

# Nikhilesh Chawla

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Tensile and fracture behavior of silica fibers from the Venus flower basket ( <i>Euplectella aspergillum</i> ). <i>International Journal of Solids and Structures</i> , <b>2022</b> , 111622	3.1	0
304	Parametric optimization of corner radius in hexagonal honeycombs under in-plane compression. <i>Journal of Manufacturing Processes</i> , <b>2022</b> , 79, 35-46	5	0
303	Microstructural Coarsening and Mechanical Properties of Eutectic Sn-58Bi Solder Joint During Aging. <i>Journal of Electronic Materials</i> , <b>2021</b> , 50, 6607	1.9	0
302	Poisson's ratio of eTPU molded bead foams in compression via in situ synchrotron X-ray microtomography. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 12920-12935	4.3	1
301	Reducing the risk of rostral bending failure in <i>Curculio Linnaeus</i> , 1758. <i>Acta Biomaterialia</i> , <b>2021</b> , 126, 350-371	10.8	0
300	Machine-Learning-based Algorithms for Automated Image Segmentation Techniques of Transmission X-ray Microscopy (TXM). <i>Jom</i> , <b>2021</b> , 73, 2173-2184	2.1	3
299	Rheology scaling of spherical metal powders dispersed in thermoplastics and its correlation to the extrudability of filaments for 3D printing. <i>Additive Manufacturing</i> , <b>2021</b> , 41, 101967	6.1	3
298	Multiscale investigation of corrosion damage initiation and propagation in AA7075-T651 alloy using correlative microscopy. <i>Corrosion Science</i> , <b>2021</b> , 185, 109429	6.8	8
297	Effect of Trace Addition of In on Sn-Cu Solder Joint Microstructure Under Electromigration. <i>Journal of Electronic Materials</i> , <b>2021</b> , 50, 893-902	1.9	2
296	In situ X-ray microtomography of the compression behaviour of eTPU bead foams with a unique graded structure. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 5082-5099	4.3	2
295	Chromophore-Free Sealing and Repair of Soft Tissues Using Mid-Infrared Light-Activated Biosealants. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2007811	15.6	2
294	X-ray computer tomography (XCT) of fatigue damage in laser-machined versus milled carbon fiber reinforced polymer matrix composites. <i>Engineering Fracture Mechanics</i> , <b>2021</b> , 252, 107820	4.2	0
293	4D microstructural characterization of corrosion and corrosion-fatigue in a Ti6Al4V / AA 7075-T651 joint in saltwater environment. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 825, 141886	5.3	1
292	Activation Energy for End-of-Life Solder Bond Degradation: Thermal Cycling of Field-Aged PV Modules. <i>IEEE Journal of Photovoltaics</i> , <b>2020</b> , 10, 1762-1771	3.7	5
291	Synchrotron CT imaging of lattice structures with engineered defects. <i>Journal of Materials Science</i> , <b>2020</b> , 55, 11353-11366	4.3	4
290	Fracture Analysis of Particulate Metal Matrix Composite Using X-ray Tomography and Extended Finite Element Method (XFEM). <i>Journal of Composites Science</i> , <b>2020</b> , 4, 62	3	
289	Four dimensional (4D) microstructural evolution of Cu6Sn5 intermetallic and voids under electromigration in bi-crystal pure Sn solder joints. <i>Acta Materialia</i> , <b>2020</b> , 189, 118-128	8.4	16

288	Influence of Substrate Surface Finish Metallurgy on Lead-Free Solder Joint Microstructure with Implications for Board-Level Reliability. <i>Journal of Electronic Materials</i> , <b>2020</b> , 49, 3251-3258	1.9	2
287	Ligand Crosslinking Boosts Thermal Transport in Colloidal Nanocrystal Solids. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 9556-9563	16.4	6
286	Powder bed packing and API content homogeneity of granules in single drop granule formation. <i>Powder Technology</i> , <b>2020</b> , 366, 12-21	5.2	1
285	Unveiling the deformation behavior and strengthening mechanisms of Al <sub>3</sub> BC/Al composites via in-situ micropillar compression. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 823, 153842	5.7	1
284	Direct observations of microstructure-resolved corrosion initiation in AA7075-T651 at the nanoscale using vertical scanning interferometry (VSI). <i>Materials Characterization</i> , <b>2020</b> , 161, 110166	3.9	8
