Jae-Hun Kim

List of Publications by Year
in descending order

97 papers	5,432 citations	57758 44 h-index	85541 71 g-index
98 all docs	98 docs citations	98 times ranked	4478 citing authors

#	Article	IF	Citations
1	MOF-Based Membrane Encapsulated ZnO Nanowires for Enhanced Gas Sensor Selectivity. ACS Applied Materials & Interfaces, 2016, 8, 8323-8328.	8.0	346
2	Resistive-based gas sensors for detection of benzene, toluene and xylene (BTX) gases: a review. Journal of Materials Chemistry C, 2018, 6, 4342-4370.	5.5	255
3	Extraordinary Improvement of Gas-Sensing Performances in SnO₂ Nanofibers Due to Creation of Local pâ€“n Heterojunctions by Loading Reduced Graphene Oxide Nanosheets. ACS Applied Materials & Interfaces, 2015, 7, 3101-3109.	8.0	143
4	Bifunctional Sensing Mechanism of SnO₂â€“ZnO Composite Nanofibers for Drastically Enhancing the Sensing Behavior in H₂ Gas. ACS Applied Materials & Interfaces, 2015, 7, 11351-11358.	8.0	143
5	High-Performance Nanowire Hydrogen Sensors by Exploiting the Synergistic Effect of Pd Nanoparticles and Metalâ€“Organic Framework Membranes. ACS Applied Materials & Interfaces, 2018, 10, 34765-34773.	8.0	135
6	Facile fabrication of superhydrophobic surfaces from austenitic stainless steel (AISI 304) by chemical etching. Applied Surface Science, 2018, 439, 598-604.	6.1	126
7	Dual Functional Sensing Mechanism in SnO₂â€“ZnO Coreâ€“Shell Nanowires. ACS Applied Materials & Interfaces, 2014, 6, 8281-8287.	8.0	125
8	Low power-consumption CO gas sensors based on Au-functionalized SnO2-ZnO core-shell nanowires. Sensors and Actuators B: Chemical, 2018, 267, 597-607.	7.8	118
9	How shell thickness can affect the gas sensing properties of nanostructured materials: Survey of literature. Sensors and Actuators B: Chemical, 2018, 258, 270-294.	7.8	117
10	Optimization and gas sensing mechanism of n-SnO2-p-Co3O4 composite nanofibers. Sensors and Actuators B: Chemical, 2017, 248, 500-511.	7.8	116
11	SnO2 (n)-NiO (p) composite nanowebs: Gas sensing properties and sensing mechanisms. Sensors and Actuators B: Chemical, 2018, 258, 204-214.	7.8	115
12	Highly efficient hydrogen sensors based on Pd nanoparticles supported on boron nitride coated ZnO nanowires. Journal of Materials Chemistry A, 2019, 7, 8107-8116.	10.3	114
13	Excellent gas detection of ZnO nanofibers by loading with reduced graphene oxide nanosheets. Sensors and Actuators B: Chemical, 2015, 221, 1499-1507.	7.8	112
14	Toluene- and benzene-selective gas sensors based on Pt- and Pd-functionalized ZnO nanowires in self-heating mode. Sensors and Actuators B: Chemical, 2019, 294, 78-88.	7.8	107
15	Design of supersensitive and selective ZnO-nanofiber-based sensors for H2 gas sensing by electron-beam irradiation. Sensors and Actuators B: Chemical, 2019, 293, 210-223.	7.8	103
16	Prominent Reducing Gas-Sensing Performances of n-SnO₂ Nanowires by Local Creation of pâ€“n Heterojunctions by Functionalization with p-Cr₂O₃ Nanoparticles. ACS Applied Materials & Interfaces, 2014, 6, 17723-17729.	8.0	101
17	Sensing behavior to ppm-level gases and synergistic sensing mechanism in metal-functionalized rGO-loaded ZnO nanofibers. Sensors and Actuators B: Chemical, 2018, 255, 1884-1896.	7.8	100
