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List of Publications by Citations

286 papers	11,354 citations	55 h-index	95 g-index
297 ext. papers	12,801 ext. citations	4.8 avg, IF	6.58 L-index

#	Paper	IF	Citations
286	Quantitative X-ray tomography. *International Materials Reviews*, **2014**, 59, 1-43	16.1	767
285	Strong, tough and stiff bioinspired ceramics from brittle constituents. *Nature Materials*, **2014**, 13, 508-14	27	550
284	X-ray micro-tomography an attractive characterisation technique in materials science. *Nuclear Instruments & Methods in Physics Research B*, **2003**, 200, 273-286	1.2	340
283	In Situ Experiments with X ray Tomography: an Attractive Tool for Experimental Mechanics. *Experimental Mechanics*, **2010**, 50, 289-305	2.6	331
282	Finite element modelling of the actual structure of cellular materials determined by X-ray tomography. *Acta Materialia*, **2005**, 53, 719-730	8.4	253
281	Experimental study of porosity and its relation to fatigue mechanisms of model Al Si7 Mg0.3 cast Al alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2001**, 316, 115-126	5.3	237
280	On the Application of X-ray Microtomography in the Field of Materials Science. *Advanced Engineering Materials*, **2001**, 3, 539	3.5	226
279	Characterization of internal damage in a MMCp using X-ray synchrotron phase contrast microtomography. *Acta Materialia*, **1999**, 47, 1613-1625	8.4	209
278	Initiation and growth of damage in a dual-phase steel observed by X-ray microtomography. *Acta Materialia*, **2008**, 56, 4954-4964	8.4	208
277	Metastable and unstable cellular solidification of colloidal suspensions. *Nature Materials*, **2009**, 8, 966-72	27	174
276	X-ray tomography applied to the characterization of cellular materials. Related finite element modeling problems. *Composites Science and Technology*, **2003**, 63, 2431-2443	8.6	172
275	A 3D measurement procedure for internal local crack driving forces via synchrotron X-ray microtomography. *Acta Materialia*, **2004**, 52, 1305-1317	8.4	164
274	Nanoscale zoom tomography with hard x rays using Kirkpatrick-Baez optics. *Applied Physics Letters*, **2007**, 90, 144104	3.4	161
273	Advances in synchrotron radiation microtomography. *Scripta Materialia*, **2006**, 55, 41-46	5.6	146
272	Characterization by X-ray computed tomography of decohesion, porosity growth and coalescence in model metal matrix composites. *Acta Materialia*, **2001**, 49, 2055-2063	8.4	145
271	Characterization of the morphology of cellular ceramics by 3D image processing of X-ray tomography. *Journal of the European Ceramic Society*, **2007**, 27, 1973-1981	6	142
270	Simulation and tomography analysis of textile composite reinforcement deformation at the mesoscopic scale. *Composites Science and Technology*, **2008**, 68, 2433-2440	8.6	138

269	On the competition between particle fracture and particle decohesion in metal matrix composites. *Acta Materialia*, **2004**, 52, 4517-4525	8.4	134
268	Visualization by X-ray tomography of void growth and coalescence leading to fracture in model materials. *Acta Materialia*, **2008**, 56, 2919-2928	8.4	129
267	Validation of void growth models using X-ray microtomography characterization of damage in dual phase steels. *Acta Materialia*, **2011**, 59, 7564-7573	8.4	120
266	Damage initiation in model metallic materials: X-ray tomography and modelling. *Acta Materialia*, **2004**, 52, 2475-2487	8.4	116
265	Relationship between internal porosity and fracture strength of die-cast magnesium AM60B alloy. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2005**, 395, 315-322	5.3	111
264	Meso-scale FE analyses of textile composite reinforcement deformation based on X-ray computed tomography. *Composite Structures*, **2014**, 116, 165-176	5.3	109
263	Characterization and modeling of void nucleation by interface decohesion in dual phase steels. *Scripta Materialia*, **2010**, 63, 973-976	5.6	107
