

# Hao Cui

## List of Publications by Year in descending order

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71  
papers

3,564  
citations

147801

31  
h-index

133252

59  
g-index

72  
all docs

72  
docs citations

72  
times ranked

1180  
citing authors

#	ARTICLE	IF	CITATIONS
1	Rh-doped MoSe <sub>2</sub> as a toxic gas scavenger: a first-principles study. <i>Nanoscale Advances</i> , 2019, 1, 772-780.	4.6	261
2	First-principles insight into Ni-doped InN monolayer as a noxious gases scavenger. <i>Applied Surface Science</i> , 2019, 494, 859-866.	6.1	250
3	Adsorption of SO <sub>2</sub> and NO <sub>2</sub> molecule on intrinsic and Pd-doped HfSe <sub>2</sub> monolayer: A first-principles study. <i>Applied Surface Science</i> , 2020, 513, 145863.	6.1	250
4	Pd-doped MoS <sub>2</sub> monolayer: A promising candidate for DGA in transformer oil based on DFT method. <i>Applied Surface Science</i> , 2019, 470, 1035-1042.	6.1	248
5	Adsorption and sensing behaviors of SF <sub>6</sub> decomposed species on Ni-doped C <sub>3</sub> N monolayer: A first-principles study. <i>Applied Surface Science</i> , 2020, 512, 145759.	6.1	236
6	Ru-InN Monolayer as a Gas Scavenger to Guard the Operation Status of SF <sub>6</sub> Insulation Devices: A First-Principles Theory. <i>IEEE Sensors Journal</i> , 2019, 19, 5249-5255.	4.7	158
7	Pristine and Cu decorated hexagonal InN monolayer, a promising candidate to detect and scavenge SF <sub>6</sub> decompositions based on first-principle study. <i>Journal of Hazardous Materials</i> , 2019, 363, 346-357.	12.4	146
8	Pt & Pd decorated CNT as a workable media for SO <sub>2</sub> sensing: A DFT study. <i>Applied Surface Science</i> , 2019, 471, 335-341.	6.1	125
9	Nanomaterials-based gas sensors of SF <sub>6</sub> decomposed species for evaluating the operation status of high-voltage insulation devices. <i>High Voltage</i> , 2019, 4, 242-258.	4.7	124
10	Adsorption mechanism of SF <sub>6</sub> decomposed species on pyridine-like PtN <sub>3</sub> embedded CNT: A DFT study. <i>Applied Surface Science</i> , 2018, 447, 594-598.	6.1	110
11	SO <sub>2</sub> sensing by Rh-doped PtS <sub>2</sub> monolayer for early diagnosis of partial discharge in the SF <sub>6</sub> insulation device. <i>Molecular Physics</i> , 2021, 119, e1919774.	1.7	106
12	Noble metal (Pt or Au)-doped monolayer MoS <sub>2</sub> as a promising adsorbent and gas-sensing material to SO <sub>2</sub> , SOF <sub>2</sub> and SO <sub>2</sub> F <sub>2</sub> : a DFT study. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	2.3	105
13	Dissolved gas analysis in transformer oil using Pd catalyst decorated MoSe <sub>2</sub> monolayer: A first-principles theory. <i>Sustainable Materials and Technologies</i> , 2019, 20, e00094.	3.3	99
14	Adsorption and sensing of CO and C <sub>2</sub> H <sub>2</sub> by S-defected SnS <sub>2</sub> monolayer for DGA in transformer oil: A DFT study. <i>Materials Chemistry and Physics</i> , 2020, 249, 123006.	4.0	87
15	Mechanism and Application of Carbon Nanotube Sensors in SF <sub>6</sub> Decomposed Production Detection: a Review. <i>Nanoscale Research Letters</i> , 2017, 12, 177.	5.7	74
16	Theoretical Study of Monolayer PtSe <sub>2</sub> as Outstanding Gas Sensor to Detect SF <sub>6</sub> Decompositions. <i>IEEE Electron Device Letters</i> , 2018, 39, 1405-1408.	3.9	67
17	Adsorption and sensing of SO <sub>2</sub> and SOF <sub>2</sub> molecule by Pt-doped HfSe <sub>2</sub> monolayer: A first-principles study. <i>Applied Surface Science</i> , 2020, 530, 147242.	6.1	63
18	Al-Doped MoSe <sub>2</sub> Monolayer as a Promising Biosensor for Exhaled Breath Analysis: A DFT Study. <i>ACS Omega</i> , 2021, 6, 988-995.	3.5	54

