

# Wayne E King

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/4818285/wayne-e-king-publications-by-citations.pdf>

**Version:** 2024-04-20

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

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	Laser powder-bed fusion additive manufacturing: Physics of complex melt flow and formation mechanisms of pores, spatter, and denudation zones. <i>Acta Materialia</i> , <b>2016</b> , 108, 36-45	8.4	1202
68	Observation of keyhole-mode laser melting in laser powder-bed fusion additive manufacturing. <i>Journal of Materials Processing Technology</i> , <b>2014</b> , 214, 2915-2925	5.3	698
67	Laser powder bed fusion additive manufacturing of metals; physics, computational, and materials challenges. <i>Applied Physics Reviews</i> , <b>2015</b> , 2, 041304	17.3	528
66	Role of thermal spikes in energetic displacement cascades. <i>Physical Review Letters</i> , <b>1987</b> , 59, 1930-1933	7.4	361
65	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> , <b>2014</b> , 45, 6260-6270	2.3	321
64	Imaging of transient structures using nanosecond in situ TEM. <i>Science</i> , <b>2008</b> , 321, 1472-5	33.3	250
63	Ultrafast electron microscopy in materials science, biology, and chemistry. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 111101	2.5	240
62	Analysis of grain boundary networks and their evolution during grain boundary engineering. <i>Acta Materialia</i> , <b>2003</b> , 51, 687-700	8.4	224
61	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> , <b>2014</b> , 74, 65-78	3.2	220
60	Modifications to the microstructural topology in f.c.c. materials through thermomechanical processing. <i>Acta Materialia</i> , <b>2000</b> , 48, 2081-2091	8.4	215
59	Finite elements for materials with strain gradient effects. <i>International Journal for Numerical Methods in Engineering</i> , <b>1999</b> , 44, 373-391	2.4	213
58	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> , <b>2000</b> , 80, 9-25		205
57	Microstructural evolution during grain boundary engineering of low to medium stacking fault energy fcc materials. <i>Acta Materialia</i> , <b>2002</b> , 50, 2599-2612	8.4	192
56	Overview of modelling and simulation of metal powder bed fusion process at Lawrence Livermore National Laboratory. <i>Materials Science and Technology</i> , <b>2015</b> , 31, 957-968	1.5	160
55	Controlling interdependent meso-nanosecond dynamics and defect generation in metal 3D printing. <i>Science</i> , <b>2020</b> , 368, 660-665	33.3	142
54	Molecular dynamics simulation of low energy displacement cascades in Cu. <i>Journal of Nuclear Materials</i> , <b>1983</b> , 117, 26-35	3.3	114
53	Single-shot dynamic transmission electron microscopy. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 044105	3.4	100

52	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> , <b>2018</b> , 94, 3591-3603	3.2	90
51	Scaling laws for the additive manufacturing. <i>Journal of Materials Processing Technology</i> , <b>2018</b> , 257, 234-243	3.3	86
50	Practical considerations for high spatial and temporal resolution dynamic transmission electron microscopy. <i>Ultramicroscopy</i> , <b>2007</b> , 107, 356-67	3.1	85
49	Tensile properties, strain rate sensitivity, and activation volume of additively manufactured 316L stainless steels. <i>International Journal of Plasticity</i> , <b>2019</b> , 120, 395-410	7.6	80
48	Laser peening: A tool for additive manufacturing post-processing. <i>Additive Manufacturing</i> , <b>2018</b> , 24, 67-76	5.1	68
47	Quantitative HREM using non-linear least-squares methods. <i>Ultramicroscopy</i> , <b>1994</b> , 56, 46-53	3.1	62
46	Atomic structure of the (310) twin in niobium: Experimental determination and comparison with theoretical predictions. <i>Physical Review Letters</i> , <b>1993</b> , 70, 449-452	7.4	55
45	Security of additive manufacturing: Attack taxonomy and survey. <i>Additive Manufacturing</i> , <b>2018</b> , 21, 431-457	4.5	51
44	Cation Tracer Diffusion in Cr <sub>2</sub> O <sub>3</sub> and Cr <sub>2</sub> O <sub>3</sub> -0.09 wt% Y <sub>2</sub> O <sub>3</sub> . <i>Journal of the American Ceramic Society</i> , <b>1987</b> , 70, 880-885	3.8	41
43	Computer simulation study of the displacement threshold-energy surface in Cu. <i>Physical Review B</i> , <b>1981</b> , 23, 6335-6339	3.3	37
42	Threshold energy surface and frenkel pair resistivity for Cu. <i>Journal of Nuclear Materials</i> , <b>1983</b> , 117, 12-25	3.3	37
41	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> , <b>1981</b> , 23, 6319-6334	3.3	34
40	Multi-scale modeling of polycrystal plasticity: a workshop report. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1998</b> , 251, 1-22	5.3	32
39	Determination of thickness and defocus by quantitative comparison of experimental and simulated high-resolution images. <i>Ultramicroscopy</i> , <b>1993</b> , 51, 128-135	3.1	28
38	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> , <b>2018</b> , 140,	3.3	25
37	Strongly driven crystallization processes in a metallic glass. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 184101	3.4	21
36	Pyrite oxidation in aqueous ferric chloride. <i>AIChE Journal</i> , <b>1977</b> , 23, 679-685	3.6	19
35	Copper Segregation to the B (310)/[001] Symmetric Tilt Grain Boundary in Aluminum. <i>Journal of Materials Science</i> , <b>2004</b> , 12, 165-174		16

