David E Jesson

List of Publications by Year
in descending order

91	2,884	218592	168321
papers	citations	26 h-index	53 g-index

92	92	92	1993
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Surface Phase Metastability during Langmuir Evaporation. Physical Review Letters, 2019, 123, 186102.	2.9	3
2	On the sensitivity of convergent beam low energy electron diffraction patterns to small atomic displacements. Applied Surface Science, 2019, 489, 504-509.	3.1	0
3	Selected energy dark-field imaging using low energy electrons for optimal surface phase discrimination. Ultramicroscopy, 2019, 200, 79-83.	0.8	3
4	Mapping the surface phase diagram of GaAs(001) using droplet epitaxy. Physical Review Materials, 2019, 3, .	0.9	4
5	SIMULATION OF MIRROR ELECTRON MICROSCOPY CAUSTIC IMAGES IN THREE-DIMENSIONS. Surface Review and Letters, 2018, 25, 1950013.	0.5	0
6	Droplet Epitaxy Image Contrast in Mirror Electron Microscopy. Nanoscale Research Letters, 2017, 12, 68.	3.1	2
7	Novel GaAs surface phases via direct control of chemical potential. Physical Review B, 2016, 93, .	1.1	5
8	Planar regions of GaAs (001) prepared by Ga droplet motion. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	9
9	Congruent evaporation temperature of molecular beam epitaxy grown GaAs (001) determined by local droplet etching. Applied Physics Letters, 2015, 107, .	1.5	15
10	Dynamics of mass transport during nanohole drilling by local droplet etching. Nanoscale Research Letters, 2015, 10, 67.	3.1	37
11	Thermally controlled widening of droplet etched nanoholes. Nanoscale Research Letters, 2014, 9, 285.	3.1	4
12	Origin of Quantum Ring Formation During Droplet Epitaxy. Physical Review Letters, 2013, 111, 036102.	2.9	37
13	Characterizing the geometry of InAs nanowires using mirror electron microscopy. Nanotechnology, 2012, 23, 125703.	1.3	7
14	Asymmetric coalescence of reactively wetting droplets. Applied Physics Letters, 2012, 100, .	1.5	15
15	Relief of surface stress at steps during displacive adsorption of As on Si(111). Applied Physics Letters, 2012, 100, 201602.	1.5	0
16	Electron caustic lithography. AIP Advances, 2012, 2, .	0.6	1
17	Laplacian and caustic imaging theories of MEM work-function contrast. IBM Journal of Research and Development, 2011, 55, 3:1-3:8.	3.2	8
18	Ga droplet surface dynamics during Langmuir evaporation of GaAs. IBM Journal of Research and Development, 2011, 55, 10:1-10:7.	3.2	13

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19	Caustic imaging of gallium droplets using mirror electron microscopy. Ultramicroscopy, 2011, 111, 356-363.	0.8	32
20	Addendum. Laplacian image contrast in mirror electron microscopy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 3332-3341.	1.0	11
21	Phase retrieval low energy electron microscopy. Micron, 2010, 41, 232-238.	1.1	12
22	Time evolution of the Ga droplet size distribution during Langmuir evaporation of GaAs(001). Applied Physics Letters, 2010, 97, 191914.	1.5	7
23	Laplacian image contrast in mirror electron microscopy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2857-2874.	1.0	26
24	Decomposition Controlled by Surface Morphology during Langmuir Evaporation of GaAs. Physical Review Letters, 2010, 105, 035702.	2.9	43
25	Congruent evaporation temperature of GaAs(001) controlled by As flux. Applied Physics Letters, 2010, 97, .	1.5	24
26	WAVE OPTICAL TREATMENT OF SURFACE STEP CONTRAST IN LOW-ENERGY ELECTRON MICROSCOPY. Surface Review and Letters, 2009, 16, 855-867.	0.5	16
27	Ga droplet morphology on GaAs(001) studied by Lloydâ€™s mirror photoemission electron microscopy. Journal of Physics Condensed Matter, 2009, 21, 314022.	0.7	6
28	Running Droplets of Gallium from Evaporation of Gallium Arsenide. Science, 2009, 324, 236-238.	6.0	144
29	Transition between short and long wavelength limits in quantum mechanical reflection from a linear potential. American Journal of Physics, 2008, 76, 158-162.	0.3	4
30	Metastable states of surface nanostructure arrays studied using a Fokker-Planck equation. Physical Review B, 2007, 75, .	1.1	7
31	Imaging Surface Topography using Lloydâ€™s Mirror in Photoemission Electron Microscopy. Physical Review Letters, 2007, 99, 016103.	2.9	11
32	Probing the Structure and Energetics of Dislocation Cores in SiGe Alloys through MonteÂCarlo Simulations. Physical Review Letters, 2006, 97, 255502.	2.9	8
33	Phase sensitivity of slow electrons to interactions with weak potentials. Physical Review A, 2006, 74, .	1.0	11
34	Critical misfit for dislocation stability in self-assembled islands. Physica Status Solidi (B): Basic Research, 2005, 242, 2455-2461.	0.7	2
35	Investigating the evolution of dislocated SiGe islands by selective wet-chemical etching. AIP Conference Proceedings, 2005, , .	0.3	1
36	Shape transitions of metastable surface nanostructures. Physical Review B, 2005, 72, .	1.1	10

