Philip J Moriarty

List of Publications by Year in descending order

141 papers	4,014 citations	136950 32 h-index	138484 58 g-index
145 all docs	145 docs citations	145 times ranked	3819 citing authors

#	Article	IF	Citations
1	Nanostructured materials. Reports on Progress in Physics, 2001, 64, 297-381.	20.1	703
2	Manipulation of C60 molecules on a Si surface. Applied Physics Letters, 1995, 67, 1075-1077.	3.3	135
3	Mapping the force field of a hydrogen-bonded assembly. Nature Communications, 2014, 5, 3931.	12.8	133
4	Resonant magnetotunneling through individual self-assembled InAs quantum dots. Physical Review B, 1996, 54, 16401-16404.	3.2	114
5	Controlling Pattern Formation in Nanoparticle Assemblies via Directed Solvent Dewetting. Physical Review Letters, 2007, 99, 116103.	7.8	112
6	Fingering Instabilities in Dewetting Nanofluids. Physical Review Letters, 2008, 100, 176102.	7.8	110
7	Nanostructured Cellular Networks. Physical Review Letters, 2002, 89, 248303.	7.8	90
8	Nanopore Formation by Self-Assembly of the Model Genetically Engineered Elastin-like Polymer [(VPGVG)2(VPGEG)(VPGVG)2]15. Journal of the American Chemical Society, 2004, 126, 13212-13213.	13.7	85
9	Photoelectron core-level spectroscopy and scanning-tunneling-microscopy study of the sulfur-treated GaAs(100) surface. Physical Review B, 1994, 50, 14237-14245.	3.2	82
10	Optical anisotropy in arrow-shaped InAs quantum dots. Physical Review B, 1998, 57, R6815-R6818.	3.2	80
11	Toggling Bistable Atoms via Mechanical Switching of Bond Angle. Physical Review Letters, 2011, 106, 136101.	7.8	77
12	Translation, rotation and removal of C60 on Si(100)-2 Ã— 1 using anisotropic molecular manipulation. Surface Science, 1998, 407, 27-35.	1.9	76
13	C60-terminated Si surfaces: Charge transfer, bonding, and chemical passivation. Physical Review B, 1998, 57, 362-369.	3.2	69
14	Nanoparticle Networks on Silicon:Â Self-Organized or Disorganized?. Nano Letters, 2004, 4, 2389-2392.	9.1	66
15	Fullerene adsorption on semiconductor surfaces. Surface Science Reports, 2010, 65, 175-227.	7.2	66
16	Mono- and multi-layer adsorption of an ionic liquid on Au(110). Physical Chemistry Chemical Physics, 2012, 14, 6054.	2.8	64
17	Adsorption of cobalt phthalocyanine on Ag terminated Si(111). Surface Science, 1999, 441, 21-25.	1.9	57
18	Precise Orientation of a Single<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>60</mml:mn></mml:msub></mml:math>Molecule on the Tip of a Scanning Probe Microscope. Physical Review Letters, 2012, 108, 268302.	7.8	55

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19	Double domain ordering and selective removal ofC60onAg/Si(111)â^'(3Ã—3)R30Â°. Physical Review B, 1997, 56, R1704-R1707.	3.2	53
20	Sulfur-inducedc(4Ã—4) reconstruction of the Si(001) surface studied by scanning tunneling microscopy. Physical Review B, 1993, 47, 15950-15953.	3.2	45
21	Structural and optical characterization of self-assembled InAs-GaAs quantum dots grown on high index surfaces. Microelectronics Journal, 1997, 28, 933-938.	2.0	45
22	Dual-Scale Pattern Formation in Nanoparticle Assemblies. Journal of Physical Chemistry C, 2008, 112, 15195-15203.	3.1	44
23	Modelling approaches to the dewetting of evaporating thin films of nanoparticle suspensions. Journal of Physics Condensed Matter, 2009, 21, 264016.	1.8	42
24	Coerced mechanical coarsening of nanoparticle assemblies. Nature Nanotechnology, 2007, 2, 167-170.	31.5	41
25	Critical Assessment of the Evidence for Striped Nanoparticles. PLoS ONE, 2014, 9, e108482.	2.5	41
26	Charge Transport in Cellular Nanoparticle Networks:Â Meandering through Nanoscale Mazes. Nano Letters, 2007, 7, 855-860.	9.1	40
27	Automated extraction of single H atoms with STM: tip state dependency. Nanotechnology, 2017, 28, 075302.	2.6	36
28	Automated Searching and Identification of Self-Organized Nanostructures. Nano Letters, 2020, 20, 7688-7693.	9.1	36
29	Chemical and structural studies of the interactions of molecular sulfur with the GaAs(111)A and GaAs(111)B surfaces. Surface Science, 1994, 317, 73-83.	1.9	35
30	Physisorption Controls the Conformation and Density of States of an Adsorbed Porphyrin. Journal of Physical Chemistry C, 2015, 119, 27982-27994.	3.1	34
31	Adsorbed and substituted Sb dimers on GaAs(001). Physical Review B, 1996, 53, R16148-R16151.	3.2	32
32	Meniscus-Mediated Organization of Colloidal Nanoparticles. Journal of Physical Chemistry C, 2007, 111, 16255-16260.	3.1	32
33	Scanning tunneling state recognition with multi-class neural network ensembles. Review of Scientific Instruments, 2019, 90, .	1.3	32
34	On the synthesis and manipulation of InAs quantum dots. Journal of Materials Chemistry, 2000, 10, 1939-1943.	6.7	31
35	Attractive mode manipulation of covalently bound molecules. Chemical Physics Letters, 2002, 366, 300-304.	2.6	31
36	Automated probe microscopy via evolutionary optimization at the atomic scale. Applied Physics Letters, 2011, 98, .	3.3	30