18	Improving the hydrogen sensing properties of SnO2 nanowire-based conductometric sensors by Pd-decoration. Sensors and Actuators B: Chemical, 2019, 285, 358-367.	7.8	93

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19	An overview on how Pd on resistive-based nanomaterial gas sensors can enhance response toward hydrogen gas. International Journal of Hydrogen Energy, 2019, 44, 20552-20571.	7.1	91
20	Electrospun Metal Oxide Composite Nanofibers Gas Sensors: A Review. Journal of the Korean Ceramic Society, 2017, 54, 366-379.	2.3	90
21	Realization of ppb-Scale Toluene-Sensing Abilities with Pt-Functionalized SnO₂â€“ZnO Coreâ€“Shell Nanowires. ACS Applied Materials & Interfaces, 2015, 7, 17199-17208.	8.0	87
22	Importance of the nanograin size on the H2S-sensing properties of ZnOâ€“CuO composite nanofibers. Sensors and Actuators B: Chemical, 2015, 214, 111-116.	7.8	86
23	Effect of Au nanoparticle size on the gas-sensing performance of p-CuO nanowires. Sensors and Actuators B: Chemical, 2016, 222, 307-314.	7.8	81
24	Realization of Au-decorated WS2 nanosheets as low power-consumption and selective gas sensors. Sensors and Actuators B: Chemical, 2019, 296, 126659.	7.8	81
25	Flexible and low power CO gas sensor with Au-functionalized 2D WS2 nanoflakes. Sensors and Actuators B: Chemical, 2020, 313, 128040.	7.8	80
26	Synergistic effects of SnO2 and Au nanoparticles decorated on WS2 nanosheets for flexible, room-temperature CO gas sensing. Sensors and Actuators B: Chemical, 2021, 332, 129493.	7.8	79
27	Growth and sensing properties of networked p-CuO nanowires. Sensors and Actuators B: Chemical, 2015, 212, 190-195.	7.8	76
28	Highly Selective Sensing of CO, C₆H₆, and C₇H₈ Gases by Catalytic Functionalization with Metal Nanoparticles. ACS Applied Materials & Interfaces, 2016, 8, 7173-7183.	8.0	75
29	Chemiresistive Sensing Behavior of SnO₂ (n)â€“Cu₂O (p) Coreâ€“Shell Nanowires. ACS Applied Materials & Interfaces, 2015, 7, 15351-15358.	8.0	74
30	Low-Voltage-Driven Sensors Based on ZnO Nanowires for Room-Temperature Detection of NO₂ and CO Gases. ACS Applied Materials & Interfaces, 2019, 11, 24172-24183.	8.0	74
31	Enhancement of H2S sensing performance of p-CuO nanofibers by loading p-reduced graphene oxide nanosheets. Sensors and Actuators B: Chemical, 2019, 281, 453-461.	7.8	71
32	Pd functionalization on ZnO nanowires for enhanced sensitivity and selectivity to hydrogen gas. Sensors and Actuators B: Chemical, 2019, 297, 126693.	7.8	70
33	TiO₂/ZnO Inner/Outer Double-Layer Hollow Fibers for Improved Detection of Reducing Gases. ACS Applied Materials & Interfaces, 2014, 6, 21494-21499.	8.0	68
34	Remarkable Improvement of Gas-Sensing Abilities in p-type Oxide Nanowires by Local Modification of the Hole-Accumulation Layer. ACS Applied Materials & Interfaces, 2015, 7, 647-652.	8.0	67
35	Optimum shell thickness and underlying sensing mechanism in pâ€“n CuOâ€“ZnO coreâ€“shell nanowires. Sensors and Actuators B: Chemical, 2016, 222, 249-256.	7.8	64
36	Extremely sensitive and selective sub-ppm CO detection by the synergistic effect of Au nanoparticles and coreâ€“shell nanowires. Sensors and Actuators B: Chemical, 2017, 249, 177-188.	7.8	63

