

# Eric Chason

## List of Publications by Year in descending order

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78  
papers

3,731  
citations

186265

28  
h-index

128289

60  
g-index

80  
all docs

80  
docs citations

80  
times ranked

3230  
citing authors

#	ARTICLE	IF	CITATIONS
1	The microstructural and stress evolution in sputter deposited Ni thin films. Surface and Coatings Technology, 2021, 412, 126973.	4.8	14
2	Molecular dynamics simulation of stress induced by energetic particle bombardment in Mo thin films. Materialia, 2021, 16, 101043.	2.7	9
3	Analysis of Pressure-Induced Whisker Nucleation and Growth in Thin Sn Films. Journal of Electronic Materials, 2021, 50, 6639.	2.2	5
4	Understanding residual stress in thin films: Analyzing wafer curvature measurements for Ag, Cu, Ni, Fe, Ti, and Cr with a kinetic model. Journal of Applied Physics, 2021, 130, .	2.5	9
5	Measurements and modeling of residual stress in sputtered TiN and ZrN: Dependence on growth rate and pressure. Surface and Coatings Technology, 2020, 404, 126462.	4.8	10
6	Effect of grain size on thin film stress and morphology using kinetic Monte Carlo simulations. Journal of Applied Physics, 2020, 128, 145301.	2.5	3
7	Whisker growth under a controlled driving force: Pressure induced whisker nucleation and growth. Scripta Materialia, 2020, 182, 43-47.	5.2	18
8	A unified kinetic model for stress relaxation and recovery during and after growth interruptions in polycrystalline thin films. Acta Materialia, 2020, 193, 202-209.	7.9	17
9	Determination of Stresses in Incrementally Deposited Films From Wafer-Curvature Measurements. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	1
10	Kinetic Monte Carlo simulations of stress and morphology evolution in polycrystalline thin films. Journal of Applied Physics, 2019, 125, .	2.5	10
11	Studying the Effect of Grain Size on Whisker Nucleation and Growth Kinetics Using Thermal Strain. Journal of Electronic Materials, 2019, 48, 17-24.	2.2	7
12	The influence of deposition parameters on the stress evolution of sputter deposited copper. Surface and Coatings Technology, 2019, 357, 939-946.	4.8	19
13	Stress Measurement in Thin Films Using Wafer Curvature: Principles and Applications. , 2019, , 2051-2082.		2
14	Review Article: Stress in thin films and coatings: Current status, challenges, and prospects. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	2.1	482
15	Stress Measurement in Thin Films Using Wafer Curvature: Principles and Applications. , 2018, , 1-33.		2
16	Quantifying the Effect of Stress on Sn Whisker Nucleation Kinetics. Journal of Electronic Materials, 2018, 47, 103-109.	2.2	5
17	Kinetic model for thin film stress including the effect of grain growth. Journal of Applied Physics, 2018, 123, .	2.5	32
18	Measurements of the Phase and Stress Evolution during Initial Lithiation of Sn Electrodes. Journal of the Electrochemical Society, 2017, 164, A574-A579.	2.9	21

