

Nikhilesh Chawla

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305
papers

9,677
citations

53
h-index

86
g-index

318
ext. papers

10,904
ext. citations

4.2
avg, IF

6.49
L-index

#	Paper	IF	Citations
305	Mechanical Behavior of Particle Reinforced Metal Matrix Composites. <i>Advanced Engineering Materials</i> , 2001 , 3, 357-370	3.5	526
304	Tensile behavior of high performance natural (sisal) fibers. <i>Composites Science and Technology</i> , 2008 , 68, 3438-3443	8.6	263
303	Microstructure and mechanical behavior of porous sintered steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 390, 98-112	5.3	237
302	Deformation behavior of (Cu, Ag) _n intermetallics by nanoindentation. <i>Acta Materialia</i> , 2004 , 52, 4291-4803	4.3	234
301	Three-dimensional visualization and microstructure-based modeling of deformation in particle-reinforced composites. <i>Acta Materialia</i> , 2006 , 54, 1541-1548	8.4	203
300	Microstructure and deformation behavior of biocompatible TiO ₂ nanotubes on titanium substrate. <i>Acta Biomaterialia</i> , 2007 , 3, 359-67	10.8	200
299	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	2.3	192
298	Creep deformation behavior of Sn _{3.5} Ag solder/Cu couple at small length scales. <i>Acta Materialia</i> , 2004 , 52, 4527-4535	8.4	173
297	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	5.6	166
296	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	1.9	159
295	Metal-matrix composites in ground transportation. <i>Jom</i> , 2006 , 58, 67-70	2.1	147
294	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	5.3	129
293	Influence of initial morphology and thickness of Cu ₆ Sn ₅ and Cu ₃ Sn intermetallics on growth and evolution during thermal aging of Sn-Ag solder/Cu joints. <i>Journal of Electronic Materials</i> , 2003 , 32, 1403-1413	1.9	127
292	Young's modulus of (Cu, Ag) _n intermetallics measured by nanoindentation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004 , 364, 240-243	5.3	126
291	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	2.3	124
290	Microstructure-based modeling of the deformation behavior of particle reinforced metal matrix composites. <i>Journal of Materials Science</i> , 2006 , 41, 913-925	4.3	105
289	Microstructure-based modeling of crack growth in particle reinforced composites. <i>Composites Science and Technology</i> , 2006 , 66, 1980-1994	8.6	104

288	Damage evolution in SiC particle reinforced Al alloy matrix composites by X-ray synchrotron tomography. <i>Acta Materialia</i> , 2010 , 58, 6194-6205	8.4	103
287	Effects of cooling rate on creep behavior of a Sn-3.5Ag alloy. <i>Journal of Electronic Materials</i> , 2004 , 33, 1596-1607	1.9	95
286	Microstructure-based simulation of thermomechanical behavior of composite materials by object-oriented finite element analysis. <i>Materials Characterization</i> , 2002 , 49, 395-407	3.9	93
285	Metal Matrix Composites 2013 ,		91
284	Mechanical properties of Cu ₆ Sn ₅ intermetallic by micropillar compression testing. <i>Scripta Materialia</i> , 2010 , 63, 480-483	5.6	90
283	Correlation between tensile and indentation behavior of particle-reinforced metal matrix composites: an experimental and numerical study. <i>Acta Materialia</i> , 2001 , 49, 3219-3229	8.4	88
282	Three dimensional (3D) microstructure-based modeling of interfacial decohesion in particle reinforced metal matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012 , 557, 113-118	5.3	85
281	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	8.6	79
280	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. <i>Acta Materialia</i> , 2012 , 60, 4017-4026	8.4	77
279	Effective properties of a fly ash geopolymer: Synergistic application of X-ray synchrotron tomography, nanoindentation, and homogenization models. <i>Cement and Concrete Research</i> , 2015 , 78, 252-262	10.3	76
278	Thermal expansion anisotropy in extruded SiC particle reinforced 2080 aluminum alloy matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006 , 426, 314-322	5.3	76
277	On the correlation between hardness and tensile strength in particle reinforced metal matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 297, 44-47	5.3	76
276	The effect of matrix microstructure on the tensile and fatigue behavior of SiC particle-reinforced 2080 Al matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2000 , 31, 531-540	2.3	76
275	Micropillar compression of Al/SiC nanolaminates. <i>Acta Materialia</i> , 2010 , 58, 6628-6636	8.4	74
274	3D microstructural characterization and mechanical properties of constituent particles in Al 7075 alloys using X-ray synchrotron tomography and nanoindentation. <i>Journal of Alloys and Compounds</i> , 2014 , 602, 163-174	5.7	73
273	High temperature micropillar compression of Al/SiC nanolaminates. <i>Acta Materialia</i> , 2013 , 61, 4439-4451	8.4	69
272	Thermomechanical behaviour of environmentally benign Pb-free solders. <i>International Materials Reviews</i> , 2009 , 54, 368-384	16.1	69
271	Interfacial fracture toughness of Pb-free solders. <i>Microelectronics Reliability</i> , 2009 , 49, 269-287	1.2	68

