Martin R Castell

List of Publications by Year
in descending order

109 papers	4,513 citations	81900 39 h-index	110387 64 g-index
109 all docs	109 docs citations	109 times ranked	4739 citing authors

#	Article	IF	Citations
1	Smart Alignâ€”a new tool for robust non-rigid registration of scanning microscope data. Advanced Structural and Chemical Imaging, 2015, 1, .	4.0	290
2	Scanning tunneling microscopy of reconstructions on the SrTiO3() surface. Surface Science, 2002, 505, 1-13.	1.9	201
3	Field-emission SEM imaging of compositional and doping layer semiconductor superlattices. Ultramicroscopy, 1995, 58, 104-113.	1.9	174
4	Mechanism for secondary electron dopant contrast in the SEM. Journal of Electron Microscopy, 2000, 49, 311-321.	0.9	165
5	SrTiO3(001)(2Ã—1)reconstructions:â€ƒFirst-principles calculations of surface energy and atomic structure compared with scanning tunneling microscopy images. Physical Review B, 2004, 70, .	3.2	154
6	A homologous series of structures on the surface of SrTiO3(110). Nature Materials, 2010, 9, 245-248.	27.5	145
7	Imaging the Elastic Nanostructure of Ge Islands by Ultrasonic Force Microscopy. Physical Review Letters, 1998, 81, 1046-1049.	7.8	139
8	Surface states on NiO (100) and the origin of the contrast reversal in atomically resolved scanning tunneling microscope images. Physical Review B, 1997, 56, 4900-4908.	3.2	129
9	Melamine Structures on the Au(111) Surface. Journal of Physical Chemistry C, 2008, 112, 11476-11480.	3.1	122
10	Nanostructures on the SrTiO3() surface studied by STM. Surface Science, 2002, 516, 33-42.	1.9	107
11	Selecting the Shape of Supported Metal Nanocrystals: Pd Huts, Hexagons, or Pyramids onSrTiO3(001). Physical Review Letters, 2005, 94, 046103.	7.8	106
12	Stress-Induced Shape Transition ofCoSi2Clusters on Si(100). Physical Review Letters, 1998, 80, 3795-3798.	7.8	93
13	Atomic and electronic surface structures of dopants in oxides: STM and XPS of Nb- and La-doped SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>(001). Physical Review B, 2011, 83, .	3.2	89
14	Atomic-resolution STM of a system with strongly correlated electrons:NiO(001) surface structure and defect sites. Physical Review B, 1997, 55, 7859-7863.	3.2	83
15	Scanning tunneling microscopy studies of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mtext>C</mml:mtext><mml:mrow><mml:mn>60</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> on Au(111). Physical Review B, 2009, 80, .	3.2	81
16	2020 roadmap on solid-state batteries. JPhys Energy, 2020, 2, 032008.	5.3	74
17	Bimodal Growth of Au onSrTiO3(001). Physical Review Letters, 2006, 96, 086104.	7.8	67
18	Unexpected differences in the surface electronic structure of NiO and CoO observed by STM and explained by first-principles theory. Physical Review B, 1999, 59, 7342-7345.	3.2	62