#	ARTICLE	IF	CITATIONS
19	Stress evolution and whisker growth during thermal cycling of Sn films: A comparison of analytical modeling and experiments. <i>Acta Materialia</i> , 2017, 129, 462-473.	7.9	25
20	Investigation of Tin (Sn) Film Using an Aerosol Jet Additive Manufacturing Deposition Process. <i>Journal of Electronic Materials</i> , 2017, 46, 5174-5182.	2.2	0
21	Epitaxial lift-off of electrodeposited single-crystal gold foils for flexible electronics. <i>Science</i> , 2017, 355, 1203-1206.	12.6	104
22	Tutorial: Understanding residual stress in polycrystalline thin films through real-time measurements and physical models. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	148
23	In Situ Measurement of Voltage-Induced Stress in Conducting Polymers with Redox-Active Dopants. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 24168-24176.	8.0	16
24	Quantifying the Rates of Sn Whisker Growth and Plastic Strain Relaxation Using Thermally-Induced Stress. <i>Journal of Electronic Materials</i> , 2016, 45, 21-29.	2.2	13
25	Measuring the Stress Dependence of Nucleation and Growth Processes in Sn Whisker Formation. <i>Jom</i> , 2015, 67, 2416-2424.	1.9	15
26	Relating residual stress to thin film growth processes via a kinetic model and real-time experiments. <i>Thin Solid Films</i> , 2015, 596, 2-7.	1.8	12
27	Stress evolution in Si during low-energy ion bombardment. <i>Journal of Materials Research</i> , 2014, 29, 2942-2948.	2.6	19
28	In Situ Measurement of Stress and Whisker/Hillock Density During Thermal Cycling of Sn Layers. <i>Journal of Electronic Materials</i> , 2014, 43, 80-87.	2.2	21
29	Altering the Mechanical Properties of Sn Films by Alloying with Bi: Mimicking the Effect of Pb to Suppress Whiskers. <i>Journal of Electronic Materials</i> , 2013, 42, 312-318.	2.2	41
30	Growth of whiskers from Sn surfaces: Driving forces and growth mechanisms. <i>Progress in Surface Science</i> , 2013, 88, 103-131.	8.3	105
31	Understanding Residual Stress in Electrodeposited Cu Thin Films. <i>Journal of the Electrochemical Society</i> , 2013, 160, D3285-D3289.	2.9	35
32	Equilibrium shape of graphene domains on Ni(111). <i>Physical Review B</i> , 2013, 88, .	3.2	14
33	Nanoscale mechanisms of surface stress and morphology evolution in FCC metals under noble-gas ion bombardments. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012, 468, 2550-2573.	2.1	12
34	Correlating whisker growth and grain structure on Sn-Cu samples by real-time scanning electron microscopy and backscattering diffraction characterization. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	26
35	Correlation Between Surface Morphology Evolution and Grain Structure: Whisker/Hillock Formation in Sn-Cu. <i>Jom</i> , 2012, 64, 1176-1183.	1.9	20
36	A kinetic analysis of residual stress evolution in polycrystalline thin films. <i>Thin Solid Films</i> , 2012, 526, 1-14.	1.8	140

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37	Thick beryllium coatings by ion-assisted magnetron sputtering. <i>Journal of Materials Research</i> , 2012, 27, 822-828.	2.6	14
38	Surface nanopatterning mechanisms by keV ions: Linear instability models and beyond. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2012, 272, 178-182.	1.4	8
39	Stress Relaxation in Sn-Based Films: Effects of Pb Alloying, Grain Size, and Microstructure. <i>Journal of Electronic Materials</i> , 2012, 41, 588-595.	2.2	28
40	Effect of layer properties on stress evolution, intermetallic volume, and density during tin whisker formation. <i>Jom</i> , 2011, 63, 62-68.	1.9	26
41	Thick Beryllium Coatings by Magnetron Sputtering. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1339, 1.	0.1	2
42	Real-time SEM/FIB studies of whisker growth and surface modification. <i>Jom</i> , 2010, 62, 30-37.	1.9	50
43	Surface morphology evolution during sputter deposition of thin films – lattice Monte Carlo simulations. <i>Journal of Crystal Growth</i> , 2010, 312, 1183-1187.	1.5	18
44	Stress control in polycrystalline thin films – reduction in adatoms diffusion into grain boundaries via surfactants. <i>Applied Physics Letters</i> , 2010, 96, 211903.	3.3	5
45	Understanding the Correlation Between Intermetallic Growth, Stress Evolution, and Sn Whisker Nucleation. <i>IEEE Transactions on Electronics Packaging Manufacturing</i> , 2010, 33, 183-192.	1.4	42
46	Analytical model of transient compressive stress evolution during growth of high diffusivity thin films on substrates. <i>Philosophical Magazine</i> , 2010, 90, 3037-3048.	1.6	5
47	Understanding the relation between stress and surface morphology in sputtered films: Atomistic simulations and experiments. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	20
48	Relation of Sn whisker formation to intermetallic growth: Results from a novel Sn–Cu –bimetal ledge specimen. <i>Journal of Materials Research</i> , 2009, 24, 3583-3589.	2.6	22
49	FORMATION OF CRACK-LIKE DIFFUSION WEDGES AND COMPRESSIVE STRESS EVOLUTION DURING THIN FILM GROWTH WITH INHOMOGENEOUS GRAIN BOUNDARY DIFFUSIVITY. <i>International Journal of Applied Mechanics</i> , 2009, 01, 1-19.	2.2	10
50	Stress behavior of electroplated Sn films during thermal cycling. <i>Journal of Materials Research</i> , 2009, 24, 1522-1528.	2.6	44
51	Finite Element Modeling of Stress Evolution in Sn Films due to Growth of the Cu <sub>6</sub> Sn <sub>5</sub> Intermetallic Compound. <i>Journal of Electronic Materials</i> , 2009, 38, 2676.	2.2	47
52	Stress and microstructure evolution in thick sputtered films. <i>Acta Materialia</i> , 2009, 57, 2055-2065.	7.9	116
53	Compressive Stress Generation in Sn Thin Films and the Role of Grain Boundary Diffusion. <i>Physical Review Letters</i> , 2009, 103, 056102.	7.8	85
54	Stress evolution and defect diffusion in Cu during low energy ion irradiation: Experiments and modeling. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2008, 26, 44-51.	2.1	30

