

David E Jesson

List of Publications by Year in descending order

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91
papers

2,884
citations

218592

26
h-index

168321

53
g-index

92
all docs

92
docs citations

92
times ranked

1993
citing authors

#	ARTICLE	IF	CITATIONS
1	High-resolution incoherent imaging of crystals. Physical Review Letters, 1990, 64, 938-941.	2.9	587
2	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
3	Direct imaging of interfacial ordering in ultrathin (SiGe) _n superlattices. Physical Review Letters, 1991, 66, 750-753.	2.9	164
4	Self-Limiting Growth of Strained Faceted Islands. Physical Review Letters, 1998, 80, 5156-5159.	2.9	162
5	Morphological Evolution of Strained Films by Cooperative Nucleation. Physical Review Letters, 1996, 77, 1330-1333.	2.9	145
6	Running Droplets of Gallium from Evaporation of Gallium Arsenide. Science, 2009, 324, 236-238.	6.0	144
7	Kinetic Pathways to Strain Relaxation in the Si-Ge System. MRS Bulletin, 1996, 21, 31-37.	1.7	131
8	Interdiffusion, growth mechanisms, and critical currents in YBa ₂ Cu ₃ O _{7-x} /PrBa ₂ Cu ₃ O _{7-x} superlattices. Physical Review Letters, 1991, 67, 765-768.	2.9	99
9	Lateral Motion of SiGe Islands Driven by Surface-Mediated Alloying. Physical Review Letters, 2005, 94, 216103.	2.9	91
10	Critical nuclei shapes in the stress-driven 2D-to-3D transition. Physical Review B, 1997, 56, R1700-R1703.	1.1	76
11	Crack-Like Sources of Dislocation Nucleation and Multiplication in Thin Films. Science, 1995, 268, 1161-1163.	6.0	75
12	Evolution of a multimodal distribution of self-organized InAs/GaAs quantum dots. Physical Review B, 2005, 72, .	1.1	60
13	Step-driven lateral segregation and long-range ordering during Si _{0.5} Ge _{0.5} epitaxial growth. Physical Review Letters, 1992, 68, 2062-2065.	2.9	55
14	Interplay between evolving surface morphology, atomic-scale growth modes, and ordering during Si _{0.5} Ge _{0.5} epitaxy. Physical Review Letters, 1993, 70, 2293-2296.	2.9	55
15	Large-scale ab initio study of the binding and diffusion of a Ge adatom on the Si(100) surface. Physical Review B, 1994, 50, 2663-2666.	1.1	50
16	Decomposition Controlled by Surface Morphology during Langmuir Evaporation of GaAs. Physical Review Letters, 2010, 105, 035702.	2.9	43
17	Metastability of Ultradense Arrays of Quantum Dots. Physical Review Letters, 2003, 90, 076102.	2.9	37
18	Origin of Quantum Ring Formation During Droplet Epitaxy. Physical Review Letters, 2013, 111, 036102.	2.9	37