283	Mechanical properties of Al <sub>3</sub> BC by nanoindentation and micropillar compression. <i>Materials Letters</i> , <b>2020</b> , 264, 127361	3.3	1
282	Ligand Crosslinking Boosts Thermal Transport in Colloidal Nanocrystal Solids. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 9643-9650	3.6	2
281	3D Time-Resolved Observations of Fatigue Crack Initiation and Growth from Corrosion Pits in Al 7XXX Alloys Using In Situ Synchrotron X-ray Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2020</b> , 51, 28-41	2.3	11
280	Electromigration in Bi-crystal pure Sn solder joints: Elucidating the role of grain orientation. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 818, 152918	5.7	8
279	Mechanisms of thermal cycling damage in polycrystalline Sn-rich solder joints. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 771, 138614	5.3	3
278	Micromechanical properties and deformation behavior of Al <sub>3</sub> BC/6061 Al composites via micropillar compression. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 773, 138852	5.3	9
277	Nanomechanical characterization of the fracture toughness of Al/SiC nanolaminates. <i>Extreme Mechanics Letters</i> , <b>2020</b> , 40, 100945	3.9	3
276	Bioinspired Honeycomb Core Design: An Experimental Study of the Role of Corner Radius, Coping and Interface. <i>Biomimetics</i> , <b>2020</b> , 5,	3.7	6
275	3D grain structure of an extruded 6061 Al alloy by lab-scale X-ray diffraction contrast tomography (DCT). <i>Materials Characterization</i> , <b>2020</b> , 170, 110716	3.9	3
274	Effect of Component Flexibility During Thermal Cycling of Sintered Nano-Silver Joints by X-ray Microtomography. <i>Journal of Electronic Materials</i> , <b>2020</b> , 49, 241-244	1.9	1
273	Avoidance of Catastrophic Structural Failure as an Evolutionary Constraint: Biomechanics of the Acorn Weevil Rostrum. <i>Advanced Materials</i> , <b>2019</b> , 31, e1903526	24	5
272	Microstructural characterization and mechanical property prediction of a polymer matrix composite by X-ray synchrotron tomography and spatial correlation functions. <i>SN Applied Sciences</i> , <b>2019</b> , 1, 1	1.8	3
271	X-Ray Microtomography of Thermal Cycling Damage in Sintered Nano-Silver Solder Joints. <i>Advanced Engineering Materials</i> , <b>2019</b> , 21, 1801029	3.5	12

270	In situ micropillar compression of Al/SiC nanolaminates using laboratory-based nanoscale X-ray microscopy: Effect of nanopores on mechanical behavior. <i>Materials Characterization</i> , <b>2019</b> , 150, 207-212	3.9	5
269	A Forward Modeling Approach to High-Reliability Grain Mapping by Laboratory Diffraction Contrast Tomography (LabDCT). <i>Jom</i> , <b>2019</b> , 71, 2695-2704	2.1	11
268	Probing Material Morphology and Deformation as a Response to in situ Loading using X-ray Tomography. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 374-375	0.5	
267	Exploring novel deformation mechanisms in aluminum-copper alloys using in situ 4D nanomechanical testing. <i>Acta Materialia</i> , <b>2019</b> , 176, 242-249	8.4	11
266	3D/4D X-Ray Microtomography: Probing the Mechanical Behavior of Materials <b>2019</b> , 2013-2033		
265	Three-Dimensional (3D) Microstructure-Based Modeling of a Thermally-Aged Cast Duplex Stainless Steel Based on X-ray Microtomography, Nanoindentation and Micropillar Compression. <i>Metals</i> , <b>2019</b> , 9, 688	2.3	1
264	Hierarchical n-point polytope functions for quantitative representation of complex heterogeneous materials and microstructural evolution. <i>Acta Materialia</i> , <b>2019</b> , 179, 317-327	8.4	12
263	Microstructure and mechanical properties of co-sputtered Al-SiC composites. <i>Materials and Design</i> , <b>2019</b> , 168, 107670	8.1	7
262	In situ Four Dimensional (4D) X-ray Microtomography of the Compressive Behavior of eTPU Foam for High Performance Footwear. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 364-365	0.5	2