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37	Instability to Ostwald ripening of an array of coherently strained faceted ridges. Physical Review B, 2005, 71, .	1.1	0
38	Evolution of a multimodal distribution of self-organizedInAsâˆ•GaAsquantum dots. Physical Review B, 2005, 72, .	1.1	60
39	Lateral Motion of SiGe Islands Driven by Surface-Mediated Alloying. Physical Review Letters, 2005, 94, 216103.	2.9	91
40	Critical Thickness for Nanostructure Self-Assembly During Stranskiâ€“Krastanow Growth. Japanese Journal of Applied Physics, 2004, 43, 7230-7231.	0.8	2
41	Tunable Metastability of Surface Nanostructure Arrays. Physical Review Letters, 2004, 92, 115503.	2.9	27
42	Elastic interaction and self-relaxation energies of coherently strained conical islands. Physical Review B, 2004, 70, .	1.1	34
43	Manipulating the size distributions of quantum dots associated with strain-renormalized surface energy. Applied Physics Letters, 2004, 85, 1784-1786.	1.5	12
44	Suppression of coalescence during the coarsening of quantum dot arrays. Physical Review B, 2004, 69, .	1.1	22
45	Metastability of Ultradense Arrays of Quantum Dots. Physical Review Letters, 2003, 90, 076102.	2.9	37
46	Solutions of the Fokker-Planck Equation Describing the Metastability of Surface Nanostructure Arrays. Transactions of the Royal Society of South Africa, 2003, 58, 141-144.	0.8	3
47	Self-Limiting Growth of Strained Faceted Islands. Physical Review Letters, 1998, 80, 5156-5159.	2.9	162
48	Critical nuclei shapes in the stress-driven 2D-to-3D transition. Physical Review B, 1997, 56, R1700-R1703.	1.1	76
49	Mechanisms of strain induced roughening and dislocation multiplication in SixGe1-xthin films. Journal of Electronic Materials, 1997, 26, 1039-1047.	1.0	17
50	Kinetic Pathways to Strain Relaxation in the Si-Ge System. MRS Bulletin, 1996, 21, 31-37.	1.7	131
51	Morphological Evolution of Strained Films by Cooperative Nucleation. Physical Review Letters, 1996, 77, 1330-1333.	2.9	145
52	Microanalysis at Atomic Resolution. , 1996, , 195-207.		0
53	Ab Initio Study of Expitaxial Growth on a Si(100) Surface in the Presence of Steps. Materials Research Society Symposia Proceedings, 1995, 408, 439.	0.1	0
54	Ordered structures inSixGe1â^'xalloy thin films. Physical Review B, 1995, 51, 10947-10955.	1.1	26

