Yong-Hyun Kim

List of Publications by Year in Descending Order

125 papers	7,402 citations	44 h-index	84 g-index
130 ext. papers	8,175 ext. citations	9.7 avg, IF	5.91 L-index

#	Paper	IF	Citations
125	Tip-Induced Strain Engineering of a Single Metal Halide Perovskite Quantum Dot. *ACS Nano*, **2021**, 15, 9057-9064	16.7	3
124	Extremely Stable Luminescent Crosslinked Perovskite Nanoparticles under Harsh Environments over 1.5 Years. *Advanced Materials*, **2021**, 33, e2005255	24	26
123	Influence of the metal phthalocyanine molecular orientation on charge separation at the organic donor/acceptor interface. *Journal of Materials Chemistry C*, **2021**, 9, 2156-2164	7.1	1
122	Tailored growth of single-crystalline InP tetrapods. *Nature Communications*, **2021**, 12, 4454	17.4	5
121	Ni Nanoparticles on Ni Core/N-Doped Carbon Shell Heterostructures for Electrocatalytic Oxygen Evolution. *ACS Applied Nano Materials*, **2021**, 4, 9418-9429	5.6	3
120	Perovskite Nanoparticles: Extremely Stable Luminescent Crosslinked Perovskite Nanoparticles under Harsh Environments over 1.5 Years (Adv. Mater. 3/2021). *Advanced Materials*, **2021**, 33, 2170017	24	
119	Progress in Computational and Machine-Learning Methods for Heterogeneous Small-Molecule Activation. *Advanced Materials*, **2020**, 32, e1907865	24	23
118	N2-dopant of graphene with electrochemically switchable bifunctional ORR/OER catalysis for Zn-air battery. *Energy Storage Materials*, **2020**, 32, 517-524	19.4	30
117	Origin of the Stability and Transition from Anionic to Cationic Surface Ligand Passivation of All-Inorganic Cesium Lead Halide Perovskite Nanocrystals. *Journal of Physical Chemistry Letters*, **2020**, 11, 652-658	6.4	21
116	Coordination structure of Jacobsen catalyst with N-modified graphene and their electrocatalytic properties for reducing oxygen molecules. *Applied Catalysis B: Environmental*, **2020**, 263, 118337	21.8	8
115	Amorphous Mixture of Two Indium-Free BaSnO and ZnSnO for Thin-Film Transistors with Balanced Performance and Stability. *ACS Applied Materials & Interfaces*, **2020**, 12, 3719-3726	9.5	7
114	Harnessing the topotactic transition in oxide heterostructures for fast and high-efficiency electrochromic applications. *Science Advances*, **2020**, 6,	14.3	5
113	Origin of High-TC Ferromagnetism in Isovalent-Doped III-V Semiconductors. *Physical Review Applied* , **2019**, 11,	4.3	8
112	O, NO and NH coordination to Co-porphyrin studied with scanning tunneling microscopy on Au(111). *Nanoscale*, **2019**, 11, 8510-8517	7.7	11
111	Nanoscale Friction on Confined Water Layers Intercalated between MoS2 Flakes and Silica. *Journal of Physical Chemistry C*, **2019**, 123, 8827-8835	3.8	19
110	Anomalous Defect Dependence of Thermal Conductivity in Epitaxial WO Thin Films. *Advanced Materials*, **2019**, 31, e1903738	24	8
109	III-V colloidal nanocrystals: control of covalent surfaces. *Chemical Science*, **2019**, 11, 913-922	9.4	35