261	Microstructure and micropore formation in a centrifugally-cast duplex stainless steel via X-ray microtomography. <i>Materials Characterization</i> , <b>2019</b> , 148, 52-62	3.9	9
260	Mechanical properties of a thermally-aged cast duplex stainless steel by nanoindentation and micropillar compression. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 743, 520-528	5.3	15
259	Nucleation and Growth of Tin Hillocks by In Situ Nanoindentation. <i>Journal of Electronic Materials</i> , <b>2019</b> , 48, 58-71	1.9	7
258	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> , <b>2018</b> , 138, 340-352	6.8	29
257	Direct extraction of spatial correlation functions from limited x-ray tomography data for microstructural quantification. <i>Materials Characterization</i> , <b>2018</b> , 140, 265-274	3.9	13
256	Mechanical properties of metal-ceramic nanolaminates: Effect of constraint and temperature. <i>Acta Materialia</i> , <b>2018</b> , 142, 37-48	8.4	25
255	Automated correlative segmentation of large Transmission X-ray Microscopy (TXM) tomograms using deep learning. <i>Materials Characterization</i> , <b>2018</b> , 142, 203-210	3.9	22
254	Spall strength dependence on grain size and strain rate in tantalum. <i>Acta Materialia</i> , <b>2018</b> , 158, 313-329	8.4	57
253	In situ Imaging of Materials using X-ray Tomography. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 1002-1003	0.5	1

252	3D/4D X-Ray Microtomography: Probing the Mechanical Behavior of Materials <b>2018</b> , 1-21		
251	Microstructural evolution and deformation behavior of Al-Cu alloys: A Transmission X-ray Microscopy (TXM) and micropillar compression study. <i>Acta Materialia</i> , <b>2018</b> , 144, 419-431	8.4	32
250	Data Challenges of In Situ X-Ray Tomography for Materials Discovery and Characterization. <i>Springer Series in Materials Science</i> , <b>2018</b> , 129-165	0.9	3
249	Granule formation and structure from single drop impact on heterogeneous powder beds. <i>International Journal of Pharmaceutics</i> , <b>2018</b> , 552, 56-66	6.5	13
248	1.1 Fibrous Reinforcements for Composites <b>2018</b> , 1-12		0
247	3D X-ray microtomography and mechanical characterization of corrosion-induced damage in 7075 aluminium (Al) alloys. <i>Corrosion Science</i> , <b>2018</b> , 139, 97-113	6.8	17
246	Effect of gallium addition on the microstructure and micromechanical properties of constituents in NbSi based alloys. <i>Journal of Alloys and Compounds</i> , <b>2017</b> , 704, 89-100	5.7	20
245	Crack bridging modelling in Bioglass □ based scaffolds reinforced by poly-vinyl alcohol/microfibrillated cellulose composite coating. <i>Mechanics of Materials</i> , <b>2017</b> , 110, 16-28	3.3	3
244	In Situ X-ray Microtomography of Stress Corrosion Cracking and Corrosion Fatigue in Aluminum Alloys. <i>Jom</i> , <b>2017</b> , 69, 1404-1414	2.1	18
243	Effective Constitutive Response of Sustainable Next Generation Infrastructure Materials through High-Fidelity Experiments and Numerical Simulation. <i>Procedia Engineering</i> , <b>2017</b> , 173, 1258-1265		
242	Understanding Nanoscale 4D Microstructural Evolution in Aluminum Alloys using Transmission X-Ray Microscopy (TXM). <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 2220-2221	0.5	1
241	Probing Novel Microstructural Evolution Mechanisms in Aluminum Alloys Using 4D Nanoscale Characterization. <i>Advanced Materials</i> , <b>2017</b> , 29, 1703482	24	16
240	In situ tensile testing of tin (Sn) whiskers in a focused ion beam (FIB)/scanning electron microscope (SEM). <i>Microelectronics Reliability</i> , <b>2017</b> , 79, 314-320	1.2	8
239	Analysis of thermal history effects on mechanical anisotropy of 3D-printed polymer matrix composites via in situ X-ray tomography. <i>Journal of Materials Science</i> , <b>2017</b> , 52, 12185-12206	4.3	13
238	Quantifying Electrochemical Reactions and Properties of Amorphous Silicon in a Conventional Lithium-Ion Battery Configuration. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 5831-5840	9.6	23