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55	Step Instabilities: A New Kinetic Route to 3D Growth. Physical Review Letters, 1995, 75, 1582-1585.	2.9	35
56	Ordered Structures at Si on Ge(001) Interfaces. Physical Review Letters, 1995, 75, 184-184.	2.9	16
57	Crack-Like Sources of Dislocation Nucleation and Multiplication in Thin Films. Science, 1995, 268, 1161-1163.	6.0	75
58	Correlating imaging and spectroscopy at atomic resolution in the STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1995, 53, 78-79.	0.0	0
59	Large-scaleab initiostudy of the binding and diffusion of a Ge adatom on the Si(100) surface. Physical Review B, 1994, 50, 2663-2666.	1.1	50
60	Determination of interface structure and bonding at atomic resolution in the STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1994, 52, 734-735.	0.0	0
61	Microscopy of stress-induced morphological development and dislocation nucleation during semiconductor epitaxy. Proceedings Annual Meeting Electron Microscopy Society of America, 1994, 52, 524-525.	0.0	0
62	Atomic-resolution imaging and spectroscopy of semiconductor interfaces. Applied Physics A: Solids and Surfaces, 1993, 57, 385-391.	1.4	15
63	Interplay between evolving surface morphology, atomic-scale growth modes, and ordering duringSixGe1â^'xepitaxy. Physical Review Letters, 1993, 70, 2293-2296.	2.9	55
64	Direct imaging of surface cusp evolution during strained-layer epitaxy and implications for strain relaxation. Physical Review Letters, 1993, 71, 1744-1747.	2.9	253
65	Jessonet al. reply. Physical Review Letters, 1993, 71, 3737-3737.	2.9	4
66	Ge segregation at Si-Ge (001) stepped surfaces. Physical Review B, 1993, 47, 9931-9932.	1.1	36
67	Evolving Surface Cusps During Strained Layer Epitaxy. Materials Research Society Symposia Proceedings, 1993, 312, 47.	0.1	5
68	Surface Stress, Morphological Development, and Dislocation Nucleation During Strained-Layer Epitaxy. Materials Research Society Symposia Proceedings, 1993, 317, 297.	0.1	5
69	AB Initio Study of the Ge Adsorption and Diffusion on Si (100) Surface. Materials Research Society Symposia Proceedings, 1993, 317, 9.	0.1	0
70	Z-contrast imaging of an ordered interface structure in the Si/CoSi₂/Si system. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 802-803.	0.0	1
71	Incoherence in atomic-resolution Z-contrast imaging. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 978-979.	0.0	2
72	Step-Driven Surface Segregation and Ordering During Si-Ge MBE Growth. Materials Research Society Symposia Proceedings, 1992, 263, 9.	0.1	0

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73	Step-driven lateral segregation and long-range ordering duringSixGe1â^'xepitaxial growth. Physical Review Letters, 1992, 68, 2062-2065.	2.9	55
74	Column-by-column compositional imaging by z-contrast STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1992, 50, 1470-1471.	0.0	0
75	Direct Imaging of Ordering in Si-Ge Alloys, Ultrathin Superlattices, and Buried Ge Layers. Materials Research Society Symposia Proceedings, 1991, 220, 141.	0.1	3
76	Interdiffusion, growth mechanisms, and critical currents inYBa2Cu3O7â^'x/PrBa2Cu3O7â^'xsuperlattices. Physical Review Letters, 1991, 67, 765-768.	2.9	99
77	Direct imaging of interfacial ordering in ultrathin (SimGen)psuperlattices. Physical Review Letters, 1991, 66, 750-753.	2.9	164
78	High Resolution Z-Contrast Imaging of Semiconductor Interfaces. MRS Bulletin, 1991, 16, 34-40.	1.7	6
79	Compositional mapping using large-angle electron scattering. Proceedings Annual Meeting Electron Microscopy Society of America, 1991, 49, 10-11.	0.0	0
80	Structural and compositional mapping at Si-Ge interfaces using Z-contrast STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1991, 49, 800-801.	0.0	0
81	‹title›Atomic scale imaging of the structure and chemistry of semiconductor interfaces by Z-contrast stem‹/title›. , 1990, 1284, 182.		1
82	An investigation of three-dimensional diffraction from 2Hb-MoS2. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1990, 61, 363-384.	0.7	5
83	Higher-order Laue zone diffraction from crystals containing transverse stacking faults. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1990, 61, 385-415.	0.7	6
84	Incoherent Imaging of Materials Structure and Composition by Z-Contrast Stem. Materials Research Society Symposia Proceedings, 1990, 183, 211.	0.1	1
85	â€œColumn-By-Columnâ€•Compositional Mapping At Semiconductor Interfaces Using Z-Contrast Stem. Materials Research Society Symposia Proceedings, 1990, 183, 223.	0.1	8
86	High-resolution incoherent imaging of crystals. Physical Review Letters, 1990, 64, 938-941.	2.9	587
87	High-resolution Z-contrast imaging in the STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1990, 48, 394-395.	0.0	0
88	Simulation and Quantification of High-Resolution Z-Contrast Imaging of Semiconductor Interfaces. Materials Research Society Symposia Proceedings, 1989, 159, 439.	0.1	1
89	Direct Imaging of the Atomic Structure and Chemistry of Defects and Interfaces by Z-Contrast Stem. Materials Research Society Symposia Proceedings, 1989, 169, 765.	0.1	1
90	An investigation of beam theory using the Airy stress function coupled with analytic function theory. Journal of Engineering Mathematics, 1986, 20, 73-79.	0.6	0

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91	The Deformation of the Adherends in an Adhesive Joint Undergoing Water Uptake. Journal of Adhesion, 1982, 14, 119-128.	1.8	9