262	In situ X-ray tomography observation of inhomogeneous deformation in semi-solid aluminium alloys. *Scripta Materialia*, **2009**, 61, 449-452	5.6	106
261	3D composite reinforcement meso F.E. analyses based on X-ray computed tomography. *Composite Structures*, **2015**, 132, 1094-1104	5.3	100
260	Assessment of the fatigue crack closure phenomenon in damage-tolerant aluminium alloy by in-situ high-resolution synchrotron X-ray microtomography. *Philosophical Magazine*, **2003**, 83, 2429-2448	1.6	95
259	Hard x-ray phase imaging using simple propagation of a coherent synchrotron radiation beam. *Journal Physics D: Applied Physics*, **1999**, 32, A145-A151	3	93
258	In Situ X-Ray Radiography and Tomography Observations of the Solidification of Aqueous Alumina Particle Suspensions□Part I: Initial Instants. *Journal of the American Ceramic Society*, **2009**, 92, 2489-2496	3.8	92
257	Compression behavior of lattice structures produced by selective laser melting: X-ray tomography based experimental and finite element approaches. *Acta Materialia*, **2018**, 159, 395-407	8.4	91
256	Room-temperature ductility of Ti□Al□V alloy with □? martensite microstructure. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 1512-1520	5.3	88
255	Experimental study of the compression behaviour of syntactic foams by in situ X-ray tomography. *Acta Materialia*, **2007**, 55, 1667-1679	8.4	87
254	Influence of Particle Size on Ice Nucleation and Growth During the Ice-Templating Process. *Journal of the American Ceramic Society*, **2010**, 93, 2507-2510	3.8	81
253	Metallic foams: Radiative properties/comparison between different models. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2008**, 109, 16-27	2.1	81
252	Modeling the properties of closed-cell cellular materials from tomography images using finite shell elements. *Acta Materialia*, **2008**, 56, 5524-5534	8.4	81

251	Damage quantification in aluminium alloys using in situ tensile tests in X-ray tomography. *Engineering Fracture Mechanics*, **2011**, 78, 2679-2690	4.2	77
250	In situ observation of ductile fracture using X-ray tomography technique. *Acta Materialia*, **2011**, 59, 1995-2008	8.4	77
249	20 Hz X-ray tomography during an in situ tensile test. *International Journal of Fracture*, **2016**, 200, 3-12	2.3	74
248	X-ray computed tomography. *Nature Reviews Methods Primers*, **2021**, 1,		72
247	Effect of strut orientation on the microstructure heterogeneities in AlSi10Mg lattices processed by selective laser melting. *Scripta Materialia*, **2017**, 141, 32-35	5.6	71
246	3D quantitative image analysis of open-cell nickel foams under tension and compression loading using X-ray microtomography. *Philosophical Magazine*, **2005**, 85, 2147-2175	1.6	70
245	Fast X-ray tomography and acoustic emission study of damage in metals during continuous tensile tests. *Acta Materialia*, **2007**, 55, 6806-6815	8.4	69
244	Analytical Modelling of the Radiative Properties of Metallic Foams: Contribution of X-Ray Tomography. *Advanced Engineering Materials*, **2008**, 10, 352-360	3.5	66
243	Particle redistribution and structural defect development during ice templating. *Acta Materialia*, **2012**, 60, 4594-4603	8.4	65
242	Time-lapse, three-dimensional in situ imaging of ice crystal growth in a colloidal silica suspension. *Acta Materialia*, **2013**, 61, 2077-2086	8.4	63
241	X-Ray Tomography Applied to the Characterization of Highly Porous Materials. *Annual Review of Materials Research*, **2012**, 42, 163-178	12.8	63
240	A study of fracture of unidirectional composites using in situ high-resolution synchrotron X-ray microtomography. *Composites Science and Technology*, **2006**, 66, 1348-1353	8.6	63
239	Role of damage on the flow and fracture of particulate reinforced alloys and metal matrix composites. *Acta Materialia*, **1997**, 45, 5261-5274	8.4	59
238	Solidification Study of Aluminum Alloys using Impulse Atomization: Part I: Heat Transfer Analysis of an Atomized Droplet. *Canadian Metallurgical Quarterly*, **2002**, 41, 97-110	0.9	59
