Heechae Choi

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/6888715/publications.pdf

Version: 2024-02-01

95 papers	2,522 citations	236925 25 h-index	214800 47 g-index
98 all docs	98 docs citations	98 times ranked	4166 citing authors

#	Article	IF	Citations
1	Strategy to utilize amorphous phase of semiconductor toward excellent and reliable photochemical water splitting performance: Roles of interface dipole moment and reaction parallelization. International Journal of Energy Research, 2022, 46, 3674-3685.	4.5	5
2	Fluorine-doped graphene oxide prepared by direct plasma treatment for supercapacitor application. Chemical Engineering Journal, 2022, 428, 132086.	12.7	41
3	Defect engineering of TiNb2O7 compound for enhanced Li-ion battery anode performances. Electrochimica Acta, 2022, 404, 139603.	5.2	11
4	Alkaline oxygen evolution: exploring synergy between fcc and hcp cobalt nanoparticles entrapped in N-doped graphene. Materials Today Chemistry, 2022, 23, 100668.	3.5	20
5	Rational nanopositioning of homogeneous amorphous phase on crystalline tungsten oxide for boosting solar water oxidation. Chemical Engineering Journal, 2022, 438, 135532.	12.7	14
6	Near surface electric field enhancement: Pyridinic-N rich few-layer graphene encapsulating cobalt catalysts as highly active and stable bifunctional ORR/OER catalyst for seawater batteries. Applied Catalysis B: Environmental, 2022, 310, 121361.	20.2	44
7	Electric field-driven one-step formation of vertical pâ€“n junction TiO₂ nanotubes exhibiting strong photocatalytic hydrogen production. Journal of Materials Chemistry A, 2021, 9, 2239-2247.	10.3	8
8	Revisiting surface chemistry in TiO2: A critical role of ionic passivation for pH-independent and anti-corrosive photoelectrochemical water oxidation. Chemical Engineering Journal, 2021, 407, 126929.	12.7	11
9	Ultrasonic Plasma Engineering Toward Facile Synthesis of Single-Atom M-N4/N-Doped Carbon (Mâ€‰=â€‰Fe,) Tj ETQq1 1 0.784314 rg 13, 60.	27.0	63
10	Theoretical Approach toward Optimum Anion-Doping on MXene Catalysts for Hydrogen Evolution Reaction: an Ab Initio Thermodynamics Study. ACS Applied Materials & Interfaces, 2021, 13, 37035-37043.	8.0	17
11	Tripleâ€Vertex Linkage of (BO 4)â€Tetrahedra in a Borosulfate: Synthesis, Crystal Structure, and Quantumâ€Chemical Investigation of Sr[B 3 O(SO 4) 4 (SO 4 H)]. Angewandte Chemie - International Edition, 2021, 60, 19740-19743.	13.8	8
12	Layer Orientation-Engineered Two-Dimensional Platinum Ditelluride for High-Performance Direct Alcohol Fuel Cells. ACS Energy Letters, 2021, 6, 3481-3487.	17.4	12
13	C-doped ZnS-ZnO/Rh nanosheets as multijunctioned photocatalysts for effective H2 generation from pure water under solar simulating light. Applied Catalysis B: Environmental, 2021, 297, 120473.	20.2	45
14	Chemical and structural engineering of transition metal boride towards excellent and sustainable hydrogen evolution reaction. Nano Energy, 2020, 67, 104245.	16.0	79
15	Shape change of submicron nickel particles under hydrogen and nickel chloride vapor. Applied Surface Science, 2020, 509, 145274.	6.1	4
16	Theoretical dopant screening and processing optimization for vanadium disulfide as cathode material for Li-air batteries: A density functional theory study. Applied Surface Science, 2020, 508, 145276.	6.1	8
17	ALD-assisted synthesis of V2O5 nanoislands on SnO2 nanowires for improving NO2 sensing performance. Applied Surface Science, 2020, 509, 144821.	6.1	18
18	Boosting nitrogen-doping and controlling interlayer spacing in pre-reduced graphene oxides. Nano Energy, 2020, 78, 105286.	16.0	24