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19	Dynamics of mass transport during nanohole drilling by local droplet etching. <i>Nanoscale Research Letters</i> , 2015, 10, 67.	3.1	37
20	Ge segregation at Si-Ge (001) stepped surfaces. <i>Physical Review B</i> , 1993, 47, 9931-9932.	1.1	36
21	Step Instabilities: A New Kinetic Route to 3D Growth. <i>Physical Review Letters</i> , 1995, 75, 1582-1585.	2.9	35
22	Elastic interaction and self-relaxation energies of coherently strained conical islands. <i>Physical Review B</i> , 2004, 70, .	1.1	34
23	Caustic imaging of gallium droplets using mirror electron microscopy. <i>Ultramicroscopy</i> , 2011, 111, 356-363.	0.8	32
24	Tunable Metastability of Surface Nanostructure Arrays. <i>Physical Review Letters</i> , 2004, 92, 115503.	2.9	27
25	Ordered structures in $\text{Si}_x\text{Ge}_{1-x}$ alloy thin films. <i>Physical Review B</i> , 1995, 51, 10947-10955.	1.1	26
26	Laplacian image contrast in mirror electron microscopy. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2010, 466, 2857-2874.	1.0	26
27	Congruent evaporation temperature of GaAs(001) controlled by As flux. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	24
28	Suppression of coalescence during the coarsening of quantum dot arrays. <i>Physical Review B</i> , 2004, 69, .	1.1	22
29	Mechanisms of strain induced roughening and dislocation multiplication in $\text{Si}_x\text{Ge}_{1-x}$ thin films. <i>Journal of Electronic Materials</i> , 1997, 26, 1039-1047.	1.0	17
30	Ordered Structures at Si on Ge(001) Interfaces. <i>Physical Review Letters</i> , 1995, 75, 184-184.	2.9	16
31	WAVE OPTICAL TREATMENT OF SURFACE STEP CONTRAST IN LOW-ENERGY ELECTRON MICROSCOPY. <i>Surface Review and Letters</i> , 2009, 16, 855-867.	0.5	16
32	Atomic-resolution imaging and spectroscopy of semiconductor interfaces. <i>Applied Physics A: Solids and Surfaces</i> , 1993, 57, 385-391.	1.4	15
33	Asymmetric coalescence of reactively wetting droplets. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	15
34	Congruent evaporation temperature of molecular beam epitaxy grown GaAs (001) determined by local droplet etching. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	15
35	Ga droplet surface dynamics during Langmuir evaporation of GaAs. <i>IBM Journal of Research and Development</i> , 2011, 55, 10:1-10:7.	3.2	13
36	Manipulating the size distributions of quantum dots associated with strain-renormalized surface energy. <i>Applied Physics Letters</i> , 2004, 85, 1784-1786.	1.5	12

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37	Phase retrieval low energy electron microscopy. <i>Micron</i> , 2010, 41, 232-238.	1.1	12
38	Phase sensitivity of slow electrons to interactions with weak potentials. <i>Physical Review A</i> , 2006, 74, .	1.0	11
39	Imaging Surface Topography using Lloyd's Mirror in Photoemission Electron Microscopy. <i>Physical Review Letters</i> , 2007, 99, 016103.	2.9	11
40	Addendum. Laplacian image contrast in mirror electron microscopy. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2011, 467, 3332-3341.	1.0	11
41	Shape transitions of metastable surface nanostructures. <i>Physical Review B</i> , 2005, 72, .	1.1	10
42	The Deformation of the Adherends in an Adhesive Joint Undergoing Water Uptake. <i>Journal of Adhesion</i> , 1982, 14, 119-128.	1.8	9
43	Planar regions of GaAs (001) prepared by Ga droplet motion. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2016, 34, .	0.9	9
44	"Column-By-Column" Compositional Mapping At Semiconductor Interfaces Using Z-Contrast Stem. <i>Materials Research Society Symposia Proceedings</i> , 1990, 183, 223.	0.1	8
45	Probing the Structure and Energetics of Dislocation Cores in SiGe Alloys through Monte Carlo Simulations. <i>Physical Review Letters</i> , 2006, 97, 255502.	2.9	8
46	Laplacian and caustic imaging theories of MEM work-function contrast. <i>IBM Journal of Research and Development</i> , 2011, 55, 3:1-3:8.	3.2	8
47	Metastable states of surface nanostructure arrays studied using a Fokker-Planck equation. <i>Physical Review B</i> , 2007, 75, .	1.1	7
48	Time evolution of the Ga droplet size distribution during Langmuir evaporation of GaAs(001). <i>Applied Physics Letters</i> , 2010, 97, 191914.	1.5	7
49	Characterizing the geometry of InAs nanowires using mirror electron microscopy. <i>Nanotechnology</i> , 2012, 23, 125703.	1.3	7
50	Higher-order Laue zone diffraction from crystals containing transverse stacking faults. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1990, 61, 385-415.	0.7	6
51	High Resolution Z-Contrast Imaging of Semiconductor Interfaces. <i>MRS Bulletin</i> , 1991, 16, 34-40.	1.7	6
52	Ga droplet morphology on GaAs(001) studied by Lloyd's mirror photoemission electron microscopy. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 314022.	0.7	6
53	An investigation of three-dimensional diffraction from 2Hb-MoS2. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1990, 61, 363-384.	0.7	5
54	Evolving Surface Cusps During Strained Layer Epitaxy. <i>Materials Research Society Symposia Proceedings</i> , 1993, 312, 47.	0.1	5