34	Computational model for a low-temperature laser-plasma driver for shock-processing of metals and comparison to experimental data. <i>Physics of Plasmas</i> , <b>2003</b> , 10, 2940-2947	2.1	16
33	High-resolution electron microscopy investigation of the (710) twin in Nb. <i>Ultramicroscopy</i> , <b>1993</b> , 51, 247-263	3.1	16
32	Laser-based in situ techniques: novel methods for generating extreme conditions in TEM samples. <i>Microscopy Research and Technique</i> , <b>2009</b> , 72, 122-30	2.8	15
31	Flicker (1/f) noise in copper films due to radiation-induced defects. <i>Physical Review B</i> , <b>1988</b> , 38, 10371-10386	3.3	15
30	Theory, simulation, and modeling of interfaces in materials. Bridging the length-scale gap: a workshop report. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1995</b> , 191, 1-16	5.3	14
29	Damage effects of high energy electrons on metals. <i>Ultramicroscopy</i> , <b>1987</b> , 23, 345-353	3.1	14
28	Experimental determination of the energy dependence of defect production. <i>Journal of Nuclear Materials</i> , <b>1983</b> , 117, 4-11	3.3	14
27	Crystallographic effects on the fatigue fracture of copper-sapphire interfaces. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>2000</b> , 80, 2109-2129		12
26	Effect of Y2O3 additions on the plasticity of sintered Cr2O3. <i>Oxidation of Metals</i> , <b>1988</b> , 29, 217-223	1.6	12
25	Microstructural Development in the Surface Region during Oxidation of Iron-Manganese-Nickel-Silicon Alloys. <i>Journal of the Electrochemical Society</i> , <b>1986</b> , 133, 1042-1048	3.9	11
24	Rapidly solidified U <sup>B</sup> wt%Nb powders for dispersion-type nuclear fuels. <i>Journal of Nuclear Materials</i> , <b>2014</b> , 448, 72-79	3.3	10
23	Comments on the bond strength measurements of Gupta and co-workers. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1992</b> , 159, 135-142	5.3	10
22	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> , <b>2011</b> , 415, 38-54	3.3	6
21	Ultrafast Imaging of Materials: Exploring the Gap of Space and Time. <i>MRS Bulletin</i> , <b>2006</b> , 31, 614-619	3.2	6
20	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> , <b>2010</b> , 240, 3699-3707 <sup>1.8</sup>		5
19	Analysis of Experimental Error in High Resolution Electron Micrographs. <i>Microscopy and Microanalysis</i> , <b>1997</b> , 3, 451-457	0.5	4
18	Data Preparation for Quantitative High-Resolution Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>1997</b> , 3, 299-310	0.5	4
17	Rutherford-backscattering study of high-temperature oxidation of Y-implanted Fe-24Cr. <i>Oxidation of Metals</i> , <b>1989</b> , 31, 181-207	1.6	4

16	Size-dependent microstructures in rapidly solidified uranium niobium powder particles. <i>Journal of Nuclear Materials</i> , <b>2016</b> , 479, 1-10	3.3	4
15	The potential to use fission gas release experiments to measure lattice and grain boundary diffusion in metallic fuels. <i>Journal of Nuclear Materials</i> , <b>2011</b> , 411, 97-111	3.3	3
14	Quantitative Comparison of HREM Image Intensities with Image Simulation for Application in Materials Science. <i>Physica Status Solidi A</i> , <b>1998</b> , 166, 343-356		3
13	Lattice rotations during compression deformation of a [011] Ta single crystal. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2001</b> , 317, 77-84	5.3	3
12	The rigid-body displacement observed at the $\Sigma$ 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> , <b>2002</b> , 82, 1573-1594		3
11	Dependence of stage-I recovery on the irradiation direction in copper doped with beryllium. <i>Physical Review B</i> , <b>1992</b> , 46, 8593-8596	3.3	3
10	The effects of crystallization on the microhardness of Fe-22.5Al-10Zr metallic glass ribbons. <i>Journal of Materials Science Letters</i> , <b>1989</b> , 8, 793-795		2
9	An experimental technique to measure x-ray production and detection efficiencies in the analytical electron microscope. <i>Ultramicroscopy</i> , <b>1985</b> , 18, 151-154	3.1	2
8	Dynamic Transmission Electron Microscopy <b>2012</b> , 71-97		1
7	Quantitative Hrem of Twin Boundaries in Compound Semiconductors and Metals Using Non-Linear Least-Squares Methods. <i>Microscopy and Microanalysis</i> , <b>1998</b> , 4, 784-785	0.5	1
6	Creep of Cr <sub>2</sub> O <sub>3</sub> and yttrium doped Cr <sub>2</sub> O <sub>3</sub> . <i>Materials Science and Technology</i> , <b>1989</b> , 5, 499-501	1.5	1
5	Two methods for aligning a mechanical dimpling device for TEM sample preparation. <i>Journal of Electron Microscopy Technique</i> , <b>1987</b> , 6, 303-304		1
4	Toward Ultrafast Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>2004</b> , 10, 14-15	0.5	0
3	Introduction: Frontiers of Electron Microscopy in Materials Science. <i>Microscopy and Microanalysis</i> , <b>2005</b> , 11, 377-377	0.5	
2	Substitutional Impurity Segregation to the $\Sigma$ (310)/[001] Stgb in Cu Doped Aluminum and Ag Doped Copper. <i>Microscopy and Microanalysis</i> , <b>2001</b> , 7, 246-247	0.5	
1	Magnetic properties of copper(II) octanoate. <i>Journal of Molecular Structure</i> , <b>1981</b> , 73, 261-263	3.4	