

Simon A Brown

List of Publications by Year in descending order

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111
papers

2,375
citations

172386

29
h-index

254106

43
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115
all docs

115
docs citations

115
times ranked

2549
citing authors

#	ARTICLE	IF	CITATIONS
1	Real-Time TEM and Kinetic Monte Carlo Studies of the Coalescence of Decahedral Gold Nanoparticles. ACS Nano, 2009, 3, 3809-3813.	7.3	113
2	A hydrogen sensor based on tunneling between palladium clusters. Applied Physics Letters, 2007, 91, 181910.	1.5	89
3	Magneto-optical probe of two-dimensional electron liquid and solid phases. Physical Review B, 1992, 46, 7957-7960.	1.1	88
4	Finite-Size Effects in the Conductivity of Cluster Assembled Nanostructures. Physical Review Letters, 2002, 88, 226802.	2.9	81
5	Particle size effect of hydrogen-induced lattice expansion of palladium nanoclusters. Physical Review B, 2008, 78, .	1.1	78
6	Avalanches and criticality in self-organized nanoscale networks. Science Advances, 2019, 5, eaaw8438.	4.7	68
7	A crystallographic orientation transition and early stage growth characteristics of thin Bi films on HOPG. Surface Science, 2005, 587, 175-184.	0.8	66
8	Coalescence of nanoscale metal clusters: Molecular-dynamics study. Physical Review B, 2003, 68, .	1.1	65
9	The New Deficit Model. Nature Nanotechnology, 2009, 4, 609-611.	15.6	63
10	STM and XPS investigations of bismuth islands on HOPG. Surface Science, 2011, 605, 659-667.	0.8	63
11	Electronic Size Effects in Three-Dimensional Nanostructures. Nano Letters, 2013, 13, 43-47.	4.5	49
12	Facile fabrication of complex networks of memristive devices. Scientific Reports, 2017, 7, 7955.	1.6	48
13	Atomic Scale Dynamics Drive Brain-like Avalanches in Percolating Nanostructured Networks. Nano Letters, 2020, 20, 3935-3942.	4.5	46
14	Realization of Symmetry-Enforced Two-Dimensional Dirac Fermions in Nonsymmorphic $\hat{I}\pm$ -Bismuthene. ACS Nano, 2020, 14, 1888-1894.	7.3	45
15	Quantized Conductance and Switching in Percolating Nanoparticle Films. Physical Review Letters, 2013, 111, 136808.	2.9	43
16	Stable Self-Assembled Atomic-Switch Networks for Neuromorphic Applications. IEEE Transactions on Electron Devices, 2017, 64, 5194-5201.	1.6	41
17	Engineering multiple topological phases in nanoscale Van der Waals heterostructures: realisation of $\hat{I}\pm$ -antimonene. 2D Materials, 2018, 5, 011002.	2.0	38
18	Reactive-ion-etched gallium nitride: Metastable defects and yellow luminescence. Applied Physics Letters, 1999, 75, 3285-3287.	1.5	37