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37	Deposition of Fe clusters on Si surfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 2646.	1.6	29
38	Intramolecular bonds resolved on a semiconductor surface. Physical Review B, 2014, 90, .	3.2	29
39	Role of orbital overlap in atomic manipulation. Physical Review B, 2012, 85, .	3.2	28
40	Room temperature manipulation of the heterofullerene C59N on Si(100)-2Ã—1. Applied Physics Letters, 1999, 75, 1074-1076.	3.3	27
41	Scanning tunneling microscopy study of pentacene adsorption on Ag/Si(1 1 1)-(âˆš3 Ã— âˆš3)R30Â°. Applied Surface Science, 2003, 212-213, 537-541.	6.1	27
42	(2Ã—4)/c(2Ã—8) to (4Ã—2)/c(8Ã—2) transition on GaAs(001) surfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 943.	1.6	26
43	Graphical computing in the undergraduate laboratory: Teaching and interfacing with LabVIEW. American Journal of Physics, 2003, 71, 1062-1074.	0.7	26
44	Effect of the tip state during qPlus noncontact atomic force microscopy of Si(100) at 5 K: Probing the probe. Beilstein Journal of Nanotechnology, 2012, 3, 25-32.	2.8	26
45	Room temperature manipulation of C60 molecules on a Si surface. Surface Science, 1996, 361-362, 878-881.	1.9	25
46	Measurement and manipulation of Mn clusters on clean and fullerene terminated Si(111)-7Ã—7. Applied Physics Letters, 1997, 70, 2114-2116.	3.3	25
47	Chemical bonding and structure of the sulfur treated GaAs(111)B surface. Applied Physics Letters, 1995, 67, 383-385.	3.3	24
48	Absence of long-range ordered reconstruction on the GaAs(311)A surface. Physical Review B, 1997, 55, 15397-15400.	3.2	24
49	C59NMonomers: Stabilization through Immobilization. Physical Review Letters, 1999, 83, 3478-3481.	7.8	24
50	Machine learning at the (sub)atomic scale: next generation scanning probe microscopy. Machine Learning: Science and Technology, 2020, 1, 023001.	5.0	24
51	Passivation of Si(111)â€7Ã—7 by a C60 monolayer. Applied Physics Letters, 1996, 69, 506-508.	3.3	22
52	A Genetic Algorithm Approach to Probing the Evolution of Self-Organized Nanostructured Systems. Nano Letters, 2007, 7, 1985-1990.	9.1	22
53	Identifying passivated dynamic force microscopy tips on H:Si(100). Applied Physics Letters, 2012, 100, .	3.3	22
54	Measuring the mechanical properties of molecular conformers. Nature Communications, 2015, 6, 8338.	12.8	22

