

Wayne E King

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.

69
papers

6,472
citations

30
h-index

72
g-index

72
ext. papers

7,532
ext. citations

4.7
avg, IF

5.97
L-index

#	Paper	IF	Citations
69	Controlling interdependent meso-nanosecond dynamics and defect generation in metal 3D printing. <i>Science</i> , 2020 , 368, 660-665	33.3	142
68	Tensile properties, strain rate sensitivity, and activation volume of additively manufactured 316L stainless steels. <i>International Journal of Plasticity</i> , 2019 , 120, 395-410	7.6	80
67	Scaling laws for the additive manufacturing. <i>Journal of Materials Processing Technology</i> , 2018 , 257, 234-243	4.3	86
66	Security of additive manufacturing: Attack taxonomy and survey. <i>Additive Manufacturing</i> , 2018 , 21, 431-457	4.7	51
65	Gaussian process-based surrogate modeling framework for process planning in laser powder-bed fusion additive manufacturing of 316L stainless steel. <i>International Journal of Advanced Manufacturing Technology</i> , 2018 , 94, 3591-3603	3.2	90
64	Uncertainty Propagation Analysis of Computational Models in Laser Powder Bed Fusion Additive Manufacturing Using Polynomial Chaos Expansions. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2018 , 140,	3.3	25
63	Laser peening: A tool for additive manufacturing post-processing. <i>Additive Manufacturing</i> , 2018 , 24, 67-76	6.1	68
62	Laser powder-bed fusion additive manufacturing: Physics of complex melt flow and formation mechanisms of pores, spatter, and denudation zones. <i>Acta Materialia</i> , 2016 , 108, 36-45	8.4	1202
61	Size-dependent microstructures in rapidly solidified uranium niobium powder particles. <i>Journal of Nuclear Materials</i> , 2016 , 479, 1-10	3.3	4
60	Laser powder bed fusion additive manufacturing of metals; physics, computational, and materials challenges. <i>Applied Physics Reviews</i> , 2015 , 2, 041304	17.3	528
59	Overview of modelling and simulation of metal powder bed fusion process at Lawrence Livermore National Laboratory. <i>Materials Science and Technology</i> , 2015 , 31, 957-968	1.5	160
58	Observation of keyhole-mode laser melting in laser powder-bed fusion additive manufacturing. <i>Journal of Materials Processing Technology</i> , 2014 , 214, 2915-2925	5.3	698
57	Rapidly solidified U _{Bwt%} Nb powders for dispersion-type nuclear fuels. <i>Journal of Nuclear Materials</i> , 2014 , 448, 72-79	3.3	10
56	Density of additively-manufactured, 316L SS parts using laser powder-bed fusion at powers up to 400 W. <i>International Journal of Advanced Manufacturing Technology</i> , 2014 , 74, 65-78	3.2	220
55	An Experimental Investigation into Additive Manufacturing-Induced Residual Stresses in 316L Stainless Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 6260-6270	2.3	321
54	Dynamic Transmission Electron Microscopy 2012 , 71-97		1
53	The effect of lattice and grain boundary diffusion on the redistribution of Xe in metallic nuclear fuels: Implications for the use of ion implantation to study fission-gas-bubble nucleation mechanisms. <i>Journal of Nuclear Materials</i> , 2011 , 415, 38-54	3.3	6