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19	Construction and Application of a UHV Compatible Cluster Deposition System. Journal of Nanoparticle Research, 2006, 8, 405-416.	0.8	37
20	Covalently Anchored Carboxyphenyl Monolayer via Aryldiazonium Ion Grafting: A Well-Defined Reactive Tether Layer for On-Surface Chemistry. Langmuir, 2014, 30, 7104-7111.	1.6	37
21	Long-range temporal correlations in scale-free neuromorphic networks. Network Neuroscience, 2020, 4, 432-447.	1.4	36
22	Evolution of the interband absorption threshold with the density of a two-dimensional electron gas. Physical Review B, 1996, 54, R11082-R11085.	1.1	35
23	Tin oxide nanocluster hydrogen and ammonia sensors. Nanotechnology, 2008, 19, 015502.	1.3	35
24	Ag-Au nanoclusters: Structure and phase segregation. Applied Physics Letters, 2011, 99, .	1.5	35
25	Templated-assembly of conducting antimony cluster wires. Nanotechnology, 2004, 15, 1382-1387.	1.3	32
26	First-principles and spectroscopic studies of Bi(110) films: Thickness-dependent Dirac modes and property oscillations. Physical Review B, 2014, 90, .	1.1	32
27	Reentrant Adhesion Behavior in Nanocluster Deposition. Physical Review Letters, 2006, 97, 186103.	2.9	30
28	Evolution of neck radius and relaxation of coalescing nanoparticles. Physical Review B, 2009, 80, .	1.1	30
29	Vortex Dynamics and Instabilities in Layered and Homogeneous Ta/Ge Superconductors. Physical Review Letters, 1997, 78, 3378-3381.	2.9	29
30	Molecular dynamics simulations of reflection and adhesion behavior in Lennard-Jones cluster deposition. Physical Review B, 2007, 76, .	1.1	29
31	From the adhesion of atomic clusters to the fabrication of nanodevices. Applied Physics Letters, 2006, 89, 213105.	1.5	28
32	Fractal electronic devices: simulation and implementation. Nanotechnology, 2011, 22, 365304.	1.3	28
33	Scanning Tunneling and Atomic Force Microscopy Evidence for Covalent and Noncovalent Interactions between Aryl Films and Highly Ordered Pyrolytic Graphite. Journal of Physical Chemistry C, 2014, 118, 5820-5826.	1.5	28
34	Reactive ion etch-induced effects on the near-band-edge luminescence in GaN. Applied Physics Letters, 1999, 74, 3185-3187.	1.5	27
35	Anisotropic oxidation of bismuth nanostructures: Evidence for a thin film allotrope of bismuth. Applied Physics Letters, 2012, 100, .	1.5	27
36	Neuromorphic behavior in percolating nanoparticle films. Physical Review E, 2015, 92, 052134.	0.8	27

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37	Coefficient of restitution for bouncing nanoparticles. <i>Physical Review B</i> , 2010, 81, .	1.1	26
38	Bi on graphite: Morphology and growth characteristics of star-shaped dendrites. <i>Physical Review B</i> , 2006, 73, .	1.1	25
39	Topological phases in double layers of bismuthene and antimonene. <i>Nanotechnology</i> , 2017, 28, 395706.	1.3	24
40	Synaptic dynamics in complex self-assembled nanoparticle networks. <i>Faraday Discussions</i> , 2019, 213, 471-485.	1.6	24
41	Resonant tunneling in double-quantum-well triple-barrier heterostructures. <i>Physical Review B</i> , 1996, 54, 4857-4862.	1.1	23
42	Growth of oriented Bi nanorods at graphite step-edges. <i>Physical Review B</i> , 2005, 72, .	1.1	23
43	The effects of annealing and growth temperature on the morphologies of Bi nanostructures on HOPG. <i>Surface Science</i> , 2010, 604, 1273-1282.	0.8	23
44	Continuum percolation with tunneling. <i>Physical Review B</i> , 2014, 89, .	1.1	23
45	High resolution reactive ion etching of GaN and etch-induced effects. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1999, 17, 2759.	1.6	21
46	Moiré patterns in van der Waals heterostructures. <i>Physical Review B</i> , 2019, 99, .	1.1	21
47	Fermi-edge singularities in photoluminescence from modulation-doped GaAs quantum wells. <i>Physical Review B</i> , 1997, 56, 3937-3940.	1.1	19
48	Effects of dry processing on the optical properties of GaN. <i>Journal of Applied Physics</i> , 2000, 88, 7110-7114.	1.1	19
49	Morphological differences between Bi, Ag and Sb nano-particles and how they affect the percolation of current through nano-particle networks. <i>European Physical Journal D</i> , 2006, 39, 415-422.	0.6	19
50	Topological phase stability and transformation of bismuthene. <i>Europhysics Letters</i> , 2017, 119, 27002.	0.7	19
51	Single atomic layer allotrope of bismuth with rectangular symmetry. <i>Physical Review B</i> , 2017, 96, .	1.1	19
52	Origin of the moiré pattern in thin Bi films deposited on HOPG. <i>Physical Review B</i> , 2015, 91, .	1.1	18
53	Reservoir computing with 3D nanowire networks. <i>Neural Networks</i> , 2022, 154, 122-130.	3.3	16
54	Three-dimensional growth characteristics of antimony aggregates on graphite. <i>European Physical Journal D</i> , 2006, 39, 433-438.	0.6	14

