.	1.0	26
135	Deformation mechanisms of ultra-thin Al layers in Al/SiC nanolaminates as a function of thickness and temperature. Philosophical Magazine, 2016, 96, 3336-3355.	1.6	26
136	In Situ X-ray Microtomography of Stress Corrosion Cracking and Corrosion Fatigue in Aluminum Alloys. Jom, 2017, 69, 1404-1414.	1.9	26
137	Quantifying Electrochemical Reactions and Properties of Amorphous Silicon in a Conventional Lithium-Ion Battery Configuration. Chemistry of Materials, 2017, 29, 5831-5840.	6.7	26
138	Analysis of indentation-derived effective elastic modulus of metal-ceramic multilayers. International Journal of Mechanics and Materials in Design, 2008, 4, 391-398.	3.0	25
139	Mechanical behavior of NiTi shape memory alloy fiber reinforced Sn matrix â€œsmartâ€•composites. Journal of Materials Science, 2009, 44, 700-707.	3.7	25
140	Fatigue crack growth behavior of hybrid and prealloyed sintered steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 491, 28-38.	5.6	24
141	Mechanical properties of microconstituents in Nb-Si-Ti alloy by micropillar compression and nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 687, 99-106.	5.6	24
142	The role of interfacial coatings on the high frequency fatigue behavior of nicalon/C/SiC composites. Scripta Materialia, 1996, 35, 1411-1416.	5.2	23
143	Hybrid and conventional particle reinforced metal matrix composites by squeeze infiltration casting. Journal of Materials Science Letters, 2002, 21, 337-339.	0.5	23
144	Effect of residual surface stress on the fatigue behavior of a low-alloy powder metallurgy steel. International Journal of Fatigue, 2007, 29, 1978-1984.	5.7	23

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145	Interfacial Reactions in Model NiTi Shape Memory Alloy Fiber-Reinforced Sn Matrix â€œSmartâ€• Composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 176-184.	2.2	23
146	Digital image correlation analysis of the deformation behavior of Pb-free solders at intermediate strain rates. Jom, 2010, 62, 16-21.	1.9	23
147	Residual stress characterization of Al/SiC nanoscale multilayers using X-ray synchrotron radiation. Thin Solid Films, 2010, 519, 759-765.	1.8	23
148	Environmental Effects on Fatigue Crack Growth in 7075 Aluminum Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 2799-2809.	2.2	23
149	Image analysis of cracks in the weld metal of a wet welded steel joint by three dimensional (3D) X-ray microtomography. Materials Characterization, 2013, 83, 139-144.	4.4	23
150	Creep deformation behavior of Sn-3.5Ag solder at small length scales. Jom, 2004, 56, 50-54.	1.9	22
151	Scratch resistance of Al/SiC metal/ceramic nanolaminates. Journal of Materials Research, 2012, 27, 278-283.	2.6	22
152	Multiscale 3D characterization of discontinuities in underwater wet welds. Materials Characterization, 2015, 107, 358-366.	4.4	22
153	A Forward Modeling Approach to High-Reliability Grain Mapping by Laboratory Diffraction Contrast Tomography (LabDCT). Jom, 2019, 71, 2695-2704.	1.9	22
154	Xâ€Ray Microtomography of Thermal Cycling Damage in Sintered Nanoâ€Silver Solder Joints. Advanced Engineering Materials, 2019, 21, 1801029.	3.5	22
155	3D Time-Resolved Observations of Fatigue Crack Initiation and Growth from Corrosion Pits in Al 7XXX Alloys Using In Situ Synchrotron X-ray Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 28-41.	2.2	22
156	Bauschinger effect in porous sintered steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 346, 266-272.	5.6	21
157	Cyclic indentation behavior of metalâ€“ceramic nanolayered composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 557, 119-125.	5.6	21
158	Mechanical shock behavior of Snâ€“3.9Agâ€“0.7Cu and Snâ€“3.9Agâ€“0.7Cuâ€“0.5Ce solder joints. Microelectronics Reliability, 2013, 53, 733-740.	1.7	21
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