108	Tuning and sensing spin interactions in Co-porphyrin/Au with NH3 and NO2 binding. *Physical Review B*, **2019**, 100,	3.3	7
107	>1000-Fold Lifetime Extension of a Nickel Electromechanical Contact Device via Graphene. *ACS Applied Materials & Interfaces*, **2018**, 10, 9085-9093	9.5	17
106	Microscopic States and the Verwey Transition of Magnetite Nanocrystals Investigated by Nuclear Magnetic Resonance. *Nano Letters*, **2018**, 18, 1745-1750	11.5	7
105	Isotope- and Thickness-Dependent Friction of Water Layers Intercalated Between Graphene and Mica. *Tribology Letters*, **2018**, 66, 1	2.8	16
104	The Effect of Thickness and Chemical Reduction of Graphene Oxide on Nanoscale Friction. *Journal of Physical Chemistry B*, **2018**, 122, 543-547	3.4	18
103	Assessing the Predictive Power of Density Functional Theory in Finite-Temperature Hydrogen Adsorption/Desorption Thermodynamics. *Journal of Physical Chemistry C*, **2018**, 122, 26189-26195	3.8	4
102	Quantitative Analysis of Calcium Phosphate Nanocluster Growth Using Time-of-Flight Medium-Energy-Ion-Scattering Spectroscopy. *ACS Central Science*, **2018**, 4, 1253-1260	16.8	4
101	Suppression of Hydrogen Evolution Reaction in Electrochemical N2 Reduction Using Single-Atom Catalysts: A Computational Guideline. *ACS Catalysis*, **2018**, 8, 7517-7525	13.1	333
100	High Performance Colloidal Quantum Dot Photovoltaics by Controlling Protic Solvents in Ligand Exchange. *Advanced Energy Materials*, **2017**, 7, 1700301	21.8	39
99	Hysteresis and Photoinstability Caused by Mobile Ions in Colloidal Quantum Dot Photovoltaics. *Journal of Physical Chemistry Letters*, **2017**, 8, 5259-5263	6.4	9
98	Selective engineering of oxygen-containing functional groups using the alkyl ligand oleylamine for revealing the luminescence mechanism of graphene oxide quantum dots. *Nanoscale*, **2017**, 9, 18635-18643	7.7	12
97	Enhancement of Friction by Water Intercalated between Graphene and Mica. *Journal of Physical Chemistry Letters*, **2017**, 8, 3482-3487	6.4	45
96	Shape-controlled syntheses of metal oxide nanoparticles by the introduction of rare-earth metals. *Nanoscale*, **2017**, 9, 2732-2738	7.7	6
95	Single-atom catalysts for CO electroreduction with significant activity and selectivity improvements. *Chemical Science*, **2017**, 8, 1090-1096	9.4	319
94	Atomic models for anionic ligand passivation of cation-rich surfaces of IV-VI, II-VI, and III-V colloidal quantum dots. *Chemical Communications*, **2016**, 53, 388-391	5.8	16
93	Divalent Fe Atom Coordination in Two-Dimensional Microporous Graphitic Carbon Nitride. *ACS Applied Materials & Interfaces*, **2016**, 8, 25438-43	9.5	46
92	Bimodal Control of Heat Transport at Graphene-Metal Interfaces Using Disorder in Graphene. *Scientific Reports*, **2016**, 6, 34428	4.9	5
91	Tailored semiconducting carbon nanotube networks with enhanced thermoelectric properties. *Nature Energy*, **2016**, 1,	62.3	204

90	Intrinsic Photoluminescence Emission from Subdomained Graphene Quantum Dots. *Advanced Materials*, **2016**, 28, 5255-61	24	95
89	Halide-Amine Co-Passivated Indium Phosphide Colloidal Quantum Dots in Tetrahedral Shape. *Angewandte Chemie - International Edition*, **2016**, 55, 3714-8	16.4	76
88	Dopant-specific unzipping of carbon nanotubes for intact crystalline graphene nanostructures. *Nature Communications*, **2016**, 7, 10364	17.4	94
87	Thickness-dependent photocatalytic performance of graphite oxide for degrading organic pollutants under visible light. *Physical Chemistry Chemical Physics*, **2016**, 18, 10882-6	3.6	13
86	Halide‐Amine Co-Passivated Indium Phosphide Colloidal Quantum Dots in Tetrahedral Shape. *Angewandte Chemie*, **2016**, 128, 3778-3782	3.6	13
85	Tailoring graphene magnetism by zigzag triangular holes: A first-principles thermodynamics study. *AIP Advances*, **2016**, 6, 035023	1.5	6
84	Axial coordination and electronic structure of diatomic NO, CO, and O molecules adsorbed onto Co-tetraphenylporphyrin on Au(111), Ag(111), and Cu(111): a density-functional theory study. *Dalton Transactions*, **2016**, 45, 16673-16681	4.3	8
83	Probing Single-Molecule Dissociations from a Bimolecular Complex NO-Co-Porphyrin. *ACS Nano*, **2015**, 9, 7722-8	16.7	10
82	Is the Chain of Oxidation and Reduction Process Reversible in Luminescent Graphene Quantum Dots?. *Small*, **2015**, 11, 3773-81	11	44
81	Selective and Regenerative Carbon Dioxide Capture by Highly Polarizing Porous Carbon Nitride. *ACS Nano*, **2015**, 9, 9148-57	16.7	73
80	Enhancement of the anisotropic photocurrent in ferroelectric oxides by strain gradients. *Nature Nanotechnology*, **2015**, 10, 972-9	28.7	113
79	Complementary p- and n-type polymer doping for ambient stable graphene inverter. *ACS Nano*, **2014**, 8, 650-6	16.7	38
78	Slow colloidal growth of PbSe nanocrystals for facile morphology and size control. *RSC Advances*, **2014**, 4, 9842	3.7	20
77	Visualizing tilted binding and precession of diatomic NO adsorbed to Co-porphyrin on Au(111) using scanning tunneling microscopy. *Chemical Science*, **2014**, 5, 2224-2229	9.4	11
76	Borane-modified graphene-based materials as CO2 adsorbents. *Carbon*, **2014**, 79, 450-456	10.4	42
75	Effects of sulfur doping on graphene-based nanosheets for use as anode materials in lithium-ion batteries. *Journal of Power Sources*, **2014**, 262, 79-85	8.9	183
74	Ultrastable PbSe nanocrystal quantum dots via in situ formation of atomically thin halide adlayers on PbSe(100). *Journal of the American Chemical Society*, **2014**, 136, 8883-6	16.4	148
73	Seebeck effect at the atomic scale. *Physical Review Letters*, **2014**, 112, 136601	7.4	23