237	Multimodal 3D Time-Lapse Studies of Corrosion Pitting and Corrosion-Fatigue Behavior in 7475 Aluminum Alloys. <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 324-325	0.5	1
236	Mechanical properties of microconstituents in Nb-Si-Ti alloy by micropillar compression and nanoindentation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 687, 99-106	5.3	14
235	Microstructural Quantification and Property Prediction Using Limited X-ray Tomography Data. <i>Jom</i> , <b>2016</b> , 68, 2288-2295	2.1	6

234	Microscale deformation behavior of bicrystal boundaries in pure tin (Sn) using micropillar compression. <i>Acta Materialia</i> , <b>2016</b> , 120, 56-67	8.4	30
233	Geometry segmentation of voxelized representations of heterogeneous microstructures using betweenness centrality. <i>Materials Characterization</i> , <b>2016</b> , 118, 553-559	3.9	2
232	Deformation mechanisms of ultra-thin Al layers in Al/SiC nanolaminates as a function of thickness and temperature. <i>Philosophical Magazine</i> , <b>2016</b> , 96, 3336-3355	1.6	16
231	Accurate stochastic reconstruction of heterogeneous microstructures by limited x-ray tomographic projections. <i>Journal of Microscopy</i> , <b>2016</b> , 264, 339-350	1.9	15
230	Hydrogen permeability and mechanical properties of NiNb-M (M=Sn, Ti and Zr) amorphous metallic membranes. <i>Journal of Alloys and Compounds</i> , <b>2016</b> , 684, 359-365	5.7	3
229	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. <i>Acta Materialia</i> , <b>2016</b> , 114, 25-32	8.4	51
228	Microstructure and nanoindentation of the rostrum of <i>Curculio longinasus</i> Chittenden, 1927 (Coleoptera: Curculionidae). <i>Materials Characterization</i> , <b>2016</b> , 118, 206-211	3.9	16
227	Measurement of localized corrosion rates at inclusion particles in AA7075 by in situ three dimensional (3D) X-ray synchrotron tomography. <i>Corrosion Science</i> , <b>2016</b> , 104, 330-335	6.8	32
226	Orientation dependence of indentation behavior in AlSiC nanolaminate composites. <i>Materials Letters</i> , <b>2016</b> , 168, 129-133	3.3	12
225	In situ X-ray synchrotron tomographic imaging during the compression of hyper-elastic polymeric materials. <i>Journal of Materials Science</i> , <b>2016</b> , 51, 171-187	4.3	54
224	Electromigration mechanisms in Sn-0.7Cu/Cu couples by four dimensional (4D) X-ray microtomography and electron backscatter diffraction (EBSD). <i>Acta Materialia</i> , <b>2016</b> , 102, 220-230	8.4	21
223	Applying Pattern Recognition to the Analysis of X-ray Computed Tomography Data of Polymer Foams. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 104-105	0.5	1
222	Nanoscale Three-Dimensional Microstructural Characterization of an Sn-Rich Solder Alloy Using High-Resolution Transmission X-Ray Microscopy (TXM). <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 808-13	0.5	7
221	Three dimensional microstructural characterization of nanoscale precipitates in AA7075-T651 by focused ion beam (FIB) tomography. <i>Materials Characterization</i> , <b>2016</b> , 118, 102-111	3.9	27
220	A multilayer micromechanical model of the cuticle of <i>Curculio longinasus</i> Chittenden, 1927 (Coleoptera: Curculionidae). <i>Journal of Structural Biology</i> , <b>2016</b> , 195, 139-158	3.4	10
219	A microstructure-guided constitutive modeling approach for random heterogeneous materials: Application to structural binders. <i>Computational Materials Science</i> , <b>2016</b> , 119, 52-64	3.2	26
218	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> , <b>2016</b> , 47, 1440-1450	2.3	22
217	Metal Matrix Composites <b>2016</b> , 1-29		

216	Three dimensional (3D) microstructure-based finite element modeling of Al-SiC nanolaminates using focused ion beam (FIB) tomography. <i>Materials Characterization</i> , <b>2016</b> , 120, 369-376	3.9	10
215	Three Dimensional Characterization of Tin Crystallography and Cu <sub>6</sub> Sn <sub>5</sub> Intermetallics in Solder Joints by Multiscale Tomography. <i>Jom</i> , <b>2016</b> , 68, 2879-2887	2.1	5
214	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> , <b>2016</b> , 73, 29-41	8.6	79