52	The potential to use fission gas release experiments to measure lattice and grain boundary diffusion in metallic fuels. <i>Journal of Nuclear Materials</i> , 2011 , 411, 97-111	3.3	3
51	The application of a figure of merit for nuclear explosive utility as a metric for material attractiveness in a nuclear material theft scenario. <i>Nuclear Engineering and Design</i> , 2010 , 240, 3699-3707 ^{1.8}		5
50	Strongly driven crystallization processes in a metallic glass. <i>Applied Physics Letters</i> , 2009 , 94, 184101	3.4	21
49	Laser-based in situ techniques: novel methods for generating extreme conditions in TEM samples. <i>Microscopy Research and Technique</i> , 2009 , 72, 122-30	2.8	15
48	Imaging of transient structures using nanosecond in situ TEM. <i>Science</i> , 2008 , 321, 1472-5	33.3	250
47	Practical considerations for high spatial and temporal resolution dynamic transmission electron microscopy. <i>Ultramicroscopy</i> , 2007 , 107, 356-67	3.1	85
46	Single-shot dynamic transmission electron microscopy. <i>Applied Physics Letters</i> , 2006 , 89, 044105	3.4	100
45	Ultrafast Imaging of Materials: Exploring the Gap of Space and Time. <i>MRS Bulletin</i> , 2006 , 31, 614-619	3.2	6
44	Ultrafast electron microscopy in materials science, biology, and chemistry. <i>Journal of Applied Physics</i> , 2005 , 97, 111101	2.5	240
43	Introduction: Frontiers of Electron Microscopy in Materials Science. <i>Microscopy and Microanalysis</i> , 2005 , 11, 377-377	0.5	
42	Copper Segregation to the Σ (310)/[001] Symmetric Tilt Grain Boundary in Aluminum. <i>Journal of Materials Science</i> , 2004 , 12, 165-174		16
41	Toward Ultrafast Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2004 , 10, 14-15	0.5	0
40	Analysis of grain boundary networks and their evolution during grain boundary engineering. <i>Acta Materialia</i> , 2003 , 51, 687-700	8.4	224
39	Computational model for a low-temperature laser-plasma driver for shock-processing of metals and comparison to experimental data. <i>Physics of Plasmas</i> , 2003 , 10, 2940-2947	2.1	16
38	Microstructural evolution during grain boundary engineering of low to medium stacking fault energy fcc materials. <i>Acta Materialia</i> , 2002 , 50, 2599-2612	8.4	192
37	The rigid-body displacement observed at the Σ 5, (310)-[001] symmetric tilt grain boundary in central transition bcc metals. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2002 , 82, 1573-1594		3
36	Lattice rotations during compression deformation of a [011] Ta single crystal. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 317, 77-84	5.3	3
35	Substitutional Impurity Segregation to the Σ (310)/[001] Stgb in Cu Doped Aluminum and Ag Doped Copper. <i>Microscopy and Microanalysis</i> , 2001 , 7, 246-247	0.5	

34	Modifications to the microstructural topology in f.c.c. materials through thermomechanical processing. <i>Acta Materialia</i> , 2000 , 48, 2081-2091	8.4	215
33	Crystallographic effects on the fatigue fracture of copper-sapphire interfaces. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2000 , 80, 2109-2129		12
32	Observations of lattice curvature near the interface of a deformed aluminium bicrystal. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2000 , 80, 9-25		205
31	Finite elements for materials with strain gradient effects. <i>International Journal for Numerical Methods in Engineering</i> , 1999 , 44, 373-391	2.4	213
30	Quantitative Comparison of HREM Image Intensities with Image Simulation for Application in Materials Science. <i>Physica Status Solidi A</i> , 1998 , 166, 343-356		3
29	Multi-scale modeling of polycrystal plasticity: a workshop report. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998 , 251, 1-22	5.3	32
28	Quantitative HREM of Twin Boundaries in Compound Semiconductors and Metals Using Non-Linear Least-Squares Methods. <i>Microscopy and Microanalysis</i> , 1998 , 4, 784-785	0.5	1
27	Analysis of Experimental Error in High Resolution Electron Micrographs. <i>Microscopy and Microanalysis</i> , 1997 , 3, 451-457	0.5	4
26	Data Preparation for Quantitative High-Resolution Electron Microscopy. <i>Microscopy and Microanalysis</i> , 1997 , 3, 299-310	0.5	4
25	Theory, simulation, and modeling of interfaces in materials Bridging the length-scale gap: a workshop report. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1995 , 191, 1-16	5.3	14
24	Quantitative HREM using non-linear least-squares methods. <i>Ultramicroscopy</i> , 1994 , 56, 46-53	3.1	62
23	Atomic structure of the (310) twin in niobium: Experimental determination and comparison with theoretical predictions. <i>Physical Review Letters</i> , 1993 , 70, 449-452	7.4	55
22	Determination of thickness and defocus by quantitative comparison of experimental and simulated high-resolution images. <i>Ultramicroscopy</i> , 1993 , 51, 128-135	3.1	28
21	High-resolution electron microscopy investigation of the (710) twin in Nb. <i>Ultramicroscopy</i> , 1993 , 51, 247-263	3.1	16
20	Dependence of stage-I recovery on the irradiation direction in copper doped with beryllium. <i>Physical Review B</i> , 1992 , 46, 8593-8596	3.3	3
19	Comments on the bond strength measurements of Gupta and co-workers. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992 , 159, 135-142	5.3	10
18	The effects of crystallization on the microhardness of Fe-22.5Al-10Zr metallic glass ribbons. <i>Journal of Materials Science Letters</i> , 1989 , 8, 793-795		2
17	Rutherford-backscattering study of high-temperature oxidation of Y-implanted Fe-24Cr. <i>Oxidation of Metals</i> , 1989 , 31, 181-207	1.6	4