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55	Kinetic Model of Stress Evolution during Coalescence and Growth of Polycrystalline Thin Films. <i>Physical Review Letters</i> , 2007, 98, 216104.	7.8	74
56	Making waves: Kinetic processes controlling surface evolution during low energy ion sputtering. <i>Journal of Applied Physics</i> , 2007, 101, 121301.	2.5	434
57	Epitaxial electrodeposition of freestanding large area single crystal substrates. <i>Applied Physics Letters</i> , 2007, 90, 261909.	3.3	7
58	Kinetic phase diagram for morphological evolution on Cu(001) surfaces during ion bombardment. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2007, 256, 305-312.	1.4	3
59	Surface stress induced in Cu foils during and after low energy ion bombardment. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2007, 257, 428-432.	1.4	16
60	Morphology of ion sputtered Cu(001) surface: Transition from unidirectional roughening to bidirectional roughening. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2006, 242, 228-231.	1.4	5
61	Kinetic mechanisms in ion-induced ripple formation on Cu(001) surfaces. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2006, 242, 232-236.	1.4	10
62	Sputter ripples and radiation-enhanced surface kinetics on Cu(001). <i>Physical Review B</i> , 2005, 72, .	3.2	27
63	Competition between tensile and compressive stress mechanisms during Volmer-Weber growth of aluminum nitride films. <i>Journal of Applied Physics</i> , 2005, 98, 043509.	2.5	70
64	Whisker Formation in Sn Coatings on Cu. <i>Materials Research Society Symposia Proceedings</i> , 2004, 851, 316.	0.1	1
65	Kinetics of ion-induced ripple formation on Cu(001) surfaces. <i>Physical Review B</i> , 2004, 69, .	3.2	55
66	Temperature and Flux dependence of ion induced ripple: a way to study defect and relaxation kinetics during ion bombardment. <i>Materials Research Society Symposia Proceedings</i> , 2004, 849, 142.	0.1	0
67	Spontaneous formation of patterns on sputtered surfaces. <i>Scripta Materialia</i> , 2003, 49, 953-959.	5.2	29
68	Intrinsic compressive stress in polycrystalline films with negligible grain boundary diffusion. <i>Journal of Applied Physics</i> , 2003, 94, 948-957.	2.5	36
69	Observation of ion-induced ripples in Cu(001). <i>Materials Research Society Symposia Proceedings</i> , 2003, 777, 961.	0.1	0
70	Erlebacher et al. Reply. <i>Physical Review Letters</i> , 2002, 88, .	7.8	5
71	Intrinsic tensile stress and grain boundary formation during Volmer-Weber film growth. <i>Applied Physics Letters</i> , 2002, 81, 1204-1206.	3.3	47
72	A Structural Study of the Amorphous to Crystalline Transformation in In <sub>2</sub> O <sub>3</sub> Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 2002, 747, 1.	0.1	0

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73	Physical Origins of Intrinsic Stresses in Volmer-Weber Thin Films. MRS Bulletin, 2002, 27, 19-25.	3.5	274
74	Model for stress generated upon contact of neighboring islands on the surface of a substrate. Journal of Applied Physics, 2001, 89, 4866-4873.	2.5	187
75	Stress and Microstructure Evolution during the Deposition and Crystallization of DC Magnetron Sputter Deposited Amorphous ITO. Materials Research Society Symposia Proceedings, 2001, 666, 251.	0.1	0
76	Nonclassical Smoothing of Nanoscale Surface Corrugations. Physical Review Letters, 2000, 84, 5800-5803.	7.8	60
77	Nonlinear amplitude evolution during spontaneous patterning of ion-bombarded Si(001). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 115-120.	2.1	96
78	Spontaneous Pattern Formation on Ion Bombarded Si(001). Physical Review Letters, 1999, 82, 2330-2333.	7.8	288