213	Rapid method for testing efficacy of nano-engineered coatings for mitigating tin whisker growth. <i>Microelectronics Reliability</i> , <b>2015</b> , 55, 832-837	1.2	7
212	Modeling and characterization of X-ray yield in a polychromatic, lab-scale, X-ray computed tomography system. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , <b>2015</b> , 783, 110-116	1.2	5
211	Mechanical properties of intermetallic inclusions in Al 7075 alloys by micropillar compression. <i>Intermetallics</i> , <b>2015</b> , 62, 69-75	3.5	40
210	Full elastic constants of Cu 6 Sn 5 intermetallic by Resonant Ultrasound Spectroscopy (RUS) and ab initio calculations. <i>Scripta Materialia</i> , <b>2015</b> , 107, 26-29	5.6	7
209	Multiscale 3D characterization of discontinuities in underwater wet welds. <i>Materials Characterization</i> , <b>2015</b> , 107, 358-366	3.9	19
208	In situ fixture for multi-modal characterization during electromigration and thermal testing of wire-like microscale specimens. <i>Microelectronics Reliability</i> , <b>2015</b> , 55, 2345-2353	1.2	3
207	Effective properties of a fly ash geopolymer: Synergistic application of X-ray synchrotron tomography, nanoindentation, and homogenization models. <i>Cement and Concrete Research</i> , <b>2015</b> , 78, 252-262	10.3	76
206	Micromechanical and in situ shear testing of AlBiC nanolaminate composites in a transmission electron microscope (TEM). <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2015</b> , 621, 229-235	5.3	24
205	Synchrotron-Based X-ray Computed Tomography During Compression Loading of Cellular Materials. <i>Microscopy Today</i> , <b>2015</b> , 23, 12-19	0.4	8
204	Micro-scale X-ray Computed Tomography of Additively Manufactured Cellular Materials under Uniaxial Compression. <i>Microscopy and Microanalysis</i> , <b>2015</b> , 21, 129-130	0.5	
203	A method for zinger artifact reduction in high-energy x-ray computed tomography. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , <b>2015</b> , 800, 82-92	1.2	3
202	High-Temperature Micropillar Compression Creep Testing of Constituent Phases in Lead-Free Solder. <i>Advanced Engineering Materials</i> , <b>2015</b> , 17, 1168-1174	3.5	6
201	Automated Correlative Tomography of an Aluminum 7075 Alloy Spanning Length Scales and Modalities. <i>Microscopy and Microanalysis</i> , <b>2015</b> , 21, 1345-1346	0.5	
200	Characterisation of thermal cycling induced cavitation in particle reinforced metal matrix composites by three-dimensional (3D) X-ray synchrotron tomography. <i>Materials Science and Technology</i> , <b>2015</b> , 31, 573-578	1.5	17
199	Tensile Behavior of Single-Crystal Tin Whiskers. <i>Journal of Electronic Materials</i> , <b>2014</b> , 43, 978-982	1.9	8

198	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> , <b>2014</b> , 45, 2562-2574	2.3	27
197	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> , <b>2014</b> , 602, 163-174	5.7	73
196	Mechanical characterization of microconstituents in a cast duplex stainless steel by micropillar compression. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2014</b> , 598, 98-105	5.3	35
195	Reconstruction of heterogeneous materials via stochastic optimization of limited-angle X-ray tomographic projections. <i>Scripta Materialia</i> , <b>2014</b> , 86, 48-51	5.6	17
194	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> , <b>2014</b> , 68, 136-143	5	38
193	Three dimensional modeling of complex heterogeneous materials via statistical microstructural descriptors. <i>Integrating Materials and Manufacturing Innovation</i> , <b>2014</b> , 3, 25-43	2.9	11
192	Metal Matrix Composites: Automotive Applications <b>2014</b> , 1-6		5
191	In-situ Compression Imaging of Polymer Foams using Synchrotron X-ray Computed Tomography. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 672-673	0.5	
190	Microstructure-Based Modeling of Deformation in Steels Based on Constitutive Relationships from Micropillar Compression. <i>Steel Research International</i> , <b>2014</b> , 85, 946-953	1.6	8