270	Evaluation of Micro-Pillar Compression Tests for Accurate Determination of Elastic-Plastic Constitutive Relations. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012 , 79,	2.7	68
269	Mechanical behavior and microstructure characterization of sinter-forged SiC particle reinforced aluminum matrix composites. <i>Journal of Light Metals</i> , 2002 , 2, 215-227		68
268	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	2.3	67
267	The effects of cooling rate on microstructure and mechanical behavior of Sn-3.5Ag solder. <i>Jom</i> , 2003 , 55, 56-60	2.1	65
266	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	5.3	64
265	Indentation behavior of metal/ceramic multilayers at the nanoscale: Numerical analysis and experimental verification. <i>Acta Materialia</i> , 2010 , 58, 2033-2044	8.4	63
264	Deformation analysis of lap-shear testing of solder joints. <i>Acta Materialia</i> , 2005 , 53, 2633-2642	8.4	62
263	Mechanisms for Sn whisker growth in rare earth-containing Pb-free solders. <i>Acta Materialia</i> , 2009 , 57, 4588-4599	8.4	61
262	Microstructure and mechanical behavior of novel rare earth-containing Pb-Free solders. <i>Journal of Electronic Materials</i> , 2006 , 35, 2088-2097	1.9	61
261	Understanding fatigue crack growth in aluminum alloys by in situ X-ray synchrotron tomography. <i>International Journal of Fatigue</i> , 2013 , 57, 79-85	5	60
260	Indentation mechanics and fracture behavior of metal/ceramic nanolaminate composites. <i>Journal of Materials Science</i> , 2008 , 43, 4383-4390	4.3	60
259	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	4.3	60
258	Spall strength dependence on grain size and strain rate in tantalum. <i>Acta Materialia</i> , 2018 , 158, 313-329	8.4	57
257	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	3.9	55
256	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	4.3	54
255	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	5.6	53
254	Three-dimensional microstructure characterization of Ag3Sn intermetallics in Sn-rich solder by serial sectioning. <i>Materials Characterization</i> , 2004 , 52, 225-230	3.9	53
253	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. <i>Acta Materialia</i> , 2016 , 114, 25-32	8.4	51

252	Dendritic morphology of β 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	5.6	51
251	Porous hierarchical TiO ₂ nanostructures: Processing and microstructure relationships. <i>Acta Materialia</i> , 2009 , 57, 854-867	8.4	51
250	Characterization of fatigue behavior of long fiber reinforced thermoplastic (LFT) composites. <i>Materials Characterization</i> , 2009 , 60, 537-544	3.9	50
249	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	3.2	49
248	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	5.3	49
247	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	2.3	48
246	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	2.3	48
245	Novel rare-earth-containing lead-free solders with enhanced ductility. <i>Jom</i> , 2006 , 58, 57-62	2.1	48
244	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	8.4	47
243	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	5.3	45
242	Modeling and predicting microstructure evolution in lead/tin alloy via correlation functions and stochastic material reconstruction. <i>Acta Materialia</i> , 2013 , 61, 3370-3377	8.4	45
241	Nanoindentation behavior of nanolayered metal-ceramic composites. <i>Journal of Materials Engineering and Performance</i> , 2005 , 14, 417-423	1.6	45
240	High-Frequency Fatigue Behavior of Woven-Fiber-Fabric-Reinforced Polymer-Derived Ceramic-Matrix Composites. <i>Journal of the American Ceramic Society</i> , 2005 , 81, 1221-1230	3.8	45
239	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, 093511	2.5	44
238	Growth orientations and morphologies of β Mg dendrites in Mg ₂ Ni alloys. <i>Scripta Materialia</i> , 2012 , 67, 629-632	5.6	42
237	Oxidation Behavior of Rare-Earth-Containing Pb-Free Solders. <i>Journal of Electronic Materials</i> , 2009 , 38, 210-220	1.9	42
236	Three-dimensional (3D) visualization of reflow porosity and modeling of deformation in Pb-free solder joints. <i>Materials Characterization</i> , 2010 , 61, 433-439	3.9	41
235	Monotonic and Cyclic Fatigue Behavior of High-Performance Ceramic Fibers. <i>Journal of the American Ceramic Society</i> , 2004 , 88, 101-108	3.8	41