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55	Structure of oxidized bismuth nanoclusters. <i>Acta Crystallographica Section B: Structural Science</i> , 2007, 63, 569-576.	1.8	14
56	Stochastic Spiking Behavior in Neuromorphic Networks Enables True Random Number Generation. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 52861-52870.	4.0	14
57	Experimental and simulational study of the operation conditions for a high transmission mass filter. <i>Review of Scientific Instruments</i> , 2007, 78, 053906.	0.6	13
58	Moiré patterns: a simple analytical model. <i>2D Materials</i> , 2020, 7, 011005.	2.0	13
59	Electrical characterization of gold island films: A route to control of nanoparticle deposition. <i>Applied Physics Letters</i> , 2008, 93, .	1.5	12
60	Germanium nano-cluster films as humidity and hydrogen sensors. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	12
61	Electrical measurements of nanoscale bismuth cluster films. <i>European Physical Journal D</i> , 2003, 24, 291-294.	0.6	11
62	The size dependence of tin oxide atomic cluster nanowire field effect transistors. <i>Nanotechnology</i> , 2009, 20, 425201.	1.3	11
63	The nanocoherer: an electrically and mechanically resettable resistive switching device based on gold clusters assembled on paper. <i>Nano Futures</i> , 2018, 2, 011002.	1.0	11
64	Survey of electronic structure of Bi and Sb thin films by first-principles calculations and photoemission measurements. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 128, 109-117.	1.9	11
65	Nanowire networks: how does small-world character evolve with dimensionality?. <i>Nanoscale Horizons</i> , 2021, 6, 482-488.	4.1	11
66	Brain-like critical dynamics and long-range temporal correlations in percolating networks of silver nanoparticles and functionality preservation after integration of insulating matrix. <i>Nanoscale Advances</i> , 2022, 4, 3149-3160.	2.2	11
67	Growth of nanorods and mesoscale stars prior to an orientation transition in thin Bi films on graphite. <i>Applied Surface Science</i> , 2006, 252, 5563-5567.	3.1	9
68	Synchrotron x-ray diffraction measurements of strain in metallic nanoparticles with oxide shells. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 075301.	1.3	9
69	STM driven modification of bismuth nanostructures. <i>Surface Science</i> , 2014, 621, 140-145.	0.8	9
70	Oblique Impacts and Rebounds of Lennard-Jones Clusters on Solid Surfaces. <i>Mathematics and Mechanics of Solids</i> , 2010, 15, 771-781.	1.5	8
71	Grain boundaries between bismuth nanocrystals. <i>Acta Materialia</i> , 2012, 60, 674-681.	3.8	8
72	Facile dissociation of molecular nitrogen using lanthanide surfaces: Towards ambient temperature ammonia synthesis. <i>Physical Review Materials</i> , 2020, 4, .	0.9	8