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19	Adsorption performance of Rh decorated SWCNT upon SF <sub>6</sub> decomposed components based on DFT method. Applied Surface Science, 2017, 420, 825-832.	6.1	53
20	Adsorption characteristic of Rh-doped MoSe <sub>2</sub> monolayer towards H <sub>2</sub> and C <sub>2</sub> H <sub>2</sub> for DGA in transformer oil based on DFT method. Applied Surface Science, 2019, 487, 930-937.	6.1	48
21	Density functional theory study of small Ag cluster adsorbed on graphyne. Applied Surface Science, 2019, 465, 93-102.	6.1	46
22	Rh-doped MoTe <sub>2</sub> Monolayer as a Promising Candidate for Sensing and Scavenging SF <sub>6</sub> Decomposed Species: a DFT Study. Nanoscale Research Letters, 2020, 15, 129.	5.7	46
23	Geometric, Electronic and Optical Properties of Pt-Doped C <sub>3</sub> N Monolayer Upon NO <sub>x</sub> Adsorption: A DFT Study. IEEE Sensors Journal, 2021, 21, 3602-3608.	4.7	43
24	A first principle simulation of competitive adsorption of SF <sub>6</sub> decomposition components on nitrogen-doped anatase TiO <sub>2</sub> (101) surface. Applied Surface Science, 2017, 422, 331-338.	6.1	42
25	Pd-doped C <sub>3</sub> N monolayer: A promising low-temperature and high-activity single-atom catalyst for CO oxidation. Applied Surface Science, 2021, 537, 147881.	6.1	42
26	Thermally Stable RuO <sub>x</sub> –CeO <sub>2</sub> Nanofiber Catalysts for Low-Temperature CO Oxidation. ACS Applied Nano Materials, 2020, 3, 8403-8413.	5.0	41
27	Synthesis of Graphene-Based Sensors and Application on Detecting SF <sub>6</sub> Decomposing Products: A Review. Sensors, 2017, 17, 363.	3.8	38
28	Borophene: a promising adsorbent material with strong ability and capacity for SO <sub>2</sub> adsorption. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	36
29	Adsorption characteristic of Pd-4 cluster carbon nanotube towards transformer oil dissolved components: A simulation. Applied Surface Science, 2017, 419, 802-810.	6.1	32
30	Understanding of SF <sub>6</sub> decompositions adsorbed on cobalt-doped SWCNT: A DFT study. Applied Surface Science, 2017, 420, 371-382.	6.1	32
31	Adsorption behaviour of SO <sub>2</sub> and SOF <sub>2</sub> gas on Rh-doped BNNT: a DFT study. Molecular Physics, 2020, 118, e1580394.	1.7	32
32	Adsorption behaviour of SF <sub>6</sub> decomposed species onto Pd <sub>4</sub> -decorated single-walled CNT: a DFT study. Molecular Physics, 2018, 116, 1749-1755.	1.7	31
33	Electronic structure and H <sub>2</sub> S adsorption property of Pt <sub>3</sub> cluster decorated (8, 0) SWCNT. Applied Surface Science, 2018, 428, 82-88.	6.1	30
34	Pd-doped PtSe <sub>2</sub> monolayer with strain-modulated effect for sensing SF <sub>6</sub> decomposed species: a first-principles study. Journal of Materials Research and Technology, 2022, 18, 629-636.	5.8	28
35	Doping effect of small Rh <sub>n</sub> (n=1-4) clusters on the geometric and electronic behaviors of MoS <sub>2</sub> monolayer: A first-principles study. Applied Surface Science, 2020, 526, 146659.	6.1	27
36	Sulfur dioxide adsorbed on pristine and Au dimer decorated $\beta$ -graphyne: A density functional theory study. Applied Surface Science, 2018, 458, 781-789.	6.1	25