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55	Surface Stress, Morphological Development, and Dislocation Nucleation During Strained-Layer Epitaxy. Materials Research Society Symposia Proceedings, 1993, 317, 297.	0.1	5
56	Novel GaAs surface phases via direct control of chemical potential. Physical Review B, 2016, 93, .	1.1	5
57	Jesson et al. reply. Physical Review Letters, 1993, 71, 3737-3737.	2.9	4
58	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
59	Thermally controlled widening of droplet etched nanoholes. Nanoscale Research Letters, 2014, 9, 285.	3.1	4
60	Mapping the surface phase diagram of GaAs(001) using droplet epitaxy. Physical Review Materials, 2019, 3, .	0.9	4
61	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
62	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
63	Surface Phase Metastability during Langmuir Evaporation. Physical Review Letters, 2019, 123, 186102.	2.9	3
64	Selected energy dark-field imaging using low energy electrons for optimal surface phase discrimination. Ultramicroscopy, 2019, 200, 79-83.	0.8	3
65	Critical Thickness for Nanostructure Self-Assembly During Stranski-Krastanow Growth. Japanese Journal of Applied Physics, 2004, 43, 7230-7231.	0.8	2
66	Critical misfit for dislocation stability in self-assembled islands. Physica Status Solidi (B): Basic Research, 2005, 242, 2455-2461.	0.7	2
67	Droplet Epitaxy Image Contrast in Mirror Electron Microscopy. Nanoscale Research Letters, 2017, 12, 68.	3.1	2
68	Incoherence in atomic-resolution Z-contrast imaging. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 978-979.	0.0	2
69	Simulation and Quantification of High-Resolution Z-Contrast Imaging of Semiconductor Interfaces. Materials Research Society Symposia Proceedings, 1989, 159, 439.	0.1	1
70	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
71	<title>Atomic scale imaging of the structure and chemistry of semiconductor interfaces by Z-contrast stem</title>. , 1990, 1284, 182.		1
72	Incoherent Imaging of Materials Structure and Composition by Z-Contrast Stem. Materials Research Society Symposia Proceedings, 1990, 183, 211.	0.1	1

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73	Investigating the evolution of dislocated SiGe islands by selective wet-chemical etching. AIP Conference Proceedings, 2005, , .	0.3	1
74	Electron caustic lithography. AIP Advances, 2012, 2, .	0.6	1
75	Z-contrast imaging of an ordered interface structure in the Si/CoSi ₂ /Si system. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 802-803.	0.0	1
76	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
77	Step-Driven Surface Segregation and Ordering During Si-Ge MBE Growth. Materials Research Society Symposia Proceedings, 1992, 263, 9.	0.1	0
78	Ab Initio Study of the Ge Adsorption and Diffusion on Si (100) Surface. Materials Research Society Symposia Proceedings, 1993, 317, 9.	0.1	0
79	Ab Initio Study of Epitaxial Growth on a Si(100) Surface in the Presence of Steps. Materials Research Society Symposia Proceedings, 1995, 408, 439.	0.1	0
80	Instability to Ostwald ripening of an array of coherently strained faceted ridges. Physical Review B, 2005, 71, .	1.1	0
81	Relief of surface stress at steps during displacive adsorption of As on Si(111). Applied Physics Letters, 2012, 100, 201602.	1.5	0
82	SIMULATION OF MIRROR ELECTRON MICROSCOPY CAUSTIC IMAGES IN THREE-DIMENSIONS. Surface Review and Letters, 2018, 25, 1950013.	0.5	0
83	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
84	High-resolution Z-contrast imaging in the STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1990, 48, 394-395.	0.0	0
85	Compositional mapping using large-angle electron scattering. Proceedings Annual Meeting Electron Microscopy Society of America, 1991, 49, 10-11.	0.0	0
86	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
87	Column-by-column compositional imaging by z-contrast STEM. Proceedings Annual Meeting Electron Microscopy Society of America, 1992, 50, 1470-1471.	0.0	0
88	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
89	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
90	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

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91	Microanalysis at Atomic Resolution. , 1996, , 195-207.		0