234	Mechanical properties of intermetallic inclusions in Al 7075 alloys by micropillar compression. <i>Intermetallics</i> , 2015 , 62, 69-75	3.5	40
233	The Effect of Crystallographic Orientation on the Mechanical Behavior of Cu6Sn5 by Micropillar Compression Testing. <i>Journal of Electronic Materials</i> , 2012 , 41, 2083-2088	1.9	40
232	Tailoring TiO2 nanotube growth during anodic oxidation by crystallographic orientation of Ti. <i>Scripta Materialia</i> , 2009 , 60, 874-877	5.6	40
231	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	5	38
230	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	5.3	38
229	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	8.4	37
228	In Situ 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	7.4	36
227	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	5.3	35
226	Nanoindentation of rare earth Sn intermetallics in Pb-free solders. <i>Intermetallics</i> , 2010 , 18, 1016-1020	3.5	35
225	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	2.3	34
224	Three-dimensional (3D) visualization and microstructure-based modeling of deformation in a Sn-rich solder. <i>Scripta Materialia</i> , 2006 , 54, 1627-1631	5.6	34
223	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	2.9	33
222	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	2.3	33
221	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	6.8	32
220	High-temperature nanoindentation behavior of Al/SiC multilayers. <i>Philosophical Magazine Letters</i> , 2012 , 92, 362-367	1	32
219	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	3.9	32
218	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	2.3	32
217	Focused Ion Beam (FIB) tomography of nanoindentation damage in nanoscale metal/ceramic multilayers. <i>Materials Characterization</i> , 2010 , 61, 481-488	3.9	32

216	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	5.3	32
215	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	5.3	32
214	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	8.4	32
213	Nanomechanics of biocompatible TiO ₂ nanotubes by Interfacial Force Microscopy (IFM). <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009 , 2, 580-7	4.1	31
212	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	3.9	31
211	Microscale deformation behavior of bicrystal boundaries in pure tin (Sn) using micropillar compression. <i>Acta Materialia</i> , 2016 , 120, 56-67	8.4	30
210	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	2.3	30
209	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	2.3	30
208	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	6.8	29
207	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	3.9	29
206	Diffusivity and micro-hardness of blended cement materials exposed to external sulfate attack. <i>Cement and Concrete Composites</i> , 2012 , 34, 76-85	8.6	29
205	Fatigue crack growth of SiC particle reinforced metal matrix composites. <i>International Journal of Fatigue</i> , 2010 , 32, 856-863	5	28
204	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	1.9	28
203	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	2.1	28
202	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	2.3	27
201	Effect of layer thickness on the high temperature mechanical properties of Al/SiC nanolaminates. <i>Thin Solid Films</i> , 2014 , 571, 260-267	2.2	27
200	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	1.9	27
199	Cyclic Stress-Strain Behavior of Particle Reinforced Metal Matrix Composites. <i>Scripta Materialia</i> , 1998 , 38, 1595-1600	5.6	27