72	Thermoelectric imaging of structural disorder in epitaxial graphene. *Nature Materials*, **2013**, 12, 913-8	27	44
71	Reversible oxidation states of single layer graphene tuned by electrostatic potential. *Surface Science*, **2013**, 612, 37-41	1.8	6
70	Nanotribological Properties of Fluorinated, Hydrogenated, and Oxidized Graphenes. *Tribology Letters*, **2013**, 50, 137-144	2.8	104
69	Monodisperse pattern nanoalloying for synergistic intermetallic catalysis. *Nano Letters*, **2013**, 13, 5720-6	11.5	50
68	Energy Storage: Hydrogen **2013**, 131-148		
67	Steric-hindrance-driven shape transition in PbS quantum dots: understanding size-dependent stability. *Journal of the American Chemical Society*, **2013**, 135, 5278-81	16.4	242
66	Origin of anomalous strain effects on the molecular adsorption on boron-doped graphene. *Journal of Chemical Physics*, **2013**, 139, 044709	3.9	6
65	Switching and sensing spin states of co-porphyrin in bimolecular reactions on Au111 using scanning tunneling microscopy. *ACS Nano*, **2013**, 7, 9312-7	16.7	50
64	Solid State Enabled Reversible Four Electron Storage. *Advanced Energy Materials*, **2013**, 3, 120-127	21.8	131
63	Finite-temperature hydrogen adsorption and desorption thermodynamics driven by soft vibration modes. *Physical Review Letters*, **2013**, 111, 066102	7.4	22
62	Generation of ultra-high-molecular-weight polyethylene from metallocenes immobilized onto N-doped graphene nanoplatelets. *Macromolecular Rapid Communications*, **2013**, 34, 533-8	4.8	36
61	Gold nanoparticle-doped graphene nanosheets: sub-nanosized gold clusters nucleate and grow at the nitrogen-induced defects on graphene surfaces. *Journal of Materials Chemistry*, **2012**, 22, 7130		24
60	Carrier-mediated long-range ferromagnetism in electron-doped Fe-C4 and Fe-N4 incorporated graphene. *Physical Review B*, **2012**, 86,	3.3	45
59	Chemical structures of hydrazine-treated graphene oxide and generation of aromatic nitrogen doping. *Nature Communications*, **2012**, 3, 638	17.4	302
58	Persistent medium-range order and anomalous liquid properties of Al(1-x)Cu(x) alloys. *Physical Review Letters*, **2012**, 108, 115901	7.4	24
57	Workfunction-tunable, N-doped reduced graphene transparent electrodes for high-performance polymer light-emitting diodes. *ACS Nano*, **2012**, 6, 159-67	16.7	275
56	First-Principles Study of Electronic Structure and Hydrogen Adsorption of 3d Transition Metal Exposed Paddle Wheel Frameworks. *Journal of Physical Chemistry C*, **2012**, 116, 7386-7392	3.8	13
55	Growth Mechanism of Catalyst-Free and Mask-Free Heteroepitaxial GaN Submicrometer- and Micrometer-Sized Rods under Biaxial Strain: Variation of Surface Energy and Adatom Kinetics. *Crystal Growth and Design*, **2012**, 12, 3838-3844	3.5	22