237	A Facile and Very Effective Method to Enhance the Mechanical Strength and the Cyclability of Si-Based Electrodes for Li-Ion Batteries. *Advanced Energy Materials*, **2018**, 8, 1701787	21.8	58
236	Ductilization of aluminium alloy 6056 by friction stir processing. *Acta Materialia*, **2017**, 130, 121-136	8.4	56
235	Effect of build orientation on the fatigue properties of as-built Electron Beam Melted Ti-6Al-4V alloy. *International Journal of Fatigue*, **2019**, 118, 65-76	5	56
234	Self-assembly of faceted particles triggered by a moving ice front. *Langmuir*, **2014**, 30, 8656-63	4	55

233	In Situ X-Ray Radiography and Tomography Observations of the Solidification of Aqueous Alumina Particles Suspensions. Part II: Steady State. *Journal of the American Ceramic Society*, **2009**, 92, 2497-2503	3.8	55
232	Investigation of spacer size effect on architecture and mechanical properties of porous titanium. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2011**, 530, 633-642	5.3	54
231	Observation of void nucleation, growth and coalescence in a model metal matrix composite using X-ray tomography. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 488, 435-445	5.3	53
230	Ice shaping properties, similar to that of antifreeze proteins, of a zirconium acetate complex. *PLoS ONE*, **2011**, 6, e26474	3.7	52
229	Multiscale Morphological and Electrical Characterization of Charge Transport Limitations to the Power Performance of Positive Electrode Blends for Lithium-Ion Batteries. *Advanced Energy Materials*, **2017**, 7, 1602239	21.8	50
228	Microtomographic study and finite element analysis of the porosity harmfulness in a cast aluminium alloy. *International Journal of Fatigue*, **2011**, 33, 1514-1525	5	50
227	Characterization and micromechanical modelling of microstructural heterogeneity effects on ductile fracture of 6xxx aluminium alloys. *Acta Materialia*, **2016**, 103, 558-572	8.4	47
226	Dynamics of the Freezing Front During the Solidification of a Colloidal Alumina Aqueous Suspension: In Situ X-Ray Radiography, Tomography, and Modeling. *Journal of the American Ceramic Society*, **2011**, 94, 3570-3578	3.8	45
225	A synchrotron X-ray study of a Ti/SiCf composite during in situ straining. *Acta Materialia*, **2001**, 49, 153-163	8.4	45
224	Characterization of ductile damage for a high carbon steel using 3D X-ray micro-tomography and mechanical tests Application to the identification of a shear modified GTN model. *Computational Materials Science*, **2014**, 84, 175-187	3.2	44
223	Experimental investigation of void coalescence in a dual phase steel using X-ray tomography. *Acta Materialia*, **2013**, 61, 6821-6829	8.4	44
222	Dynamics of the Morphological Degradation of Si-Based Anodes for Li-Ion Batteries Characterized by In Situ Synchrotron X-Ray Tomography. *Advanced Energy Materials*, **2019**, 9, 1803947	21.8	43
221	Onset of void coalescence in uniaxial tension studied by continuous X-ray tomography. *Acta Materialia*, **2013**, 61, 1021-1036	8.4	43
220	Digital Volume Correlation Applied to X-ray Tomography Images from Spherical Indentation Tests on Lightweight Gypsum. *Strain*, **2014**, 50, 444-453	1.7	43
219	Three-dimensional analysis of a compression test on stone wool. *Acta Materialia*, **2009**, 57, 3310-3320	8.4	43
218	Damage initiation and growth in metals. Comparison between modelling and tomography experiments. *Journal of the Mechanics and Physics of Solids*, **2005**, 53, 2411-2434	5	43
217	Recent results on 3D characterisation of microstructure and damage of metal matrix composites and a metallic foam using X-ray tomography. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2001**, 319-321, 216-219	5.3	41
216	Templated Grain Growth in Macroporous Materials. *Journal of the American Ceramic Society*, **2014**, 97, 1736-1742	3.8	40

215	Deformation Behavior and Dynamic Recrystallization of Biomedical Co-Cr-W-Ni (L-605) Alloy. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2013**, 44, 2819-2830	2.3	40