#	Article	IF	Citations
19	Fundamental Understanding of the Formation Mechanism for Graphene Quantum Dots Fabricated by Pulsed Laser Fragmentation in Liquid: Experimental and Theoretical Insight. Small, 2020, 16, 2003538.	10.0	13
20	Partial Dehydration in Hydrated Tungsten Oxide Nanoplates Leads to Excellent and Robust Bifunctional Oxygen Reduction and Hydrogen Evolution Reactions in Acidic Media. ACS Sustainable Chemistry and Engineering, 2020, 8, 9507-9518.	6.7	23
21	Electronic structure, thermodynamic stability and high-temperature sensing properties of Er-Î±-SiAlON ceramics. Scientific Reports, 2020, 10, 4952.	3.3	17
22	Understanding the interplay of stability and efficiency in A-site engineered lead halide perovskites. APL Materials, 2020, 8, .	5.1	57
23	Insights on boosting oxygen evolution reaction performance via boron incorporation into nitrogen-doped carbon electrocatalysts. Applied Surface Science, 2020, 528, 146979.	6.1	18
24	Rationally designed CuSb1-Bi S2 as a promising photovoltaic material: Theoretical and experimental study. Scripta Materialia, 2020, 179, 107-112.	5.2	1
25	Manipulatable Interface Electric Field and Charge Transfer in a 2D/2D Heterojunction Photocatalyst via Oxygen Intercalation. Catalysts, 2020, 10, 469.	3.5	5
26	Self-assembled heterojunction of metal sulfides for improved photocatalysis. Chemical Engineering Journal, 2020, 395, 125092.	12.7	62
27	Mapping Point Defects of Brookite TiO₂ for Photocatalytic Activity Beyond Anatase and P25. Journal of Physical Chemistry C, 2020, 124, 10376-10384.	3.1	12
28	Unsymmetrical Small Molecules for Broad-Band Photoresponse and Efficient Charge Transport in Organic Phototransistors. ACS Applied Materials & Interfaces, 2020, 12, 25066-25074.	8.0	16
29	p-Type Conductivity of Hydrated Amorphous V₂O₅ and Its Enhanced Photocatalytic Performance in ZnO/V₂O₅/rGO. ACS Applied Electronic Materials, 2019, 1, 1881-1889.	4.3	13
30	Improving Electrochemical Pb²⁺ Detection Using a Vertically Aligned 2D MoS₂ Nanofilm. Analytical Chemistry, 2019, 91, 11770-11777.	6.5	73
31	Structural Evolutions of Vertically Aligned Two-Dimensional MoS₂ Layers Revealed by in Situ Heating Transmission Electron Microscopy. Journal of Physical Chemistry C, 2019, 123, 27843-27853.	3.1	13
32	Electrochemically activated cobalt nickel sulfide for an efficient oxygen evolution reaction: partial amorphization and phase control. Journal of Materials Chemistry A, 2019, 7, 3592-3602.	10.3	81
33	In situ reduction and exfoliation of g-C₃N₄ nanosheets with copious active sites via a thermal approach for effective water splitting. Catalysis Science and Technology, 2019, 9, 1004-1012.	4.1	33
34	Understanding of relationship between dopant and substitutional site to develop novel phase-change materials based on In₃SbTe₂. Japanese Journal of Applied Physics, 2019, 58, SBBB02.	1.5	15
35	Material design for Ge2Sb2Te5 phase-change material with thermal stability and lattice distortion. Scripta Materialia, 2019, 170, 16-19.	5.2	7
36	Advantageous crystallineâ€“amorphous phase boundary for enhanced electrochemical water oxidation. Energy and Environmental Science, 2019, 12, 2443-2454.	30.8	315