198	Three dimensional microstructural characterization of nanoscale precipitates in AA7075-T651 by focused ion beam (FIB) tomography. <i>Materials Characterization</i> , 2016 , 118, 102-111	3.9	27
197	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	2.3	26
196	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	2.3	26
195	Correlating macrohardness and tensile behavior in discontinuously reinforced metal matrix composites. <i>Scripta Materialia</i> , 2000 , 42, 427-432	5.6	26
194	A microstructure-guided constitutive modeling approach for random heterogeneous materials: Application to structural binders. <i>Computational Materials Science</i> , 2016 , 119, 52-64	3.2	26
193	Mechanical properties of metal-ceramic nanolaminates: Effect of constraint and temperature. <i>Acta Materialia</i> , 2018 , 142, 37-48	8.4	25
192	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	5.3	25
191	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	5	25
190	Micromechanical and in situ shear testing of AlSiC nanolaminate composites in a transmission electron microscope (TEM). <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 621, 229-235	5.3	24
189	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	3.9	24
188	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	1.1	24
187	Mechanical Behavior of Natural Sisal Fibers. <i>Journal of Biobased Materials and Bioenergy</i> , 2010 , 4, 106-113	3.4	24
186	Quantifying Electrochemical Reactions and Properties of Amorphous Silicon in a Conventional Lithium-Ion Battery Configuration. <i>Chemistry of Materials</i> , 2017 , 29, 5831-5840	9.6	23
185	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	2.5	23
184	Automated correlative segmentation of large Transmission X-ray Microscopy (TXM) tomograms using deep learning. <i>Materials Characterization</i> , 2018 , 142, 203-210	3.9	22
183	Mechanical Characterization of Lead-Free Sn-Ag-Cu Solder Joints by High-Temperature Nanoindentation. <i>Journal of Electronic Materials</i> , 2013 , 42, 1085-1091	1.9	22
182	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	5	22
181	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	5.3	22

180	Creep deformation behavior of Sn-3.5Ag solder at small length scales. <i>Jom</i> , 2004 , 56, 50-54	2.1	22
179	Thermal-shock behavior of a Nicalon-fiber-reinforced hybrid glass-ceramic composite. <i>Composites Science and Technology</i> , 2001 , 61, 1923-1930	8.6	22
178	Surface roughness characterization of Nicalon [®] and HI-Nicalon [®] ceramic fibers by atomic force microscopy. <i>Materials Characterization</i> , 1995 , 35, 199-206	3.9	22
177	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	2.3	22
176	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	8.4	21
175	Digital image correlation analysis of the deformation behavior of Pb-free solders at intermediate strain rates. <i>Jom</i> , 2010 , 62, 16-21	2.1	21
174	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	1.9	21
173	Effect of gallium addition on the microstructure and micromechanical properties of constituents in NbSi based alloys. <i>Journal of Alloys and Compounds</i> , 2017 , 704, 89-100	5.7	20
172	Image analysis of cracks in the weld metal of a wet welded steel joint by three dimensional (3D) X-ray microtomography. <i>Materials Characterization</i> , 2013 , 83, 139-144	3.9	20
171	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	2.3	20
170	The role of interfacial coatings on the high frequency fatigue behavior of nicalon/C/SiC composites. <i>Scripta Materialia</i> , 1996 , 35, 1411-1416	5.6	20
169	Multiscale 3D characterization of discontinuities in underwater wet welds. <i>Materials Characterization</i> , 2015 , 107, 358-366	3.9	19
168	Scratch resistance of Al/SiC metal/ceramic nanolaminates. <i>Journal of Materials Research</i> , 2012 , 27, 278-283		19
167	Residual stress characterization of Al/SiC nanoscale multilayers using X-ray synchrotron radiation. <i>Thin Solid Films</i> , 2010 , 519, 759-765	2.2	19
166	Hybrid and conventional particle reinforced metal matrix composites by squeeze infiltration casting. <i>Journal of Materials Science Letters</i> , 2002 , 21, 337-339		19
165	In Situ X-ray Microtomography of Stress Corrosion Cracking and Corrosion Fatigue in Aluminum Alloys. <i>Jom</i> , 2017 , 69, 1404-1414	2.1	18
164	Cyclic indentation behavior of metal/ceramic nanolayered composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012 , 557, 119-125	5.3	18
163	Mechanical behavior of NiTi shape memory alloy fiber reinforced Sn matrix "smart" composites. <i>Journal of Materials Science</i> , 2009 , 44, 700-707	4.3	18

162	Interfacial Reactions in Model NiTi Shape Memory Alloy Fiber-Reinforced Sn Matrix β martensite Composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009 , 40, 176-184	2.3	18
161	Bauschinger effect in porous sintered steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003 , 346, 266-272	5.3	18
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