214	Effect of Multiaxial Stress State on Morphology and Spatial Distribution of Voids in Deformed Semicrystalline Polymer Assessed by X-ray Tomography. *Macromolecules*, **2012**, 45, 4658-4668	5.5	40
213	Cellular solids studied by x-ray tomography and finite element modeling—a review. *Journal of Materials Research*, **2013**, 28, 2191-2201	2.5	40
212	The role of heterogeneity on the flow and fracture of two-phase materials. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **1997**, 233, 145-154	5.3	40
211	In-situ X-ray tomographic monitoring of gypsum plaster setting. *Cement and Concrete Research*, **2016**, 82, 107-116	10.3	39
210	Damage evolution in TWIP and standard austenitic steel by means of 3D X ray tomography. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2013**, 579, 92-98	5.3	39
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208	In Situ X-Ray Tomography Studies of Microstructural Evolution Combined with 3D Modeling. *MRS Bulletin*, **2008**, 33, 611-619	3.2	39
207	The effect of fibre fractures in the bridging zone of fatigue cracked Ti–6Al–4V/SiC fibre composites. *Acta Materialia*, **2004**, 52, 1423-1438	8.4	39
206	Enhancing the tensile properties of EBM as-built thin parts: Effect of HIP and chemical etching. *Materials Characterization*, **2018**, 143, 82-93	3.9	38
205	Damage assessment in metallic structural materials using high resolution synchrotron X-ray tomography. *Nuclear Instruments & Methods in Physics Research B*, **2003**, 200, 303-307	1.2	38
204	A Multi-Scale Investigation of Pore Structure Impact on the Mobilization of Trapped Oil by Surfactant Injection. *Transport in Porous Media*, **2015**, 109, 673-692	3.1	37
203	SiC single fibre full-fragmentation during straining in a Ti–6Al–4V matrix studied by synchrotron X-rays. *Acta Materialia*, **2002**, 50, 3177-3192	8.4	36
202	3D morphological evolution of porous titanium by x-ray micro- and nano-tomography. *Journal of Materials Research*, **2013**, 28, 2444-2452	2.5	35
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199	Fast virtual histology using X-ray in-line phase tomography: application to the 3D anatomy of maize developing seeds. *Plant Methods*, **2015**, 11, 55	5.8	33
198	Three-dimensional strain mapping using in situ X-ray synchrotron microtomography. *Journal of Strain Analysis for Engineering Design*, **2011**, 46, 549-561	1.3	33

197	Three-dimensional microtomographic study of Widmanstätten microstructures in an alpha/beta titanium alloy. *Scripta Materialia*, **2008**, 58, 512-515	5.6	33
196	Influence of wall roughness and packing density on stagnant zone formation during funnel flow discharge from a silo: An X-ray imaging study. *Chemical Engineering Science*, **2013**, 97, 210-224	4.4	32
195	Nanovoid morphology and distribution in deformed HDPE studied by magnified synchrotron radiation holotomography. *Polymer*, **2014**, 55, 6439-6443	3.9	32
194	Porosity analysis of long-fiber-reinforced ceramic matrix composites using X-ray tomography. *Scripta Materialia*, **2009**, 60, 388-390	5.6	32
193	Microstructural analysis of alumina chromium composites by X-ray tomography and 3-D finite element simulation of thermal stresses. *Scripta Materialia*, **2003**, 48, 1219-1224	5.6	32
192	Study of the damage mechanisms in an OSPREY Al alloy-SiCp composite by scanning electron microscope in situ tensile tests. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **1995**, 196, 135-144	5.3	32
191	Quantitative assessment of the impact of second phase particle arrangement on damage and fracture anisotropy. *Acta Materialia*, **2018**, 148, 456-466	8.4	31
190	Damage assessment in an Al/SiC composite during monotonic tensile tests using synchrotron X-ray microtomography. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **1997**, 234-236, 633-635	5.3	31
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187	Quantitative Assessment of Deformation-Induced Damage in a Semisolid Aluminum Alloy via X-ray Microtomography. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2008**, 39, 2459-2469	2.3	30