#	Article	IF	Citations
37	Electronically-Coupled Phase Boundaries in Î±-Fe₂O₃/Fe₃O₄ Nanocomposite Photoanodes for Enhanced Water Oxidation. ACS Applied Nano Materials, 2019, 2, 334-342.	5.0	32
38	Interface-Driven Phase Transition of Phase-Change Material. Crystal Growth and Design, 2019, 19, 2123-2130.	3.0	5
39	Electronically Doubleâ€Layered Metal Boride Hollow Nanoprism as an Excellent and Robust Water Oxidation Electrocatalysts. Advanced Energy Materials, 2019, 9, 1803799.	19.5	74
40	Laser-engineered oxygen vacancies for improving the NO₂ sensing performance of SnO₂ nanowires. Journal of Materials Chemistry A, 2019, 7, 27205-27211.	10.3	33
41	Unusual Na⁺ Ion Intercalation/Deintercalation in Metal-Rich Cu_{1.8}S for Na-Ion Batteries. ACS Nano, 2018, 12, 2827-2837.	14.6	123
42	Parallelized Reaction Pathway and Stronger Internal Band Bending by Partial Oxidation of Metal Sulfideâ€“Graphene Composites: Important Factors of Synergistic Oxygen Evolution Reaction Enhancement. ACS Catalysis, 2018, 8, 4091-4102.	11.2	116
43	Hydrogen-free defects in hydrogenated black TiO2. Physical Chemistry Chemical Physics, 2018, 20, 19871-19876.	2.8	6
44	Defect engineering toward strong photocatalysis of Nb-doped anatase TiO2: Computational predictions and experimental verifications. Applied Catalysis B: Environmental, 2017, 206, 520-530.	20.2	62
45	Dissimilar anisotropy of electron versus hole bulk transport in anatase <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub></m : Implications for photocatalysis. Physical Review B, 2017, 95, .	3.2	28
46	Hierarchically assembled tubular shell-core-shell heterostructure of hybrid transition metal chalcogenides for high-performance supercapacitors with ultrahigh cyclability. Nano Energy, 2017, 37, 15-23.	16.0	72
47	Impact of Mg-Doping Site Control in the Performance of Li₄Ti₅O₁₂ Li-Ion Battery Anode: First-Principles Predictions and Experimental Verifications. Journal of Physical Chemistry C, 2017, 121, 14994-15001.	3.1	15
48	Synergetic control of band gap and structural transformation for optimizing TiO 2 photocatalysts. Applied Catalysis B: Environmental, 2017, 210, 513-521.	20.2	37
49	Unexpected Roles of Interstitially Doped Lithium in Blue and Green Light Emitting Y₂O₃:Bi³⁺: A Combined Experimental and Computational Study. Inorganic Chemistry, 2017, 56, 12139-12147.	4.0	14
50	Few-layered metallic 1T-MoS₂/TiO₂ with exposed (001) facets: two-dimensional nanocomposites for enhanced photocatalytic activities. Physical Chemistry Chemical Physics, 2017, 19, 28207-28215.	2.8	28
51	Effects of Y Dopant on Lattice Distortion and Electrical Properties of In₃SbTe₂ Phaseâ€Change Material. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700275.	2.4	6
52	Effects of Y Dopant on Lattice Distortion and Electrical Properties of In₃SbTe₂ Phaseâ€Change Material (Phys. Status Solidi RRL 11/2017). Physica Status Solidi - Rapid Research Letters, 2017, 11, 1770356.	2.4	0
53	Effects of an in vacancy on local distortion of fast phase transition in Bi-doped In3SbTe2. Journal of the Korean Physical Society, 2017, 71, 946-949.	0.7	1
54	Microstructural control of new intercalation layered titanoniobates with large and reversible d-spacing for easy Na ⁺ ion uptake. Science Advances, 2017, 3, e1700509.	10.3	42

