Hongkun Park

List of Publications by Year
in descending order

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133 papers	34,051 citations	6592 79 h-index	16605 123 g-index
134 all docs	134 docs citations	134 times ranked	37421 citing authors

#	Article	IF	Citations
1	Probing dark exciton navigation through a local strain landscape in a WSe2 monolayer. Nature Communications, 2022, 13, 232.	5.8	32
2	Multi-parametric functional imaging of cell cultures and tissues with a CMOS microelectrode array. Lab on A Chip, 2022, 22, 1286-1296.	3.1	20
3	Optical Entanglement of Distinguishable Quantum Emitters. Physical Review Letters, 2022, 128, .	2.9	9
4	Beam steering at the nanosecond time scale with an atomically thin reflector. Nature Communications, 2022, 13, .	5.8	6
5	Excitons in a reconstructed moirÃ© potential in twisted WSe2/WSe2 homobilayers. Nature Materials, 2021, 20, 480-487.	13.3	109
6	Micron-Scale NV-NMR Spectroscopy with Signal Amplification by Reversible Exchange. PRX Quantum, 2021, 2, .	3.5	27
7	Electrically controlled emission from singlet and triplet exciton species in atomically thin light-emitting diodes. Physical Review B, 2021, 103, .	1.1	26
8	Bilayer Wigner crystals in a transition metal dichalcogenide heterostructure. Nature, 2021, 595, 48-52.	13.7	98
9	Neuromorphic electronics based on copying and pasting the brain. Nature Electronics, 2021, 4, 635-644.	13.1	94
10	A nanoelectrode array for obtaining intracellular recordings from thousands of connected neurons. Nature Biomedical Engineering, 2020, 4, 232-241.	11.6	171
11	Broken mirror symmetry in excitonic response of reconstructed domains in twisted MoSe2/MoSe2 bilayers. Nature Nanotechnology, 2020, 15, 750-754.	15.6	106
12	Extracellular recording of direct synaptic signals with a CMOS-nanoelectrode array. Lab on A Chip, 2020, 20, 3239-3248.	3.1	17
13	Electrically Tunable Valley Dynamics in Twisted <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn> Bilayers. Physical Review Letters, 2020, 124, 217403.	2.9	89
14	Probing and manipulating embryogenesis via nanoscale thermometry and temperature control. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14636-14641.	3.3	77
15	Hyperpolarization-Enhanced NMR Spectroscopy with Femtomole Sensitivity Using Quantum Defects in Diamond. Physical Review X, 2020, 10, .	2.8	34
16	Experimental demonstration of memory-enhanced quantum communication. Nature, 2020, 580, 60-64.	13.7	325
17	The Design of a CMOS Nanoelectrode Array With 4096 Current-Clamp/Voltage-Clamp Amplifiers for Intracellular Recording/Stimulation of Mammalian Neurons. IEEE Journal of Solid-State Circuits, 2020, 55, 2567-2582.	3.5	23
18	Controlling Excitons in an Atomically Thin Membrane with a Mirror. Physical Review Letters, 2020, 124, 027401.	2.9	55