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185	2D and 3D Visualization of Ductile Fracture. *Advanced Engineering Materials*, **2006**, 8, 469-472	3.5	29
184	Three dimensional imaging of damage in structural materials using high resolution micro-tomography. *Nuclear Instruments & Methods in Physics Research B*, **2005**, 238, 75-82	1.2	29
183	3D morphological analysis of copper foams as current collectors for Li-ion batteries by means of X-ray tomography. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2014**, 187, 1-8	3.1	28
182	Ice-Templating of Alumina Suspensions: Effect of Supercooling and Crystal Growth During the Initial Freezing Regime. *Journal of the American Ceramic Society*, **2012**, 95, 799-804	3.8	28
181	Two-scale study of the fracture of an aluminum foam by X-ray tomography and finite element modeling. *Materials and Design*, **2017**, 120, 117-127	8.1	27
180	Non-destructive 3-D reconstruction of the martensitic phase in a dual-phase steel using synchrotron holotomography. *Scripta Materialia*, **2012**, 66, 1077-1080	5.6	27

179	In situ observation of syntactic foams under hydrostatic pressure using X-ray tomography. *Acta Materialia*, **2013**, 61, 4035-4043	8.4	27
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173	Ductile damage in aluminium alloy thin sheets: Correlation between micro-tomography observations and mechanical modeling. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 558, 217-225	5.3	26
172	Quantitative estimation of volume changes of granular materials during silo flow using X-ray tomography. *Chemical Engineering and Processing: Process Intensification*, **2011**, 50, 59-67	3.7	26
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169	Thermal conductivity of highly porous metal foams: Experimental and image based finite element analysis. *International Journal of Heat and Mass Transfer*, **2018**, 122, 1-10	4.9	24
168	Urban pollution of sediments: Impact on the physiology and burrowing activity of tubificid worms and consequences on biogeochemical processes. *Science of the Total Environment*, **2016**, 568, 196-207	10.2	24
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166	X-ray tomography and finite element simulation of the indentation behavior of metal foams. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2004**, 387-389, 321-325	5.3	24
165	Influence of the thermomechanical treatment on the microplastic behaviour of a wrought Al–Zn–Mg–Cu alloy. *Acta Materialia*, **2004**, 52, 1653-1661	8.4	24
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161	Variability in erosion rates related to the state of landscape transience in the semi-arid Chilean Andes. *Earth Surface Processes and Landforms*, **2011**, 36, 1736-1748	3.7	23
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159	Characterization of porosity, structure, and mechanical properties of electrospun SiOC fiber mats. *Journal of Materials Science*, **2015**, 50, 4221-4231	4.3	22
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150	Influence of cell aspect ratio on architecture and compressive strength of titanium foams. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 7368-7374	5.3	21
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138	Mechanical response and fracture dynamics of polymeric foams. *Journal Physics D: Applied Physics*, **2009**, 42, 214001	3	18
137	X-ray tomography and three-dimensional image analysis of epoxy-glass syntactic foams. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2006**, 364, 69-88	3	18
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134	Modeling Grain Boundary Motion and Dynamic Recrystallization in Pure Metals. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2013**, 44, 5861-5875	2.3	17
133	X-RAY TOMOGRAPHY STUDY OF ATOMIZED Al-Cu DROPLETS. *Canadian Metallurgical Quarterly*, **2004**, 43, 273-282	0.9	17
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