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73	A new design for a UHV compatible Czochralski crystal growth system. Review of Scientific Instruments, 1990, 61, 2427-2429.	0.6	7
74	Magnetic-field-induced bistability in resonant tunneling. Physical Review B, 1998, 58, R1758-R1761.	1.1	7
75	Structure of palladium nanoclusters for hydrogen gas sensors. Current Applied Physics, 2008, 8, 443-446.	1.1	7
76	Anisotropic corner crossing barriers in nanorod growth. Journal of Physics: Conference Series, 2008, 100, 072007.	0.3	7
77	Inter-Landau-level transitions near the threshold of 2D-2D tunneling. Physical Review B, 1997, 56, 1967-1972.	1.1	6
78	Lattice dynamics in Sn nanoislands and cluster-assembled films. Physical Review B, 2017, 95, .	1.1	6
79	Self-organized nanoscale networks: are neuromorphic properties conserved in realistic device geometries?. Neuromorphic Computing and Engineering, 0, , .	2.8	6
80	The morphology of tin cluster assembled films and the effect of nitrogen. European Physical Journal D, 2011, 61, 81-85.	0.6	5
81	Quantum fluctuations in percolating superconductors: an evolution with effective dimensionality. Nanotechnology, 2017, 28, 165704.	1.3	5
82	Argon plasma etching of gallium nitride: spectroscopic surprises. Nanotechnology, 2000, 11, 263-269.	1.3	4
83	Structure of unsupported antimony nanoclusters. European Physical Journal D, 2005, 34, 29-34.	0.6	4
84	Production and assembly of atomic clusters. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1217-1222.	0.8	4
85	Electron microscopy of bismuth building blocks for self-assembled nanowires. Current Applied Physics, 2006, 6, 453-456.	1.1	4
86	Oxidation of bismuth cluster films. Current Applied Physics, 2008, 8, 287-290.	1.1	4
87	Electrical signature of nanoscale coalescence in a percolating Bi nanocluster film. Physical Review B, 2010, 82, .	1.1	4
88	Growth and electronic properties of NaCl on HOPG. Surface Science, 2014, 620, 45-50.	0.8	4
89	Neuromorphic behaviour in discontinuous metal films. Nanoscale Horizons, 2022, 7, 437-445.	4.1	4
90	The use of wide ballistic cavities to investigate local weak localization processes induced by geometric scattering. Semiconductor Science and Technology, 1996, 11, 1189-1197.	1.0	3

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91	Conductivity, photoconductivity and optical properties of amorphous GaN films. Materials Research Society Symposia Proceedings, 2001, 693, 81.	0.1	3
92	Electrically conducting Bi cluster-assembled wires formed using SiN nanostencils. Microelectronic Engineering, 2006, 83, 1460-1463.	1.1	3
93	Gas Dynamic Considerations for Performance of Nanocluster Deposition System. , 2011, , .		3
94	Percolating transport in superconducting nanoparticle films. Journal of Applied Physics, 2017, 122, .	1.1	3
95	A patterned gate architecture for the study of high-quality AlGaAs/GaAs systems in the extreme quantum limit. Semiconductor Science and Technology, 1994, 9, 392-397.	1.0	2
96	Hydrogen sensors based on percolation and tunneling in films of palladium clusters. Proceedings of SPIE, 2007, , .	0.8	2
97	Characterization of a template process for conducting cluster-assembled wires. Applied Physics A: Materials Science and Processing, 2009, 97, 315-321.	1.1	2
98	The superconducting proximity effect in epitaxial Al/Pb nanocomposites. Superconductor Science and Technology, 2014, 27, 015008.	1.8	2
99	Synaptic and neuromorphic functions: general discussion. Faraday Discussions, 2019, 213, 553-578.	1.6	2
100	Antimony oxide nanostructures in the monolayer limit: self-assembly of van der Waals-bonded molecular building blocks. Nanotechnology, 2021, 32, 125701.	1.3	2
101	Structure of palladium nanoclusters for hydrogen gas sensors. Materials at High Temperatures, 2007, 24, 211-216.	0.5	1
102	Bi cluster-assembled interconnects produced using SU8 templates. Nanotechnology, 2007, 18, 155607.	1.3	1
103	Selective Filling and Sintering of Copper Nanoclusters for Interconnect. IEEE Nanotechnology Magazine, 2007, 6, 556-560.	1.1	1
104	The fabrication and optical characterisation of SnO ₂ cluster films. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 931-934.	0.8	1
105	Formation of nanowires at the percolation threshold in rectangular 2D systems. , 2003, , .		0
106	Formation of electrically conducting mesoscale wires through self-assembly of atomic clusters. , 2003, , .		0
107	Coalescence of Pb and Sn nanoclusters in percolating films. , 2009, , .		0
108	Fractal Electronic Circuits Assembled From Nanoclusters. , 2009, , .		0

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109	Atomic cluster device research in New Zealand. International Journal of Nanotechnology, 2009, 6, 384.	0.1	0
110	Power law fitting procedures: The electrical conductance of coalescing nanocluster films. Journal of Applied Physics, 2011, 109, 014910.	1.1	0
111	Removable capping layer for air-sensitive GdN. Nanotechnology, 2020, 31, 275709.	1.3	0