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19	Quantum Metrology with Strongly Interacting Spin Systems. Physical Review X, 2020, 10, .	2.8	52
20	Asymmetric photoelectric effect: Auger-assisted hot hole photocurrents in transition metal dichalcogenides. Nanophotonics, 2020, 10, 105-113.	2.9	2
21	Atomically thin three-dimensional membranes of van der Waals semiconductors by wafer-scale growth. Science Advances, 2019, 5, eaaw3180.	4.7	22
22	Quantum Network Nodes Based on Diamond Qubits with an Efficient Nanophotonic Interface. Physical Review Letters, 2019, 123, 183602.	2.9	133
23	Electrical control of interlayer exciton dynamics in atomically thin heterostructures. Science, 2019, 366, 870-875.	6.0	255
24	An integrated nanophotonic quantum register based on silicon-vacancy spins in diamond. Physical Review B, 2019, 100, .	1.1	111
25	Liquid Salt Transport Growth of Single Crystals of the Layered Dichalcogenides MoS₂ and WS₂. Crystal Growth and Design, 2019, 19, 5762-5767.	1.4	16
26	Origins of Diamond Surface Noise Probed by Correlating Single-Spin Measurements with Surface Spectroscopy. Physical Review X, 2019, 9, .	2.8	107
27	Electrically Tunable Excitonâ€“Plasmon Coupling in a WSe₂ Monolayer Embedded in a Plasmonic Crystal Cavity. Nano Letters, 2019, 19, 3543-3547.	4.5	32
28	Stepwise Ligand-induced Self-assembly for Facile Fabrication of Nanodiamondâ€“Gold Nanoparticle Dimers via Noncovalent Biotinâ€“Streptavidin Interactions. Nano Letters, 2019, 19, 2020-2026.	4.5	16
29	CMOS interface with biological molecules and cells : Invited review paper. , 2019, , .		1
30	CMOS interface with biological molecules and cells. , 2019, , .		3
31	Electron-phonon instability in graphene revealed by global and local noise probes. Science, 2019, 364, 154-157.	6.0	47
32	A nanophotonic interface to long-lived quantum memories in diamond. , 2019, , .		0
33	Optimizing Nanoelectrode Arrays for Scalable Intracellular Electrophysiology. Accounts of Chemical Research, 2018, 51, 600-608.	7.6	78
34	Large Excitonic Reflectivity of Monolayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MoSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></ in Hexagonal Boron Nitride. Physical Review Letters, 2018, 120, 037402.	2.9	165
35	Electrical control of charged carriers and excitons in atomically thin materials. Nature Nanotechnology, 2018, 13, 128-132.	15.6	142
36	High-resolution magnetic resonance spectroscopy using a solid-state spin sensor. Nature, 2018, 555, 351-354.	13.7	270

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37	Improving Defectâ€Based Quantum Emitters in Silicon Carbide via Inorganic Passivation. Advanced Materials, 2018, 30, 1704543.	11.1	13
38	Photon-mediated interactions between quantum emitters in a diamond nanocavity. Science, 2018, 362, 662-665.	6.0	189
39	CMOS electronics probe inside a cellular network â€" Invited review paper. , 2018, , .		1
40	Magnetic resonance spectroscopy of an atomically thin material using a single-spin qubit. Science, 2017, 355, 503-507.	6.0	110
41	CMOS nanoelectrode array for all-electrical intracellular electrophysiological imaging. Nature Nanotechnology, 2017, 12, 460-466.	15.6	212
42	Probing dark excitons in atomically thin semiconductors via near-field coupling to surface plasmon polaritons. Nature Nanotechnology, 2017, 12, 856-860.	15.6	270
43	Quantum Nonlinear Optics with a Germanium-Vacancy Color Center in a Nanoscale Diamond Waveguide. Physical Review Letters, 2017, 118, 223603.	2.9	218
44	CMOS-nano-bio interface array for cardiac and neuro technology. , 2017, , .		0
45	An integrated diamond nanophotonics platform for quantum-optical networks. Science, 2016, 354, 847-850.	6.0	570
46	Optical magnetic detection of single-neuron action potentials using quantum defects in diamond. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14133-14138.	3.3	397
47	NMR technique for determining the depth of shallow nitrogen-vacancy centers in diamond. Physical Review B, 2016, 93, .	1.1	107
48	Nuclear magnetic resonance detection and spectroscopy of single proteins using quantum logic. Science, 2016, 351, 836-841.	6.0	387
49	Visible-frequency hyperbolic metasurface. Nature, 2015, 522, 192-196.	13.7	453
50	Nanoscale NMR spectroscopy and imaging of multiple nuclear species. Nature Nanotechnology, 2015, 10, 129-134.	15.6	215
51	Probing Johnson noise and ballistic transport in normal metals with a single-spin qubit. Science, 2015, 347, 1129-1132.	6.0	130
52	Single-cell magnetic imaging using a quantum diamond microscope. Nature Methods, 2015, 12, 736-738.	9.0	161
53	Efficient Readout of a Single Spin State in Diamond via Spin-to-Charge Conversion. Physical Review Letters, 2015, 114, 136402.	2.9	162
54	CD5L/AIM Regulates Lipid Biosynthesis and Restrains Th17 Cell Pathogenicity. Cell, 2015, 163, 1413-1427.	13.5	313