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37	Geometric structure and SOF <sub>2</sub> adsorption behavior of Pt <sub>n</sub> (n=1-4) clustered (8, 0) single-walled CNT using density functional theory. <i>Journal of Fluorine Chemistry</i> , 2018, 211, 148-153.	1.7	25
38	Adsorption Behavior of Pd-Doped PtS <sub>2</sub> , Monolayer Upon SF <sub>6</sub> Decomposed Species and the Effect of Applied Electric Field. <i>IEEE Sensors Journal</i> , 2022, 22, 6764-6771.	4.7	22
39	Enhanced NO <sub>x</sub> adsorption and sensing properties of MoTe <sub>2</sub> monolayer by Ni-doping: A first-principles study. <i>Surfaces and Interfaces</i> , 2021, 26, 101372.	3.0	21
40	High selectivity n-type InSe monolayer toward decomposition products of sulfur hexafluoride: A density functional theory study. <i>Applied Surface Science</i> , 2019, 479, 852-862.	6.1	20
41	Adsorption mechanism of SF <sub>6</sub> decomposition components onto N, F-co-doped TiO <sub>2</sub> : A DFT study. <i>Journal of Fluorine Chemistry</i> , 2018, 213, 18-23.	1.7	19
42	Investigation of Gas-Sensing Property of Acid-Deposited Polyaniline Thin-Film Sensors for Detecting H <sub>2</sub> S and SO <sub>2</sub> . <i>Sensors</i> , 2016, 16, 1889.	3.8	18
43	Carbon-chain inserting effect on electronic behavior of single-walled carbon nanotubes: a density functional theory study. <i>MRS Communications</i> , 2018, 8, 189-193.	1.8	17
44	Interaction of CO and CH <sub>4</sub> Adsorption with Noble Metal (Rh, Pd, and Pt)-Decorated N <sub>3</sub> -CNTs: A First-Principles Study. <i>ACS Omega</i> , 2018, 3, 16892-16898.	3.5	16
45	A DFT Calculation of Fluoride-Doped TiO <sub>2</sub> Nanotubes for Detecting SF <sub>6</sub> Decomposition Components. <i>Sensors</i> , 2017, 17, 1907.	3.8	14
46	Repairing the N-vacancy in an InN monolayer using NO molecules: a first-principles study. <i>Nanoscale Advances</i> , 2019, 1, 2003-2008.	4.6	14
47	Janus PtSSe monolayer: A novel strain-modulated buddy for SOF <sub>2</sub> sensing. <i>Vacuum</i> , 2022, 198, 110887.	3.5	14
48	Pt-doped single-walled CNT as a superior media for evaluating the operation status of insulation devices: A first-principle study. <i>AIP Advances</i> , 2018, 8, .	1.3	13
49	Facile Fabrication of Au Nanoparticles/Tin Oxide/Reduced Graphene Oxide Ternary Nanocomposite and Its High-Performance SF <sub>6</sub> Decomposition Components Sensing. <i>Frontiers in Chemistry</i> , 2019, 7, 476.	3.6	11
50	Different doping of penta-graphene as adsorbent and gas sensing material for scavenging and detecting SF <sub>6</sub> decomposed species. <i>Sustainable Materials and Technologies</i> , 2019, 21, e00100.	3.3	11
51	Difluorobenzylamine Treatment of Organolead Halide Perovskite Boosts the High Efficiency and Stability of Photovoltaic Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 11388-11397.	8.0	11
52	First-principles investigation of Pt-doped MoTe <sub>2</sub> for detecting characteristic air decomposition components in air insulation switchgear. <i>Computational and Theoretical Chemistry</i> , 2022, 1214, 113796.	2.5	10
53	Volume change of macropores of titanium foams during sintering. <i>Transactions of Nonferrous Metals Society of China</i> , 2015, 25, 3834-3839.	4.2	9
54	Adsorption of SF <sub>6</sub> Decomposed Products over ZnO(101̄00): Effects of O and Zn Vacancies. <i>ACS Omega</i> , 2018, 3, 18739-18752.	3.5	9