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19	Mapping surface elastic properties of stiff and compliant materials on the nanoscale using ultrasonic force microscopy. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 2299-2323.	0.6	62
20	Ordering of TiO2-Based Nanostructures on SrTiO3(001) Surfaces. Journal of Physical Chemistry B, 2006, 110, 9246-9251.	2.6	59
21	A chiral pinwheel supramolecular network driven by the assembly of PTCDI and melamine. Chemical Communications, 2008, , 1907.	4.1	58
22	Surface Structures of Ultrathin TiOx Films on Au(111). Journal of Physical Chemistry C, 2011, 115, 8643-8652.	3.1	58
23	The evolution of Ni nanoislands on the rutile TiO2(110) surface with coverage, heating and oxygen treatment. Surface Science, 2001, 486, 167-184.	1.9	56
24	Dopant mapping for the nanotechnology age. Nature Materials, 2003, 2, 129-131.	27.5	56
25	H-Bonding Supramolecular Assemblies of PTCDI Molecules on the Au(111) Surface. Journal of Physical Chemistry C, 2009, 113, 21840-21848.	3.1	56
26	Out- versus in-plane magnetic anisotropy of free Fe and Co nanocrystals: Tight-binding and first-principles studies. Physical Review B, 2014, 90, .	3.2	55
27	SrTiO3(001) reconstructions: the (2Ã—2) to c(4Ã—4) transition. Surface Science, 2006, 600, 219-223.	1.9	54
28	Surface of Sputtered and Annealed Polar SrTiO₃(111):â€‰ TiO_x-Rich (n Ã— n) Reconstructions. Journal of Physical Chemistry C, 2008, 112, 6538-6545.	3.1	53
29	SrTiO3(001)â^'(5Ã—5)â^'R26.6Â°reconstruction: A surface resulting from phase separation in a reducing environment. Physical Review B, 2007, 75, .	3.2	52
30	Reconstructions on the polar<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Sr</mml:mi><mml:mi mathvariant="normal">Ti</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>(110) surface: Analysis using STM, LEED, and AES. Physical Review B, 2008, 77, .	3.2	51
31	Pairs and heptamers of C70 molecules ordered via PTCDI-melamine supramolecular networks. Applied Physics Letters, 2007, 91, 253109.	3.3	50
32	Encapsulated Pd Nanocrystals Supported by Nanoline-Structured SrTiO3(001). Journal of Physical Chemistry B, 2005, 109, 12316-12319.	2.6	47
33	Deriving molecular bonding from a macromolecular self-assembly using kinetic Monte Carlo simulations. Physical Review B, 2008, 77, .	3.2	46
34	Wulff shape of microscopic voids inUO2crystals. Physical Review B, 2003, 68, .	3.2	44
35	Template Ordered Open-Grid Arrays of Paired Endohedral Fullerenes. Journal of the American Chemical Society, 2006, 128, 13976-13977.	13.7	44
36	Intricate Hydrogen-Bonded Networks: Binary and Ternary Combinations of Uracil, PTCDI, and Melamine. Journal of Physical Chemistry C, 2010, 114, 5859-5866.	3.1	42

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37	Growth of Ag icosahedral nanocrystals on a SrTiO3(001) support. Applied Physics Letters, 2005, 87, 213107.	3.3	41
38	The (2Ã—2) reconstructions on the SrTiO3 (001) surface: A combined scanning tunneling microscopy and density functional theory study. Surface Science, 2011, 605, L51-L55.	1.9	41
39	Formation of single-domain anatase TiO2(001)â€(1Ã—4) islands on SrTiO3(001) after thermal annealing. Applied Physics Letters, 2004, 85, 3223-3225.	3.3	40
40	Epitaxial ordering of a perylenetetracarboxylic diimide-melamine supramolecular network driven by the Au(111)-(22Ã—3) reconstruction. Applied Physics Letters, 2008, 92, 023102.	3.3	40
41	(13Ã—13)R13.9Â°and(7Ã—7)R19.1Â°reconstructions of the polarSrTiO3(111)surface. Physical Review B, 2007, 75,	3.2	37
42	An STM study of the UO2(001) surface. Applied Surface Science, 1999, 142, 124-128.	6.1	35
43	Shape Transitions of Epitaxial Islands during Strained Layer Growth: Anatase<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 497 Td (stretchy="fa	7.8	35
44	xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrTiO</mml:mi> Water adsorption on SrTiO3(001): I. Experimental and simulated STM. Surface Science, 2012, 606, 762-765.	1.9	35
45	Vapour sensing of explosive materials. Analytical Methods, 2015, 7, 9005-9017.	2.7	35
46	Conducting polymer percolation gas sensor on a flexible substrate. Journal of Materials Chemistry C, 2020, 8, 12669-12676.	5.5	35
47	Controlled surface ordering of endohedral fullerenes with a SrTiO3template. Nanotechnology, 2007, 18, 075301.	2.6	34
48	Formation Mechanism for a Hybrid Supramolecular Network Involving Cooperative Interactions. Physical Review Letters, 2012, 108, 176103.	7.8	34
49	Transition from Order to Configurational Disorder for Surface Reconstructions on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>SrTiO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></ Physical Review Letters, 2015, 114, 226101.	7.8	34
50	Epitaxial Growth of Monolayer MoS₂ on SrTiO₃ Single Crystal Substrates for Applications in Nanoelectronics. ACS Applied Nano Materials, 2018, 1, 6976-6988.	5.0	34
51	Synthesis of Epitaxial Metal Oxide Nanocrystals via a Phase Separation Approach. ACS Nano, 2010, 4, 5139-5146.	14.6	32
52	Surface and Defect Structure of Oxide Nanowires on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2011, 107, 086102.	7.8	32
53	Electrohydrodynamic jet printed conducting polymer for enhanced chemiresistive gas sensors. Journal of Materials Chemistry C, 2021, 9, 4591-4596.	5.5	31
54	Electronic contribution to secondary electron compositional contrast in the scanning electron microscope. Ultramicroscopy, 1997, 69, 279-287.	1.9	30