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55	Single-Cell Genomics Unveils Critical Regulators of Th17 Cell Pathogenicity. Cell, 2015, 163, 1400-1412.	13.5	504
56	Somatic mutation as a mechanism of Wnt/Î²-catenin pathway activation in CLL. Blood, 2014, 124, 1089-1098.	0.6	65
57	Magnetic Resonance Detection of Individual Proton Spins Using Quantum Reporters. Physical Review Letters, 2014, 113, 197601.	2.9	167
58	All-Optical Sensing of a Single-Molecule Electron Spin. Nano Letters, 2014, 14, 6443-6448.	4.5	83
59	Coherent Optical Transitions in Implanted Nitrogen Vacancy Centers. Nano Letters, 2014, 14, 1982-1986.	4.5	169
60	Single-cell RNA-seq reveals dynamic paracrine control of cellular variation. Nature, 2014, 510, 363-369.	13.7	872
61	Nanometre-scale thermometry in a living cell. Nature, 2013, 500, 54-58.	13.7	1,440
62	Coupling of NV Centers to Photonic Crystal Nanobeams in Diamond. Nano Letters, 2013, 13, 5791-5796.	4.5	170
63	Probing Enzymatic Activity inside Living Cells Using a Nanowireâ€"Cell â€œSandwichâ€•Assay. Nano Letters, 2013, 13, 153-158.	4.5	92
64	Stretchable Photonic Crystal Cavity with Wide Frequency Tunability. Nano Letters, 2013, 13, 248-252.	4.5	50
65	Nanotools for Neuroscience and Brain Activity Mapping. ACS Nano, 2013, 7, 1850-1866.	7.3	323
66	Dynamic regulatory network controlling TH17 cell differentiation. Nature, 2013, 496, 461-468.	13.7	608
67	Single-cell transcriptomics reveals bimodality in expression and splicing in immune cells. Nature, 2013, 498, 236-240.	13.7	1,103
68	Transcriptional and Epigenetic Dynamics during Specification of Human Embryonic Stem Cells. Cell, 2013, 153, 1149-1163.	13.5	419
69	Nanowire electrodes for high-density stimulation and measurement of neural circuits. Frontiers in Neural Circuits, 2013, 7, 38.	1.4	51
70	Correlative light and electron microscopy using cathodoluminescence from nanoparticles with distinguishable colours. Scientific Reports, 2012, 2, 865.	1.6	75
71	Free-Standing Mechanical and Photonic Nanostructures in Single-Crystal Diamond. Nano Letters, 2012, 12, 6084-6089.	4.5	210
72	Quantum Plasmonic Circuits. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1781-1791.	1.9	78

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73	Nanowire-Mediated Delivery Enables Functional Interrogation of Primary Immune Cells: Application to the Analysis of Chronic Lymphocytic Leukemia. Nano Letters, 2012, 12, 6498-6504.	4.5	154
74	Vertical nanowire electrode arrays as a scalable platform for intracellular interfacing to neuronal circuits. Nature Nanotechnology, 2012, 7, 180-184.	15.6	532
75	Tailoring Light-Matter Interaction with a Nanoscale Plasmon Resonator. Physical Review Letters, 2012, 108, 226803.	2.9	127
76	Somatic Mutation As a Mechanism of Wnt/Î²-Catenin Pathway Activation in CLL. Blood, 2012, 120, 559-559.	0.6	0
77	Water photolysis with a cross-linked titanium dioxidenanowire anode. Chemical Science, 2011, 2, 80-87.	3.7	116
78	Magnetic field imaging with nitrogen-vacancy ensembles. New Journal of Physics, 2011, 13, 045021.	1.2	228
79	Systematic Discovery of TLR Signaling Components Delineates Viral-Sensing Circuits. Cell, 2011, 147, 853-867.	13.5	177
80	Gate-Activated Photoresponse in a Graphene pâ€“n Junction. Nano Letters, 2011, 11, 4134-4137.	4.5	379
81	A hybrid quantum photonic interface for solid state qubits. Proceedings of SPIE, 2011, , .	0.8	0
82	Sensitivity to Wnt Pathway Inhibition in CLL Is Associated with Specific Gene Expression Signatures. Blood, 2011, 118, 801-801.	0.6	1
83	Deterministic Coupling of a Single Nitrogen Vacancy Center to a Photonic Crystal Cavity. Nano Letters, 2010, 10, 3922-3926.	4.5	309
84	Diameter Dependence of the Transport Properties of Antimony Telluride Nanowires. Nano Letters, 2010, 10, 3037-3040.	4.5	111
85	Vertical silicon nanowires as a universal platform for delivering biomolecules into living cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1870-1875.	3.3	518
86	Quantum optics with nanoscale surface plasmons. , 2009, , .		0
87	Near-field electrical detection of optical plasmons and single-plasmon sources. Nature Physics, 2009, 5, 475-479.	6.5	290
88	Trapping and Manipulation of Isolated Atoms Using Nanoscale Plasmonic Structures. Physical Review Letters, 2009, 103, 123004.	2.9	96
89	Vibrational Excitation in Single-Molecule Transistors: Deviation from the Simple Franckâˆ'Condon Prediction. Nano Letters, 2008, 8, 2963-2967.	4.5	44
90	Vaporâ€“Liquidâ€“Solid and Vaporâ€“Solid Growth of Phase-Change Sb₂Te₃ Nanowires and Sb₂Te₃/GeTe Nanowire Heterostructures. Journal of the American Chemical Society, 2008, 130, 6252-6258.	6.6	127