16	Creep of Cr ₂ O ₃ and yttrium doped Cr ₂ O ₃ . <i>Materials Science and Technology</i> , 1989 , 5, 499-501	1.5	1
15	Effect of Y ₂ O ₃ additions on the plasticity of sintered Cr ₂ O ₃ . <i>Oxidation of Metals</i> , 1988 , 29, 217-223	1.6	12
14	Flicker (1/f) noise in copper films due to radiation-induced defects. <i>Physical Review B</i> , 1988 , 38, 10371-10386	3.3	15
13	Role of thermal spikes in energetic displacement cascades. <i>Physical Review Letters</i> , 1987 , 59, 1930-1933	7.4	361
12	Two methods for aligning a mechanical dimpling device for TEM sample preparation. <i>Journal of Electron Microscopy Technique</i> , 1987 , 6, 303-304		1
11	Damage effects of high energy electrons on metals. <i>Ultramicroscopy</i> , 1987 , 23, 345-353	3.1	14
10	Cation Tracer Diffusion in Cr ₂ O ₃ and Cr ₂ O ₃ -0.09 wt% Y ₂ O ₃ . <i>Journal of the American Ceramic Society</i> , 1987 , 70, 880-885	3.8	41
9	Microstructural Development in the Surface Region during Oxidation of Iron-Manganese-Nickel-Silicon Alloys. <i>Journal of the Electrochemical Society</i> , 1986 , 133, 1042-1048	3.9	11
8	An experimental technique to measure x-ray production and detection efficiencies in the analytical electron microscope. <i>Ultramicroscopy</i> , 1985 , 18, 151-154	3.1	2
7	Molecular dynamics simulation of low energy displacement cascades in Cu. <i>Journal of Nuclear Materials</i> , 1983 , 117, 26-35	3.3	114
6	Experimental determination of the energy dependence of defect production. <i>Journal of Nuclear Materials</i> , 1983 , 117, 4-11	3.3	14
5	Threshold energy surface and frenkel pair resistivity for Cu. <i>Journal of Nuclear Materials</i> , 1983 , 117, 12-25	3.3	37
4	Magnetic properties of copper(II) octanoate. <i>Journal of Molecular Structure</i> , 1981 , 73, 261-263	3.4	
3	Computer simulation study of the displacement threshold-energy surface in Cu. <i>Physical Review B</i> , 1981 , 23, 6335-6339	3.3	37
2	Determination of the threshold-energy surface for copper using in-situ electrical-resistivity measurements in the high-voltage electron microscope. <i>Physical Review B</i> , 1981 , 23, 6319-6334	3.3	34
1	Pyrite oxidation in aqueous ferric chloride. <i>AIChE Journal</i> , 1977 , 23, 679-685	3.6	19