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55	Self-assembled supported Co nanocrystals: The adhesion energy of face-centered-cubic Co on SrTiO3(001)-(2Ã—2). Applied Physics Letters, 2005, 87, 053106.	3.3	29
56	Fe nanocrystal growth on SrTiO3(001). Applied Physics Letters, 2005, 87, 063106.	3.3	28
57	Temperature-Dependent Stability of Supported Five-Fold Twinned Copper Nanocrystals. ACS Nano, 2009, 3, 901-906.	14.6	28
58	Transition from Reconstruction toward Thin Film on the (110) Surface of Strontium Titanate. Nano Letters, 2016, 16, 2407-2412.	9.1	28
59	Stoichiometry engineering of ternary oxide ultrathin films: <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Ba</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">Ti</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> on Au(111). Physical Review B, 2015, 91, .	3.2	27
60	Bridging electrode gaps with conducting polymers around the electrical percolation threshold. Electrochemistry Communications, 2018, 87, 40-43.	4.7	25
61	Growth shapes of supported Pd nanocrystals onSrTiO3(001). Physical Review B, 2005, 72, .	3.2	23
62	c(4â€‰Ã—â€‰2) and related structural units on the SrTiO3(001) surface: Scanning tunneling microscopy, density functional theory, and atomic structure. Journal of Chemical Physics, 2012, 136, 214701.	3.0	23
63	Deactivation and diffusion of boron in ion-implanted silicon studied by secondary electron imaging. Applied Physics Letters, 1999, 74, 2304-2306.	3.3	21
64	Stranski-Krastanov Growth of InN Nanostructures on GaN Studied by RHEED, STM and AFM. Physica Status Solidi A, 2002, 194, 536-540.	1.7	21
65	Hot STM of nanostructure dynamics on SrTiO3(001). Nanotechnology, 2006, 17, 3543-3548.	2.6	21
66	Plastic deformation under microindentations in GaAs/AlAs superlattices. Philosophical Magazine Letters, 1993, 67, 89-93.	1.2	20
67	Endohedral metallofullerenes in self-assembled monolayers. Physical Chemistry Chemical Physics, 2010, 12, 123-131.	2.8	20
68	Grating of single Lu@C82 molecules using supramolecular network. Chemical Communications, 2008, , 4616.	4.1	19
69	Structure and composition of linear TiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>nanostructures on SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>(001). Physical Review B, 2012, 86, .	3.2	18
70	Controlled growth of Ni nanocrystals on SrTiO3 and their application in the catalytic synthesis of carbon nanotubes. Chemical Communications, 2013, 49, 3748.	4.1	18
71	Atomic and electronic Z-contrast effects in high-resolution imaging. Ultramicroscopy, 1994, 54, 107-115.	1.9	17
72	Gallium nitride surface preparation optimised using in situ scanning tunnelling microscopy. Applied Surface Science, 2003, 214, 1-10.	6.1	17

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73	Maximising the resolving power of the scanning tunneling microscope. Advanced Structural and Chemical Imaging, 2018, 4, 7.	4.0	17
74	Thermal Degradation of Monolayer MoS2 on SrTiO3 Supports. Journal of Physical Chemistry C, 2019, 123, 3876-3885.	3.1	17
75	Scanning tunnelling microscopy of epitaxial nanostructures. Chemical Society Reviews, 2014, 43, 2226.	38.1	15
76	Imaging insulating oxides by elevated-temperature STM. Applied Physics A: Materials Science and Processing, 1998, 66, S963-S967.	2.3	14
77	Atomic and electronic structure of an epitaxial <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">N</mml:mi><mml:msub><mml:mi mathvariant="normal">b</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> honeycomb monolayer on Au(111). Physical Review B, 2019, 100, .	3.2	14
78	Shapes of epitaxial gold nanocrystals on SrTiO₃ substrates. Physical Chemistry Chemical Physics, 2020, 22, 4416-4428.	2.8	14
79	Synthesis of carbon nanocoil forests on BaSrTiO3 substrates with the aid of a Sn catalyst. Carbon, 2013, 60, 5-15.	10.3	12
80	Heteroepitaxial growth of InN islands studied by STM and AFM. Journal Physics D: Applied Physics, 2002, 35, 615-619.	2.8	11
81	C70 ordering on nanostructured SrTiO3(001). Chemical Communications, 2007, , 2941.	4.1	11
82	ANFO vapour detection with conducting polymer percolation network sensors and GC/MS. Analyst, The, 2021, 146, 2186-2193.	3.5	11
83	Defects on Strontium Titanate. Springer Series in Surface Sciences, 2015, , 327-349.	0.3	11
84	Influence of the support on stabilizing local defects in strained monolayer oxide films. Nanoscale, 2019, 11, 2412-2422.	5.6	10
85	Initial growth stages of titanium and barium oxide films on SrTiO3(001). Surface Science, 2013, 618, 94-100.	1.9	9
86	Electrical percolation through a discontinuous Au nanoparticle film. Applied Physics Letters, 2018, 112, 251602.	3.3	9
87	Single-layer TiOx reconstructions on SrTiO3 (111): (âˆš7â€¯Ã—â€¯âˆš7)R19.1Â°, (âˆš13â€¯Ã—â€¯âˆš13)R13.9Â°, and related structures. Surface Science, 2018, 675, 36-41.	1.9	8
88	PEDOT percolation networks for reversible chemiresistive sensing of NO₂. RSC Advances, 2021, 11, 22789-22797.	3.6	8
89	Atomic-scale studies on the growth of palladium and titanium on GaN(0001). Surface Science, 2007, 601, 4438-4443.	1.9	7
90	Magnetic Iron Oxide Nanowires Formed by Reactive Dewetting. Nano Letters, 2018, 18, 2365-2372.	9.1	7