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55	Adsorbed molecular shuttlecocks: An NIXSW study of Sn phthalocyanine on Ag(111) using Auger electron detection. Surface Science, 2007, 601, 1231-1238.	1.9	21
56	Atomic resolved material displacement on graphite surfaces by scanning tunnelling microscopy. Applied Physics Letters, 1992, 60, 2338-2340.	3.3	20
57	Colloidal particle foams: Templates for Au nanowire networks?. Applied Physics Letters, 2002, 81, 5039-5041.	3.3	19
58	Manipulating Si(100) at 5 K using qPlus frequency modulated atomic force microscopy: Role of defects and dynamics in the mechanical switching of atoms. Physical Review B, 2011, 84, .	3.2	19
59	Empirical density functional and the adsorption of organic molecules on Si(100). Physical Review B, 2003, 67, .	3.2	18
60	Morphology, structure, and electronic properties of Ce@C82 films on Ag:Si(111)-(âˆš3Ã—âˆš3)R30Â°. Surface Science, 2004, 564, 156-164.	1.9	18
61	Simultaneous noncontact AFM and STM of Ag:Si(111)-(<mml:math) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 522 Td (xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>R</mml:mi><mml:msup><mml:mn>30</mml:mn><mml:mo>â˜</mml:mo></mml:msup></mml:mrow></mml:math>). Physical Review B, 2013, 87, .	3.2	18
62	Double chain structures on the Sb-terminated GaAs(111)Bsurface. Physical Review B, 1995, 51, 7950-7953.	3.2	17
63	C60 manipulation and cluster formation using a scanning tunneling microscope. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1596.	1.6	17
64	Recovering molecular orientation from convoluted orbitals. Physical Review B, 2013, 88, .	3.2	17
65	Identifying tips for intramolecular NC-AFM imaging via in situ fingerprinting. Scientific Reports, 2014, 4, 6678.	3.3	16
66	Embedding human heuristics in machine-learning-enabled probe microscopy. Machine Learning: Science and Technology, 2020, 1, 015001.	5.0	16
67	Does an Encapsulated Atom â€˜feel' the Effects of Adsorption?: X-ray Standing Wave Spectroscopy of Ce@C82on Ag(111). Nano Letters, 2004, 4, 361-364.	9.1	15
68	Reclaiming academia from post-academia. Nature Nanotechnology, 2008, 3, 60-62.	31.5	15
69	Sb-induced GaAs(111)B surface reconstructions: success and failure of the electron-counting rule. Surface Science, 1996, 365, L663-L668.	1.9	14
70	Resonant processes and Coulomb interactions in (C59N)2. Journal of Chemical Physics, 2007, 126, 184707.	3.0	14
71	A self-assembled InAs quantum dot used as a quantum microscope looking into a two-dimensional electron gas. Physics-Uspekhi, 1998, 41, 122-125.	2.2	13
72	Comment on â€œX-Ray Studies of the Structure and Electronic Behavior of Alkanethiolate-Capped Gold Nanoparticles: The Interplay of Size and Surface Effectsâ€• Physical Review Letters, 2004, 92, 109601; author reply 109602.	7.8	13

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73	Scanning probe image wizard: A toolbox for automated scanning probe microscopy data analysis. Review of Scientific Instruments, 2013, 84, 113701.	1.3	13
74	An investigation of the early stages of native oxide growth on chemically etched and sulfur-treated GaAs(100) and InP(100) surfaces by scanning tunnelling microscopy. Ultramicroscopy, 1992, 42-44, 956-961.	1.9	12
75	Molecular scale alignment strategies: An investigation of Ag adsorption on patterned fullerene layers. Applied Physics Letters, 1997, 71, 2937-2939.	3.3	12
76	The interaction of bismuth with the GaAs(111)B surface. Applied Surface Science, 1999, 152, 169-176.	6.1	12
77	qPlus atomic force microscopy of the Si(100) surface: Buckled, split-off, and added dimers. Applied Physics Letters, 2009, 95, .	3.3	12
78	Dewetting of Au nanoparticle assemblies. Journal of Materials Chemistry, 2011, 21, 16983.	6.7	12
79	Unique Determination of â€œSubatomicâ€•Contrast by Imaging Covalent Backbonding. Nano Letters, 2014, 14, 2265-2270.	9.1	12
80	Visualizing the orientational dependence of an intermolecular potential. Nature Communications, 2016, 7, 10621.	12.8	12
81	A Combined Monte Carlo and HÃ¼ckel Theory Simulation of Orientational Ordering in C₆₀ Assemblies. Journal of Physical Chemistry C, 2016, 120, 8139-8147.	3.1	12
82	Vacancy creation on the Si(111)â˜7 Ã— 7 surface due to sulfur desorption studied by scanning tunneling microscopy. Surface Science, 1993, 297, L113-L118.	1.9	11
83	Iron Wheels on Silicon:Â Wetting Behavior and Electronic Structure of Adsorbed Organostannoxane Clusters. Langmuir, 2004, 20, 6421-6429.	3.5	11
84	Intermolecular artifacts in probe microscope images of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>60</mml:mn></mml:msub></mml:math>assemblies. Physical Review B, 2015, 92, .	3.2	11
85	Improving the segmentation of scanning probe microscope images using convolutional neural networks. Machine Learning: Science and Technology, 2021, 2, 015015.	5.0	11
86	Disorder-Order Ripening ofC60Islands. Physical Review Letters, 1997, 78, 2588-2591.	7.8	10
87	C60 adsorption on the Si(110)-(16 Ã— 2) surface. Surface Science, 1998, 397, 421-425.	1.9	10
88	Doping of covalently bound fullerene monolayers: Ag clusters on C60/Si(111). Applied Physics Letters, 2000, 77, 1144-1146.	3.3	10
89	Competing interactions of noble metals and fullerenes with the Si(111)7Ã—7 surface. Journal of Chemical Physics, 2003, 119, 13046-13052.	3.0	10
90	Imaging and manipulation of the Si(100) surface by small-amplitude NC-AFM at zero and very low applied bias. Journal of Physics Condensed Matter, 2012, 24, 084009.	1.8	10