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37	Predictive gas sensor based on thermal fingerprints from Pt-SnO2 nanowires. Sensors and Actuators B: Chemical, 2019, 281, 670-678.	7.8	63
38	Enhancement of CO and NO2 sensing in n-SnO2-p-Cu2O core-shell nanofibers by shell optimization. Journal of Hazardous Materials, 2019, 376, 68-82.	12.4	59
39	Striking sensing improvement of n-type oxide nanowires by electronic sensitization based on work function difference. Journal of Materials Chemistry C, 2015, 3, 1521-1527.	5.5	57
40	Combination of Pd loading and electron beam irradiation for superior hydrogen sensing of electrospun ZnO nanofibers. Sensors and Actuators B: Chemical, 2019, 284, 628-637.	7.8	56
41	Variation of shell thickness in ZnO-SnO2 core-shell nanowires for optimizing sensing behaviors to CO, C6H6, and C7H8 gases. Sensors and Actuators B: Chemical, 2020, 302, 127150.	7.8	56
42	Realization of H2S sensing by Pd-functionalized networked CuO nanowires in self-heating mode. Sensors and Actuators B: Chemical, 2019, 299, 126965.	7.8	54
43	Enhancement of gas sensing by implantation of Sb-ions in SnO2 nanowires. Sensors and Actuators B: Chemical, 2020, 304, 127307.	7.8	52
44	Gasochromic WO3 Nanostructures for the Detection of Hydrogen Gas: An Overview. Applied Sciences (Switzerland), 2019, 9, 1775.	2.5	49
45	CuOâ€“TiO2 pâ€“n coreâ€“shell nanowires: Sensing mechanism and p/n sensing-type transition. Applied Surface Science, 2018, 448, 489-497.	6.1	44
46	Co3O4-loaded ZnO nanofibers for excellent hydrogen sensing. International Journal of Hydrogen Energy, 2019, 44, 27499-27510.	7.1	44
47	Optimization of the surface coverage of metal nanoparticles on nanowires gas sensors to achieve the optimal sensing performance. Sensors and Actuators B: Chemical, 2020, 302, 127196.	7.8	44
48	Ultra-sensitive benzene detection by a novel approach: Core-shell nanowires combined with the Pd-functionalization. Sensors and Actuators B: Chemical, 2017, 239, 578-585.	7.8	43
49	Selective H2S sensing without external heat by a synergy effect in self-heated CuO-functionalized SnO2-ZnO core-shell nanowires. Sensors and Actuators B: Chemical, 2019, 300, 126981.	7.8	42
50	Influence of hollowness variation on the gas-sensing properties of ZnO hollow nanofibers. Sensors and Actuators B: Chemical, 2016, 232, 698-704.	7.8	41
51	Self-heating effects on the toluene sensing of Pt-functionalized SnO2â€“ZnO coreâ€“shell nanowires. Sensors and Actuators B: Chemical, 2017, 251, 781-794.	7.8	41
52	Realization of ppm-level CO detection with exceptionally high sensitivity using reduced graphene oxide-loaded SnO₂ nanofibers with simultaneous Au functionalization. Chemical Communications, 2016, 52, 3832-3835.	4.1	40
53	ppb-Level Selective Hydrogen Gas Detection of Pd-Functionalized In2O3-Loaded ZnO Nanofiber Gas Sensors. Sensors, 2019, 19, 4276.	3.8	39
54	Design and fabrication of highly selective H2 sensors based on SIM-1 nanomembrane-coated ZnO nanowires. Sensors and Actuators B: Chemical, 2018, 264, 410-418.	7.8	37

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55	A novel approach to improving oxidizing-gas sensing ability of p-CuO nanowires using biased radial modulation of a hole-accumulation layer. Journal of Materials Chemistry C, 2014, 2, 8911-8917.	5.5	35