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91	Structure of vapour deposited adenine on a nanostructured perovskite surface studied by STM. Faraday Discussions, 2006, 133, 303.	3.2	6
92	Ba and BaOx surface structures on Au(111). Surface Science, 2012, 606, 181-185.	1.9	6
93	Experimental determination of the {111}/{001} surface energy ratio for Pd crystals. Applied Physics Letters, 2020, 117, .	3.3	6
94	The indentation response of GaAs[sbnd]AlAs heterostructures. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1996, 74, 1185-1194.	0.6	5
95	Fracture properties of GaAsâ€“AlAs superlattices studied by atomic force microscopy and scanning electron microscopy. Acta Materialia, 1998, 46, 579-584.	7.9	5
96	Metal-free chemical vapor deposition growth of graphitic tubular structures on engineered perovskite oxide substrates. Carbon, 2016, 99, 591-598.	10.3	4
97	Thermodynamics driving the strong metalâ€“support interaction: Titanate encapsulation of supported Pd nanocrystals. Physical Review Materials, 2021, 5, .	2.4	3
98	Microscopy of Metal Oxide Surfaces. Microscopy and Microanalysis, 2000, 6, 324-328.	0.4	2
99	The effect of the size of surface Pd island ensembles on electron transfer of adsorbed perchlorate ions on Au(111). Chemical Communications, 2014, 50, 1198-1201.	4.1	2
100	Ultrathin Oxide Films on Au(111) Substrates. Springer Series in Materials Science, 2016, , 149-168.	0.6	2
101	Epitaxially Constrained Grain Boundary Structures in an Oxide Honeycomb Monolayer. Advanced Materials Interfaces, 2022, 9, .	3.7	2
102	Polypyrrole Percolation Network Gas Sensors: Improved Reproducibility through Conductance Monitoring during Polymer Growth. ACS Applied Polymer Materials, 2022, 4, 2536-2543.	4.4	2
103	Influence of soil type on chemiresistive detection of buried ANFO. Forensic Chemistry, 2022, 27, 100401.	2.8	1
104	Scanning Tunneling Microscopy of Nanoindentations. Materials Research Society Symposia Proceedings, 1991, 239, 367.	0.1	0
105	Publisherâ€™s Note: Surface and Defect Structure of Oxide Nanowires onSrTiO3[Phys. Rev. Lett.107, 086102 (2011)]. Physical Review Letters, 2011, 107, .	7.8	0
106	Ammonium Nitrate/Fuel Oil Vapour Detection with Conducting Polymer Percolation Network Sensors. ECS Meeting Abstracts, 2021, MA2021-01, 1446-1446.	0.0	0
107	Metal-Organic Framework and Silver Nanowire Composites As Chemiresistive Gas Sensors Operating at the Percolation Threshold. ECS Meeting Abstracts, 2021, MA2021-01, 1464-1464.	0.0	0
108	In Situ Electrochemical Approach to Reproducible Percolation Networks for Chemiresistors. ECS Meeting Abstracts, 2021, MA2021-01, 1691-1691.	0.0	0

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109	Encapsulated Pd crystals on anatase supports: High precision determination of the titanate overlayer moirÃ© structure. Surface Science, 2022, 715, 121941.	1.9	0