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91	Wave function imaging of the PbS(001) surface with scanning tunneling microscopy. Surface Science, 1993, 287-288, 1106-1111.	1.9	9
92	Directing the Formation of Nanostructured Rings via Local Oxidation. Langmuir, 2010, 26, 13892-13896.	3.5	9
93	Simulated structure and imaging of NTCDI on Si(1 1 1)-7 Ã— 7â€‰:â€‰a combined STM, NC-AFM and DFT study. Journal of Physics Condensed Matter, 2015, 27, 054004.	1.8	9
94	Scanning tunneling microscopy study of the ambient oxidation of passivated GaAs(100) surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 1099-1105.	2.1	8
95	Nanometer scale patterning of C60 multilayers using molecular manipulation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 1478-1481.	2.1	8
96	Resonant magnetotunneling through individual self-assembled InAs quantum dots. Superlattices and Microstructures, 1997, 21, 255-258.	3.1	8
97	Reconstruction dependent adsorption of C60 on GaAs(111)B. Surface Science, 1998, 405, 21-26.	1.9	8
98	Functionalized fullerenes on silicon surfaces. Surface Science, 1998, 405, L526-L531.	1.9	8
99	Core-level photoemission study of the Bíî—¸GaAs(111)A interface. Applied Surface Science, 2000, 158, 292-300.	6.1	8
100	Atomic scale modifications of GaAs using a scanning tunneling microscope. Applied Physics Letters, 1995, 66, 1515-1517.	3.3	7
101	Oscillations in the valence-band photoemission spectrum of the heterofullereneC59N:A photoelectron interference phenomenon. Physical Review B, 1999, 59, 9834-9837.	3.2	7
102	Chemical shielding of H2O and HF encapsulated inside a C60 cage. Communications Chemistry, 2021, 4, .	4.5	7
103	(C6H5)5C60HatSi(111)â€(7Ã—7)andAg:Si(111)â€(3Ã—3)R30Â°surfaces. Physical Review B, 2005, 72, .	3.2	6
104	Langmuirâ€“Blodgett films of C60 and C60O on Silicon: Islands, rings and grains. Thin Solid Films, 2009, 517, 1650-1654.	1.8	6
105	C60 submonolayers on the Si(111)-(7Ã—7) surface: Does a mixture of physisorbed and chemisorbed states exist?. Surface Science, 2009, 603, 2896-2901.	1.9	6
106	Quadruped Molecular Anchoring to an Insulator: Functionalized Ferrocene on CaF₂ Bulk and Thin Film Surfaces. Journal of Physical Chemistry C, 2020, 124, 9900-9907.	3.1	6
107	Adsorption of Sb on GaAs(111)B studied by photoemission and low energy electron diffraction. Surface Science, 1997, 377-379, 130-134.	1.9	5
108	Chemisorption of azafullerene on silicon: isolating C59N monomers. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2000, 74, 202-205.	3.5	5