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91	Minimum Voltage for Threshold Switching in Nanoscale Phase-Change Memory. Nano Letters, 2008, 8, 3429-3433.	4.5	76
92	Electrically Driven Light Emission from Individual CdSe Nanowires. Nano Letters, 2008, 8, 4552-4556.	4.5	61
93	Magnetic switching of phase-slip dissipation inNbSe2nanoribbons. Physical Review B, 2007, 75, .	1.1	20
94	Catalyst-Assisted Solutionâˆ'Liquidâˆ'Solid Synthesis of CdS/CdSe Nanorod Heterostructures. Journal of the American Chemical Society, 2007, 129, 133-138.	6.6	175
95	Current-Driven Phase Oscillation and Domain-Wall Propagation in WxV1-xO2Nanobeams. Nano Letters, 2007, 7, 363-366.	4.5	133
96	Charges feel the heat. Nature Materials, 2007, 6, 330-331.	13.3	10
97	Generation of single optical plasmons in metallic nanowires coupled to quantum dots. Nature, 2007, 450, 402-406.	13.7	1,307
98	Signatures of Molecular Magnetism in Single-Molecule Transport Spectroscopy. Nano Letters, 2006, 6, 2014-2020.	4.5	329
99	Ferroelectric Phase Transition in Individual Single-Crystalline BaTiO3 Nanowires. Nano Letters, 2006, 6, 735-739.	4.5	371
100	Strain-Induced Self Organization of Metalâˆ'Insulator Domains in Single-Crystalline VO2Nanobeams. Nano Letters, 2006, 6, 2313-2317.	4.5	285
101	Germanium Telluride Nanowires and Nanohelices with Memory-Switching Behavior. Journal of the American Chemical Society, 2006, 128, 8148-8149.	6.6	127
102	Vapor-Phase Synthesis and Characterization of Îµ-FeSi Nanowires. Advanced Materials, 2006, 18, 1437-1440.	11.1	87
103	Single-Crystalline Vanadium Dioxide Nanowires with Rectangular Cross Sections. Journal of the American Chemical Society, 2005, 127, 498-499.	6.6	289
104	Electroluminescence from a Single-Nanocrystal Transistor. Nano Letters, 2005, 5, 2257-2261.	4.5	56
105	TRANSPORT SPECTROSCOPY OF CHEMICAL NANOSTRUCTURES: The Case of Metallic Single-Walled Carbon Nanotubes. Annual Review of Physical Chemistry, 2005, 56, 475-490.	4.8	11
106	Synthesis of Single-Crystalline La1-xBaxMnO3 Nanocubes with Adjustable Doping Levels. Nano Letters, 2004, 4, 1547-1550.	4.5	100
107	Transport Investigations of Chemical Nanostructures. , 2004, , 95-99.		0
108	Single-Crystalline Barium Titanate Nanowires. Advanced Materials, 2003, 15, 423-426.	11.1	164