54	Interfacial thermal conductance observed to be higher in semiconducting than metallic carbon nanotubes. *ACS Nano*, **2012**, 6, 3853-60	16.7	13
53	First-principles calculation of thermodynamic stability of acids and bases under pH environment: a microscopic pH theory. *Journal of Chemical Physics*, **2012**, 136, 134112	3.9	8
52	Enhanced nanoscale friction on fluorinated graphene. *Nano Letters*, **2012**, 12, 6043-8	11.5	222
51	Atomically abrupt liquid-oxide interface stabilized by self-regulated interfacial defects: the case of Al/Al2O3 interfaces. *Physical Review Letters*, **2012**, 108, 226105	7.4	20
50	Phase diagram of graphene nanoribbons and band-gap bifurcation of Dirac fermions under quantum confinement. *Physical Review B*, **2012**, 85,	3.3	15
49	Theory, synthesis, and oxygen reduction catalysis of Fe-porphyrin-like carbon nanotube. *Physical Review Letters*, **2011**, 106, 175502	7.4	290
48	First-Principles Theory of Electrochemical Capacitance of Nanostructured Materials: Dipole-Assisted Subsurface Intercalation of Lithium in Pseudocapacitive TiO2 Anatase Nanosheets. *Journal of Physical Chemistry C*, **2011**, 115, 4909-4915	3.8	48
47	Altering the spin state of transition metal centers in metal-organic frameworks by molecular hydrogen adsorption: a first-principles study. *Physical Chemistry Chemical Physics*, **2011**, 13, 5042-6	3.6	9
46	Ambient carbon dioxide capture by boron-rich boron nitride nanotube. *Journal of the American Chemical Society*, **2011**, 133, 2084-7	16.4	129
45	Hole-mediated hydrogen spillover mechanism in metal-organic frameworks. *Physical Review Letters* , **2010**, 104, 236101	7.4	31
44	Origin of enhanced dihydrogen-metal interaction in carboxylate bridged Cu2-paddle-wheel frameworks. *Physical Review Letters*, **2010**, 105, 236105	7.4	12
43	Divacancy-nitrogen-assisted transition metal dispersion and hydrogen adsorption in defective graphene: A first-principles study. *Physical Review B*, **2010**, 81,	3.3	79
42	Accuracy of density functional theory methods for weakly bonded systems: The case of dihydrogen binding on metal centers. *Physical Review B*, **2010**, 82,	3.3	34
41	Comment on "Inaccuracy of density functional theory calculations for dihydrogen binding energetics onto Ca cation centers". *Physical Review Letters*, **2010**, 104, 179601; author reply 179602	7.4	17
40	Microscopic theory of hysteretic hydrogen adsorption in nanoporous materials. *Journal of the American Chemical Society*, **2010**, 132, 1510-1	16.4	17
39	Origin of the diverse melting behaviors of intermediate-size nanoclusters: theoretical study of AlN (N = 51-58, 64). *Journal of the American Chemical Society*, **2010**, 132, 18287-91	16.4	23
38	Half-solidity of tetrahedral-like Al(55) clusters. *ACS Nano*, **2010**, 4, 1092-8	16.7	14
37	Shape control of Al nanoclusters by ligand size. *Journal of the American Chemical Society*, **2009**, 131, 8522-6	16.4	21