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55	Thermal decomposition properties of fluoronitriles-N <sub>2</sub> gas mixture as alternative gas for SF <sub>6</sub> . Journal of Fluorine Chemistry, 2020, 229, 109434.	1.7	8
56	A DFT study of healing the N vacancy in h-BN monolayer by NO molecules. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	7
57	A Novel Regression Prediction Method for Electronic Nose Based on Broad Learning System. IEEE Sensors Journal, 2021, 21, 19374-19381.	4.7	6
58	First-principles screening in Cu-embedded PtSe <sub>2</sub> monolayer as a potential gas sensor upon CO and HCHO in dry-type transformers. Computational and Theoretical Chemistry, 2022, 1209, 113586.	2.5	6
59	Performance Improvement of MoS <sub>2</sub> , Gas Sensor at Room Temperature. IEEE Transactions on Electron Devices, 2021, 68, 4644-4650.	3.0	5
60	First-principles screening upon Janus PtXY (X, Y = S, Se and Te) monolayer under applied biaxial strains and electric fields. Journal of Materials Research and Technology, 2022, 18, 1218-1229.	5.8	5
61	Corrections to "Ru-InN Monolayer as a Gas Scavenger to Guard the Operation Status of SF <sub>6</sub> Insulation Devices: A First-Principles Theory" [Jul 19 5249-5255]. IEEE Sensors Journal, 2020, 20, 562-562.	4.7	4
62	Mechanical behaviors and porosity of porous Ti prepared with large-size acicular urea as spacer. SN Applied Sciences, 2019, 1, 1.	2.9	3
63	InP <sub>3</sub> Monolayer as a Promising 2D Sensing Material in SF <sub>6</sub> Insulation Devices. ACS Omega, 2021, 6, 29752-29758.	3.5	3
64	Adsorption of H <sub>2</sub> and C <sub>2</sub> H <sub>2</sub> onto Rh-decorated InN monolayer and the effect of applied electric field. Molecular Physics, 2022, 120, .	1.7	3
65	Favorable sensing property of Pt-doped Janus HfSSe monolayer upon H <sub>2</sub> S and SO <sub>2</sub> : A first-principles theory. Journal of Materials Research and Technology, 2022, , .	5.8	3
66	Adsorption and desorption behavior of anion-exchange resin towards SO <sub>4</sub> <sup>2-</sup> in the desulphurization process using citric method. Adsorption, 2019, 25, 105-113.	3.0	1
67	Sensing behavior of Cu-embedded C <sub>3</sub> N monolayer upon dissolved gases in transformer oil: a first-principles study. Carbon Letters, 2021, 31, 489-496.	5.9	1
68	Determination of Gas Sensing Properties of SF <sub>6</sub> Decomposition Components by Pt Modified Graphene. , 2018, , .		0
69	Pt Decorating Effect on CNT Surface Towards Adsorption of SF <sub>6</sub> Decomposed Components. Minerals, Metals and Materials Series, 2018, , 921-928.	0.4	0
70	Mechanical Behavior and Microstructure of Porous Ti Using TiC as Reinforcement. Minerals, Metals and Materials Series, 2019, , 495-501.	0.4	0
71	A Classification for Electronic Nose Based on Broad Learning System. Frontiers in Artificial Intelligence and Applications, 2020, , .	0.3	0