#	Article	IF	Citations
55	Structural evolution of graphene in air at the electrical breakdown limit. Carbon, 2016, 99, 466-471.	10.3	11
56	Simultaneously Controllable Doping Sites and the Activity of a Wâ€“N Codoped TiO₂ Photocatalyst. ACS Catalysis, 2016, 6, 2745-2753.	11.2	84
57	Lattice Distortion in In3SbTe2 Phase Change Material with Substitutional Bi. Scientific Reports, 2015, 5, 12867.	3.3	17
58	Surface structure effect on the magnetic anisotropy of Co/Pd (001) thin film: A first principles study. Thin Solid Films, 2015, 589, 252-257.	1.8	2
59	Correlated Visible-Light Absorption and Intrinsic Magnetism of SrTiO₃ Due to Oxygen Deficiency: Bulk or Surface Effect?. Inorganic Chemistry, 2015, 54, 3759-3765.	4.0	21
60	Inâ€šsitu Raman spectroscopy of currentâ€carrying graphene microbridge. Journal of Raman Spectroscopy, 2014, 45, 168-172.	2.5	11
61	Detecting gas molecules via atomic magnetization. Dalton Transactions, 2014, 43, 13070-13075.	3.3	5
62	Roles of an oxygen Frenkel pair in the photoluminescence of Bi³⁺-doped Y₂O₃: computational predictions and experimental verifications. Journal of Materials Chemistry C, 2014, 2, 6017-6024.	5.5	25
63	TiO2 nanotube branched tree on a carbon nanofiber nanostructure as an anode for high energy and power lithium ion batteries. Nano Research, 2014, 7, 491-501.	10.4	42
64	Magnetic Properties of Strained L1₀-ordered FePt and CoPt: An ab initio Study. Applied Science and Convergence Technology, 2014, 23, 273-278.	0.9	0
65	Effect of nitrogen induced defects in Li dispersed graphene onÂhydrogen storage. International Journal of Hydrogen Energy, 2013, 38, 4611-4617.	7.1	59
66	Ferroelectric control of magnetic anisotropy of FePt/BaTiO3 magnetoelectric heterojunction: A density functional theory study. Journal of Applied Physics, 2013, 113, .	2.5	17
67	Configuration Dependency of Attached Epoxy Groups on Graphene Oxide Reduction: A Molecular Dynamics Simulation. Japanese Journal of Applied Physics, 2012, 51, 06FD14.	1.5	0
68	Magnetic Properties of Iron on Strained Graphene: Density Functional Theory Study. Japanese Journal of Applied Physics, 2012, 51, 06FD13.	1.5	0
69	Effects of biaxial strains on the magnetic properties of Co-graphene heterojunctions. Journal of Applied Physics, 2012, 111, .	2.5	3
70	First-principles study on the atomic and electronic structures of graphene-protected magnetic Fe/Ni(111) thin film. Current Applied Physics, 2012, 12, S37-S40.	2.4	1
71	Si/Ge Double-Layered Nanotube Array as a Lithium Ion Battery Anode. ACS Nano, 2012, 6, 303-309.	14.6	225
72	Atomic behavior of carbon atoms on a Si removed 3C-SiC (111) surface during the early stage of epitaxial graphene growth. Journal of Applied Physics, 2012, 111, 104324.	2.5	6