56	Selective H2S-sensing performance of Si nanowires through the formation of ZnO shells with Au functionalization. Sensors and Actuators B: Chemical, 2019, 289, 1-14.	7.8	35
57	Hydrogen sensing characteristics of Pd-decorated ultrathin ZnO nanosheets. Sensors and Actuators B: Chemical, 2021, 329, 129222.	7.8	35
58	Sub-ppm Formaldehyde Detection by n-n TiO2@SnO2 Nanocomposites. Sensors, 2019, 19, 3182.	3.8	32
59	Synthesis and Selective Sensing Properties of rGO/Metal-Coloaded SnO2 Nanofibers. Journal of Electronic Materials, 2017, 46, 3531-3541.	2.2	30
60	Optimization of metal nanoparticle amount on SnO2 nanowires to achieve superior gas sensing properties. Sensors and Actuators B: Chemical, 2017, 238, 374-380.	7.8	30
61	Novel superamphiphobic surfaces based on micro-nano hierarchical fluorinated Ag/SiO2 structures. Applied Surface Science, 2018, 445, 262-271.	6.1	29
62	Indium-implantation-induced enhancement of gas sensing behaviors of SnO2 nanowires by the formation of homo-coreâ€“shell structure. Sensors and Actuators B: Chemical, 2020, 321, 128475.	7.8	29
63	Synthesis of Aligned TiO2 Nanofibers Using Electrospinning. Applied Sciences (Switzerland), 2018, 8, 309.	2.5	28
64	Enhanced Hydrogen Detection in ppb-Level by Electrospun SnO2-Loaded ZnO Nanofibers. Sensors, 2019, 19, 726.	3.8	27
65	Realization of superhydrophobic aluminum surfaces with novel micro-terrace nano-leaf hierarchical structure. Applied Surface Science, 2018, 451, 207-217.	6.1	26
66	Gas-sensing behaviors of TiO2-layer-modified SnO2 quantum dots in self-heating mode and effects of the TiO2 layer. Sensors and Actuators B: Chemical, 2020, 310, 127870.	7.8	26
67	Chemical-recognition-driven selectivity of SnO2-nanowire-based gas sensors. Nano Today, 2021, 40, 101265.	11.9	25
68	Improvement of Toluene-Sensing Performance of SnO2 Nanofibers by Pt Functionalization. Sensors, 2016, 16, 1857.	3.8	21
69	Gas Sensing Properties of Mg-Incorporated Metalâ€“Organic Frameworks. Sensors, 2019, 19, 3323.	3.8	20
70	Electrowetting on dielectric (EWOD) properties of Teflon-coated electrosprayed silica layers in air and oil media and the influence of electric leakage. Journal of Materials Chemistry C, 2018, 6, 6808-6815.	5.5	19
71	perature on gas sensing properties of lithium<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:mo stretchy="false">(</mml:mo><mml:mi) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 107 T	3.6	19
72	xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.gif" overflow="scroll"><mml:mrow> Excellent Carbon Monoxide Sensing Performance of Au-Decorated SnO2 Nanofibers. Korean Journal of Materials Research, 2016, 26, 741-750.	0.2	19

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73	Synthesis and gas sensing properties of membrane template-grown hollow ZnO nanowires. Nano Convergence, 2017, 4, 27.	12.1	17
74	Achievement of self-heated sensing of hazardous gases by WS2 (core)â€“SnO2 (shell) nanosheets. Journal of Hazardous Materials, 2021, 412, 125196.	12.4	17
75	Selective CO gas sensing by Au-decorated WS2-SnO2 core-shell nanosheets on flexible substrates in self-heating mode. Sensors and Actuators B: Chemical, 2022, 353, 131197.	7.8	17
76	Electrowetting-on-dielectric characteristics of ZnO nanorods. Scientific Reports, 2020, 10, 14194.	3.3	15