189	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> , <b>2014</b> , 2, 217-220	7.4	36
188	A Study of Pb-Rich Dendrites in a Near-Eutectic 63Sn-37Pb Solder Microstructure via Laboratory-Scale Micro X-ray Computed Tomography (µCT). <i>Journal of Electronic Materials</i> , <b>2014</b> , 43, 4442-4456	1.9	10
187	A study of EM failure in a micro-scale Pb-free solder joint using a custom lab-scale x-ray computed tomography system <b>2014</b> ,		2
186	Efficient methods for implicit geometrical representation of complex material microstructures. <i>International Journal for Numerical Methods in Engineering</i> , <b>2014</b> , 98, 79-91	2.4	5
185	Note: design and construction of a multi-scale, high-resolution, tube-generated x-ray computed-tomography system for three-dimensional (3D) imaging. <i>Review of Scientific Instruments</i> , <b>2014</b> , 85, 016103	1.7	11
184	Modeling and characterizing anisotropic inclusion orientation in heterogeneous material via directional cluster functions and stochastic microstructure reconstruction. <i>Journal of Applied Physics</i> , <b>2014</b> , 115, 093511	2.5	44
183	Effect of layer thickness on the high temperature mechanical properties of Al/SiC nanolaminates. <i>Thin Solid Films</i> , <b>2014</b> , 571, 260-267	2.2	27
182	In situ experimental techniques to study the mechanical behavior of materials using X-ray synchrotron tomography. <i>Integrating Materials and Manufacturing Innovation</i> , <b>2014</b> , 3, 109-122	2.9	33
181	Fractography of a neck failure in a double-modular hip implant. <i>Case Studies in Engineering Failure Analysis</i> , <b>2014</b> , 2, 45-50		14



180	Accurate modeling and reconstruction of three-dimensional percolating filamentary microstructures from two-dimensional micrographs via dilation-erosion method. <i>Materials Characterization</i> , <b>2014</b> , 89, 33-42	3.9	55
179	Development of a lab-scale, high-resolution, tube-generated X-ray computed-tomography system for three-dimensional (3D) materials characterization. <i>Materials Characterization</i> , <b>2014</b> , 92, 36-48	3.9	29
178	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> , <b>2014</b> , 43, 33-42	1.9	27
177	Effect of cerium addition on wetting, undercooling, and mechanical properties of Sn-3.9Ag-0.7Cu Pb-free solder alloys. <i>Journal of Materials Science: Materials in Electronics</i> , <b>2013</b> , 24, 3456-3466	2.1	7
176	Extracting Constitutive Stress-Strain Behavior of Microscopic Phases by Micropillar Compression. <i>Jom</i> , <b>2013</b> , 65, 226-233	2.1	14
175	Enhancing the Ductility of Sn-Ag-Cu Lead-Free Solder Joints by Addition of Compliant Intermetallics. <i>Journal of Electronic Materials</i> , <b>2013</b> , 42, 527-536	1.9	11
174	Characterization and Adhesion in Cu/Ru/SiO <sub>2</sub> /Si Multilayer Nano-scale Structure for Cu Metallization. <i>Journal of Materials Engineering and Performance</i> , <b>2013</b> , 22, 1085-1090	1.6	1
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164	Mechanical Characterization of Lead-Free Sn-Ag-Cu Solder Joints by High-Temperature Nanoindentation. <i>Journal of Electronic Materials</i> , <b>2013</b> , 42, 1085-1091	1.9	22
163	Fatigue and fracture of powder metallurgy steels <b>2013</b> , 455-490		2

162	In Situ Three Dimensional (3D) X-Ray Synchrotron Tomography of Corrosion Fatigue in Al7075 Alloy <b>2013</b> , 17-25		2
161	Reinforcements <b>2013</b> , 5-36		
160	Cyclic Fatigue <b>2013</b> , 227-282		
159	Processing <b>2013</b> , 55-97		1
158	Creep <b>2013</b> , 283-309		1
157	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> , <b>2012</b> , 70, 33-41	3.9	24
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35	The effects of cooling rate on microstructure and mechanical behavior of Sn-3.5Ag solder. <i>Jom</i> , <b>2003</b> , 55, 56-60	2.1	65
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31	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> , <b>2002</b> , 33, 3861-3869	2.3	26
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