#	Article	IF	Citations
73	Effects of uniaxial strains on the magnetic properties and the electronic structures of Fe/graphene system: An ab initio study. Journal of Applied Physics, 2012, 111, 07C306.	2.5	4
74	Magnesium-Doped Zinc Oxide Electrochemically Grown on Fluorine-Doped Tin Oxide Substrate. Journal of Nanoscience and Nanotechnology, 2012, 12, 3677-3681.	0.9	8
75	Magnetic Properties of Iron on Strained Graphene: Density Functional Theory Study. Japanese Journal of Applied Physics, 2012, 51, 06FD13.	1.5	0
76	Interface-Dependent Spin-Reorientation Energy Barrier in Fe/MgO(001) Thin Film. IEEE Electron Device Letters, 2011, 32, 1287-1289.	3.9	8
77	Magnetic Anisotropy Variation of Fe Single Atom on Ti/Al(001) Surface by the Change of Ti-Al Surface Phase. Journal of Nanoscience and Nanotechnology, 2011, 11, 6364-6367.	0.9	1
78	Surface structures and magnetic anisotropies of a Fe/Pt (001) surface: An ab initio study. Journal of Applied Physics, 2011, 109, 07B764.	2.5	7
79	Interface-dependent magnetic anisotropy of Fe/BaTiO3: A first principles study. Journal of Applied Physics, 2011, 109, 07D909.	2.5	8
80	Surface diffusion coefficient determination by uniaxial tensile strain in Pb/Cu(111) surface systems. Current Applied Physics, 2011, 11, S400-S403.	2.4	4
81	Molecular dynamics simulation of film growth characterization of Fe and Cu on Cu(111) surface in the early stages of the deposition process. Current Applied Physics, 2011, 11, S65-S68.	2.4	5
82	Atomic-Scale Simulations of Early Stage of Oxidation of Vicinal Si(001) Surfaces Using a Reactive Force-Field Potentials. Japanese Journal of Applied Physics, 2011, 50, 10PF01.	1.5	1
83	Electronic Structures and Magnetism of Al/Fe(001) Thin-Film Systems: First-Principles Calculations. Japanese Journal of Applied Physics, 2011, 50, 01BF03.	1.5	0
84	Atomic-Scale Investigation on the Ti/Fe(001) Interface Structure: Molecular Dynamics Simulations andAb initioCalculations. Japanese Journal of Applied Physics, 2011, 50, 01BE07.	1.5	1
85	Electron Accumulation in LaAlO$_{3}$/SrTiO$_{3}$ Interfaces by the Broken Symmetry of Crystal Field. Japanese Journal of Applied Physics, 2011, 50, 10PF03.	1.5	0
86	Stress-Induced Wurtzite to Hexagonal Phase Transformation in Zinc Oxide Nanowires. Journal of Nanoscience and Nanotechnology, 2011, 11, 10595-10598.	0.9	0
87	Atomic-Scale Investigation on the Ti/Fe(001) Interface Structure: Molecular Dynamics Simulations andAb initioCalculations. Japanese Journal of Applied Physics, 2011, 50, 01BE07.	1.5	0
88	Electronic Structures and Magnetism of Al/Fe(001) Thin-Film Systems: First-Principles Calculations. Japanese Journal of Applied Physics, 2011, 50, 01BF03.	1.5	0
89	Energetics of Pb heterostructures formation on the Cu (111) in the early stage of the deposition process. Journal of Applied Physics, 2010, 107, 114315.	2.5	3
90	Shape-Dependent Magnetic Moment and Formation Energy of Fe Heterostructures on Cu(111): An Ab initio Study. Japanese Journal of Applied Physics, 2010, 49, 06GH14.	1.5	7

#	Article	IF	Citations
91	Atomic structures and behaviors of a fcc Cu(111) surface with submonolayer Pb coverage. Computational Materials Science, 2010, 47, 693-697.	3.0	3
92	The role of structural variations in the magnetism of Fe/Cu(111): First-principles calculations. Computational Materials Science, 2010, 49, S291-S296.	3.0	5
93	Effect of nucleated Cu phase on magnetic properties and electronic structures in bcc Fe: Ab initio study. Journal of Applied Physics, 2009, 106, 083910.	2.5	9
94	Electronic Structures and Atomic Surface Diffusion in Cr/Fe(001) and Fe/Cr(001) Systems: First-Principles Study. Japanese Journal of Applied Physics, 2008, 47, 5076-5078.	1.5	9
95	Electronic structures and atomic surface diffusion in Cr/Fe(001) and Fe/Cr(001) systems: First-principles study. , 2007, , .		0