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109	Fabrication of Asymmetric Electrode Pairs with Nanometer Separation Made of Two Distinct Metals. Nano Letters, 2003, 3, 1383-1385.	4.5	56
110	Ferroelectric Nanowires. , 2003, , 83-92.		1
111	Plastic deformations in mechanically strained single-walled carbon nanotubes. Physical Review B, 2003, 67, .	1.1	99
112	Shell Filling and Exchange Coupling in Metallic Single-Walled Carbon Nanotubes. Physical Review Letters, 2002, 88, 126801.	2.9	246
113	Ferroelectric Properties of Individual Barium Titanate Nanowires Investigated by Scanned Probe Microscopy. Nano Letters, 2002, 2, 447-450.	4.5	298
114	Diameter-Controlled Synthesis of Carbon Nanotubes. Journal of Physical Chemistry B, 2002, 106, 2429-2433.	1.2	747
115	Single-walled carbon nanotube electronics. IEEE Nanotechnology Magazine, 2002, 1, 78-85.	1.1	1,023
116	Synthesis of Single-Crystalline Perovskite Nanorods Composed of Barium Titanate and Strontium Titanate. Journal of the American Chemical Society, 2002, 124, 1186-1187.	6.6	435
117	Kondo resonance in a single-molecule transistor. Nature, 2002, 417, 725-729.	13.7	1,359
118	Resonant Electron Scattering by Defects in Single-Walled Carbon Nanotubes. Science, 2001, 291, 283-285.	6.0	391
119	Nanowire Nanosensors for Highly Sensitive and Selective Detection of Biological and Chemical Species. Science, 2001, 293, 1289-1292.	6.0	5,587
120	Fabry - Perot interference in a nanotube electron waveguide. Nature, 2001, 411, 665-669.	13.7	875
121	Electronic properties of mechanically induced kinks in single-walled carbon nanotubes. Applied Physics Letters, 2001, 78, 3693-3695.	1.5	68
122	Nanomechanical oscillations in a single-C60 transistor. Nature, 2000, 407, 57-60.	13.7	1,676
123	Partial-Wave Decomposition of the Ionization Continuum Accessed by Vibrational Autoionization of the NO14s(Î½=1,N=20,NR+=20) Level. Physical Review Letters, 2000, 84, 3819-3822.	2.9	11
124	Fabrication of metallic electrodes with nanometer separation by electromigration. Applied Physics Letters, 1999, 75, 301-303.	1.5	817
125	Rotationally resolved photoelectron spectra from vibrational autoionization of NO Rydberg levels. Journal of Chemical Physics, 1997, 106, 2239-2247.	1.2	24
126	Molecularâ€orbital decomposition of the ionization continuum for a diatomic molecule by angleâ€and energyâ€resolved photoelectron spectroscopy. II. Ionization continuum of NO. Journal of Chemical Physics, 1996, 104, 4568-4580.	1.2	31

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127	Extensive Electron-Nuclear Angular Momentum Exchange in Vibrational Autoionization ofnpandnfRydberg States of NO. Physical Review Letters, 1996, 76, 1591-1594.	2.9	21
128	Molecularâ€orbital decomposition of the ionization continuum for a diatomic molecule by angleâ€and energyâ€resolved photoelectron spectroscopy. I. Formalism. Journal of Chemical Physics, 1996, 104, 4554-4567.	1.2	67
129	Evidence for a Cooper minimum in the photoionization dynamics of the NO D 2Î£+ state. Chemical Physics Letters, 1994, 225, 327-334.	1.2	14
130	Photoionization dynamics of the NO Aâ€‰2Î£+ state deduced from energyâ€and angleâ€resolved photoelectron spectroscopy. Journal of Chemical Physics, 1993, 99, 6537-6544.	1.2	28
131	Measurement of circular dichroism in rotationally resolved photoelectron angular distributions following the photoionization of NO Aâ€‰2Î£+. Journal of Chemical Physics, 1992, 97, 4948-4957.	1.2	66
132	Effects on silver-surface-enhanced Raman spectroscopy by competitive adsorption of hydroxide and halide ions. Chemical Physics, 1992, 161, 265-272.	0.9	18
133	Surface-enhanced Raman scattering of p-aminobenzoic acid at silver electrode. The Journal of Physical Chemistry, 1990, 94, 7576-7580.	2.9	124