77	Pd-functionalized core-shell composite nanowires for self-heating, sensitive, and benzene-selective gas sensors. Sensors and Actuators A: Physical, 2020, 308, 112011.	4.1	15
78	Facile synthesis and electrochemical properties of carbon-coated ZnO nanotubes for high-rate lithium storage. Ceramics International, 2018, 44, 18222-18226.	4.8	14
79	Pd-decorated Si nano-horns as sensitive and selective hydrogen gas sensors. Materials Research Bulletin, 2020, 132, 110985.	5.2	14
80	CuO/SnO₂ Mixed Nanofibers for H₂S Detection. Journal of Nanoscience and Nanotechnology, 2015, 15, 8637-8641.	0.9	13
81	Characterization of the crystallographic microstructure of the stress-induced void in Cu interconnects. Applied Physics Letters, 2008, 92, 141917.	3.3	12
82	Significance of the Nanograin Size on the H₂S-Sensing Ability of CuO-SnO₂Composite Nanofibers. Journal of Sensors, 2015, 2015, 1-7.	1.1	12
83	Gas sensing properties of standard soda-lime glass. Sensors and Actuators B: Chemical, 2018, 266, 344-353.	7.8	12
84	Crystallinity dependent gas-sensing abilities of ZnO hollow fibers. Metals and Materials International, 2016, 22, 942-946.	3.4	11
85	Incorporation of metal nanoparticles in soda-lime glass sensors for enhancing selective sensing. Sensors and Actuators B: Chemical, 2019, 296, 126673.	7.8	11
86	Growth of Networked TiO2 Nanowires for Gas-Sensing Applications. Journal of Nanoscience and Nanotechnology, 2016, 16, 11580-11585.	0.9	10
87	A Novel X-Ray Radiation Sensor Based on Networked SnO2 Nanowires. Applied Sciences (Switzerland), 2019, 9, 4878.	2.5	10
88	How femtosecond laser irradiation can affect the gas sensing behavior of SnO2 nanowires toward reducing and oxidizing gases. Sensors and Actuators B: Chemical, 2021, 342, 130036.	7.8	8
89	Au-Decorated 1D SnO2 Nanowire/2D WS2 Nanosheet Composite for CO Gas Sensing at Room Temperature in Self-Heating Mode. Chemosensors, 2022, 10, 132.	3.6	8
90	Superhydrophobic and oleophilic microâ€nano hierarchical Pdâ€decorated SiO 2 layers. Journal of the American Ceramic Society, 2018, 101, 3817-3829.	3.8	5

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91	Electrowetting-on-dielectric behavior of micro-nano hierarchical SiO2 layers decorated with noble metals. Ceramics International, 2021, 47, 28312-28320.	4.8	5
92	A Novel Synthesis Route for Pt-Loaded SnO₂ Nanofibers and Their Sensing Properties. Journal of Nanoscience and Nanotechnology, 2014, 14, 8253-8257.	0.9	4
93	Super anticorrosion of aluminized steel by a controlled Mg supply. Scientific Reports, 2018, 8, 3760.	3.3	3
94	Evolution of grains to relieve additional compressive stress developed in Alâ€“Mg alloy films during thermal annealing. Thin Solid Films, 2015, 595, 148-152.	1.8	1
95	Glucose Sensors Using Lipoic Acid Self-Assembled Monolayers. Journal of Sensor Science and Technology, 2014, 23, 295-298.	0.2	1
96	Synergistic Effects of Au and SnO2 Nanoparticles Decorated on WS2 Nanosheets for Flexible, Room-Temperature CO Gas Sensing. ECS Meeting Abstracts, 2021, MA2021-01, 1431-1431.	0.0	0
97	Change in Water Contact Angle on Electrospray-Synthesized SiO2Coated Layers by Plasma Exposure. Korean Journal of Materials Research, 2014, 24, 639-643.	0.2	0