36	Ab initio design of Ca-decorated organic frameworks for high capacity molecular hydrogen storage with enhanced binding. *Applied Physics Letters*, **2009**, 95, 033109	3.4	47
35	Enhanced dihydrogen adsorption in symmetry-lowered metal-porphyrin-containing frameworks. *Physical Chemistry Chemical Physics*, **2009**, 11, 11400-3	3.6	21
34	Ab initio calculations predicting the existence of an oxidized calcium dihydrogen complex to store molecular hydrogen in densities up to 100 g/L. *Physical Review B*, **2009**, 79,	3.3	28
33	Transparent conductive single-walled carbon nanotube networks with precisely tunable ratios of semiconducting and metallic nanotubes. *ACS Nano*, **2008**, 2, 1266-74	16.7	278
32	Accurate and efficient calculation of van der Waals interactions within density functional theory by local atomic potential approach. *Journal of Chemical Physics*, **2008**, 129, 154102	3.9	70
31	Raman spectroscopy of charge transfer interactions between single wall carbon nanotubes and [FeFe] hydrogenase. *Dalton Transactions*, **2008**, 5454-61	4.3	11
30	Opening space for H2 storage: Cointercalation of graphite with lithium and small organic molecules. *Physical Review B*, **2008**, 78,	3.3	22
29	Reversible Lithium-Ion Insertion in Molybdenum Oxide Nanoparticles. *Advanced Materials*, **2008**, 20, 3627-3632	12	304
28	Wiring-up hydrogenase with single-walled carbon nanotubes. *Nano Letters*, **2007**, 7, 3528-34	11.5	91
27	Effect of spin state on the dihydrogen binding strength to transition metal centers in metal-organic frameworks. *Journal of the American Chemical Society*, **2007**, 129, 12606-7	16.4	77
26	Growing extremely thin bulklike metal film on a semiconductor surface: Monolayer Al(111) on Si(111). *Applied Physics Letters*, **2007**, 91, 181902	3.4	6
25	Novel Organometallic Fullerene Complexes for Vehicular Hydrogen Storage. *Materials Research Society Symposia Proceedings*, **2007**, 1041, 1		
24	Hydrogen Storage in Novel Carbon-Based Nanostructured Materials. *Materials Research Society Symposia Proceedings*, **2006**, 927, 1		
23	Dihydrogen bonding, p-type conductivity, and origin of change in work function of hydrogenated diamond (001) surfaces. *Physical Review B*, **2006**, 74,	3.3	9
22	Self-assembly of linear arrays of semiconductor nanoparticles on carbon single-walled nanotubes. *Journal of Physical Chemistry B*, **2006**, 110, 25153-7	3.4	24
21	Self-catalyzed hydrogenation and dihydrogen adsorption on titanium carbide nanoparticles. *Chemical Physics Letters*, **2006**, 425, 273-277	2.5	59
20	Nondissociative adsorption of H2 molecules in light-element-doped fullerenes. *Physical Review Letters*, **2006**, 96, 016102	7.4	283
19	Effect of chemical bonding on the magnetic stability and magnetic moment in Mn-based binary compounds. *Physical Review B*, **2005**, 72,	3.3	25

18	Hydrogen storage in novel organometallic buckyballs. *Physical Review Letters*, **2005**, 94, 155504	7.4	568
17	Cyclodextrin driven hydrophobic□hydrophilic transformation of semiconductor nanoparticles. *Applied Physics Letters*, **2005**, 86, 033108	3.4	20
16	Importance of Turning to Renewable Energy Resources with Hydrogen as a Promising Candidate and on-board Storage a Critical Barrier. *Materials Research Society Symposia Proceedings*, **2005**, 895, 1		2
15	First-Principles Prediction of Icosahedral Quantum Dots for Tetravalent Semiconductors. *Physical Review Letters*, **2004**, 93,	7.4	51
14	Dielectric-screening properties and Coulomb pseudopotential □ for MgB2. *Physical Review B*, **2004**, 70,	3.3	23
13	Cyclodextrins Stabilize TOPO-(CdSe)ZnS Quantum Dots in Water. *Materials Research Society Symposia Proceedings*, **2004**, 823, W4.5.1		
12	Generalized Kubas Complexes as a Novel Means for Room Temperature Molecular Hydrogen Storage. *Materials Research Society Symposia Proceedings*, **2004**, 837, 63		
11	Nanotube wires on commensurate InAs surfaces: binding energies, band alignments, and bipolar doping by the surfaces. *Physical Review Letters*, **2004**, 92, 176102	7.4	35
10	Spectral properties of incommensurate double-walled carbon nanotubes. *Physica E: Low-Dimensional Systems and Nanostructures*, **2004**, 22, 666-669	3	2
9	Defective fullerenes and nanotubes as molecular magnets: An ab initio study. *Physical Review B*, **2003**, 68,	3.3	107
8	Spectral correlation in incommensurate multiwalled carbon nanotubes. *Physical Review Letters*, **2003**, 90, 026601	7.4	60
7	Itinerant ferromagnetism in heterostructured C/BN nanotubes. *Physical Review B*, **2003**, 67,	3.3	72
6	Dynamics of fullerene coalescence. *Physical Review Letters*, **2003**, 90, 065501	7.4	55
5	Electron transport through quantum-dot states of n-type carbon nanotubes. *Applied Physics Letters*, **2002**, 81, 2264-2266	3.4	2
4	Electronic structure of collapsed C, BN, and BC3 nanotubes. *Current Applied Physics*, **2001**, 1, 39-44	2.6	21
3	Subband mixing rules in circumferentially perturbed carbon nanotubes: Effects of transverse electric fields. *Physical Review B*, **2001**, 64,	3.3	54
2	Electronic structure of radially deformed BN and BC3 nanotubes. *Physical Review B*, **2001**, 63,	3.3	142
1	Band-gap modification by radial deformation in carbon nanotubes. *Physical Review B*, **1999**, 60, 10656-10659	3.3	101