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109	Polydisperse Au nanoclusters on silicon: fractal aggregates via spinodal decomposition?. Chemical Physics Letters, 2001, 348, 27-33.	2.6	5
110	A compact combined ultrahigh vacuum scanning tunnelling microscope (UHV STM) and near-field optical microscope. Measurement Science and Technology, 2008, 19, 045301.	2.6	5
111	Chapter 1 Self-Organised Nanoparticle Assemblies: A Panoply of Patterns. Studies in Multidisciplinarity, 2008, 5, 1-20.	0.0	5
112	Measuring the reactivity of a silicon-terminated probe. Physical Review B, 2016, 94, .	3.2	5
113	STM investigation and manipulation of molecules adsorbed on an Si(111) surface. Semiconductor Science and Technology, 1996, 11, 1563-1568.	2.0	4
114	Structural development and energy dissipation in simulated silicon apices. Beilstein Journal of Nanotechnology, 2013, 4, 941-948.	2.8	4
115	Mechano-chemical manipulation of Sn chains on Si(1â€‰0â€‰0) by NC-AFM. Journal of Physics Condensed Matter, 2017, 29, 074003.	1.8	4
116	Atomic scale protection using fullerene encapsulation. Applied Physics Letters, 2001, 78, 126-128.	3.3	3
117	ANISOTROPIC ASSEMBLY OF COLLOIDAL NANOPARTICLES: EXPLOITING SUBSTRATE CRYSTALLINITY. Nano, 2007, 02, 361-365.	1.0	3
118	The power of YouTube. Physics World, 2014, 27, 31-34.	0.0	3
119	Gender issues in fundamental physics: Strumiaâ€™s bibliometric analysis fails to account for key confounders and confuses correlation with causation. Quantitative Science Studies, 2021, 2, 263-272.	3.3	3
120	Lateral translation of covalently bound fullerenes. Journal of Physics Condensed Matter, 2006, 18, S1837-S1846.	1.8	2
121	Nanofluids on solid substrates. Journal of Physics Condensed Matter, 2009, 21, 260302.	1.8	2
122	Nano-contact microscopy of supracrystals. Beilstein Journal of Nanotechnology, 2015, 6, 1229-1236.	2.8	2
123	Highlights of the Faraday Discussion on Nanoparticle Synthesis and Assembly, Argonne, USA, April 2015. Chemical Communications, 2015, 51, 13725-13730.	4.1	2
124	A LEGOTM dynamic force â€œmacroscopeâ€• American Journal of Physics, 2020, 88, 906-917.	0.7	2
125	Atom-technology and beyond: manipulating matter using scanning probes. SPR Nanoscience, 2012, , 116-144.	0.6	2
126	Origin of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow><mml:mn>60</mml:mn></mml:msub></mml:math> surface reconstruction resolved by atomic force microscopy. Physical Review B, 2021, 104, .	3.2	2

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127	Investigation and Manipulation of C60on a Si Surface Using a Scanning Tunneling Microscope. Fullerenes, Nanotubes, and Carbon Nanostructures, 1997, 5, 769-780.	0.6	1
128	Probing the interactions of on Si(100)- using anisotropic molecular manipulation. Semiconductor Science and Technology, 1998, 13, A47-A50.	2.0	1
129	AFM of self-organised nanoparticle arrays: frequency modulation, amplitude modulation, and force spectroscopy. Proceedings of SPIE, 2008, , .	0.8	1
130	Combining nanoscale manipulation with macroscale relocation of single quantum dots. Beilstein Journal of Nanotechnology, 2012, 3, 324-328.	2.8	1
131	Submolecular Resolution Imaging of $$ext{C}_{60}$$ C 60 : From Orbital Density to Bond Order. Advances in Atom and Single Molecule Machines, 2013, , 195-206.	0.0	1
132	Pauliâ€™s Principle in Probe Microscopy. Advances in Atom and Single Molecule Machines, 2015, , 1-24.	0.0	1
133	C59N on silicon surfaces: monomers, dimers and multilayers. , 1999, , .		0
134	The economic-impact fallacy. Physics World, 2009, 22, 16-17.	0.0	0
135	Pushing the Potential of Probe Microscopy. Physics Magazine, 2015, 8, .	0.1	0
136	Methodological Queries Regarding â€œExploratory Quantum Resonance Spectrometryâ€•(Zhang et al.,) Tj ETQq0 0 0 rgBT /Overlock 10	1.0	0
137	Visualizing the â€˜Invisibleâ€™. Leonardo, 2015, 48, 64-65.	0.3	0
138	A little learning is a dangerous thing. Physics World, 2017, 30, 33-34.	0.0	0
139	Mechanochemistry at Silicon Surfaces. Nanoscience and Technology, 2015, , 247-274.	1.5	0
140	Cyclic Single Atom Vertical Manipulation on a Nonmetallic Surface. Journal of Physical Chemistry Letters, 2021, 12, 11383-11390.	4.6	0
141	Flights of fancy, feet on the ground. Physics World, 2021, 34, 46-47.	0.0	0