# Dachang Chen

List of Publications by Year
in descending order

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|---|---|---|---|
| 72 papers | 2,868 citations | 136740<br>32 h-index | 182168<br>51 g-index |
| 72 all docs | 72 docs citations | 72 times ranked | 1382 citing authors |

| # | ARTICLE | IF | CITATIONS |
|---|---------|-----|-----------|
| 1 | SnO2 nanoparticles based highly sensitive gas sensor for detection of C4F7N: A new eco-friendly gas insulating medium. Journal of Hazardous Materials, 2022, 422, 126882. | 6.5 | 34 |
| 2 | Transition-metal-free boron doped SbN monolayer for N2 adsorption and reduction to NH3: A first-principles study. Journal of Colloid and Interface Science, 2022, 607, 1551-1561. | 5.0 | 8 |
| 3 | Single Ni atom doped WS2 monolayer as sensing substrate for dissolved gases in transformer oil: A first-principles study. Applied Surface Science, 2022, 579, 152141. | 3.1 | 40 |
| 4 | Two-dimensional square metal organic framework as promising cathode material for lithium-sulfur battery with high theoretical energy density. Journal of Colloid and Interface Science, 2022, 613, 435-446. | 5.0 | 11 |
| 5 | Exploring single atom catalysts of transition-metal doped phosphorus carbide monolayer for HER: A first-principles study. Journal of Energy Chemistry, 2021, 52, 155-162. | 7.1 | 54 |
| 6 | Real-Time Measurement of $SO_2$, $H_2S$, and $CS_2$ Mixed Gases Using Ultraviolet Spectroscopy and a Least Squares Algorithm. Applied Spectroscopy, 2021, 75, 265-273. | 1.2 | 5 |
| 7 | Insight into Prolonged Cycling Life of 4 V All‐Solid‐State Polymer Batteries by a High‐Voltage Stable Binder. Advanced Energy Materials, 2021, 11, . | 10.2 | 52 |
| 8 | Machine-learning-accelerated discovery of single-atom catalysts based on bidirectional activation mechanism. Chem Catalysis, 2021, 1, 183-195. | 2.9 | 50 |
| 9 | The adsorption performance of harmful gas on Cu doped WS2: A first-principle study. Materials Today Communications, 2021, 28, 102488. | 0.9 | 36 |
| 10 | Adsorption behaviour of $SO_2$ and $SOF_2$ gas on Rh-doped BNNT: a DFT study. Molecular Physics, 2020, 118, e1580394. | 0.8 | 32 |
| 11 | Thermal decomposition properties of fluoronitriles-N2 gas mixture as alternative gas for SF6. Journal of Fluorine Chemistry, 2020, 229, 109434. | 0.9 | 8 |
| 12 | Transition metal–$N_4$ embedded black phosphorus carbide as a high-performance bifunctional electrocatalyst for ORR/OER. Nanoscale, 2020, 12, 18721-18732. | 2.8 | 39 |
| 13 | Computational screening of homo and hetero transition metal dimer catalysts for reduction of $CO_2$ to $C_2$ products with high activity and low limiting potential. Journal of Materials Chemistry A, 2020, 8, 21241-21254. | 5.2 | 51 |
| 14 | Adsorption of SF6 Decomposed Products on ZnO-Modified C3N: A Theoretical Study. Nanoscale Research Letters, 2020, 15, 186. | 3.1 | 8 |
| 15 | Interaction Mechanism between the $C_4F_7N$–$CO_2$ Gas Mixture and the EPDM Seal Ring. ACS Omega, 2020, 5, 5911-5920. | 1.6 | 17 |
| 16 | Study on the thermal decomposition characteristics of $C_4F_7N$–$CO_2$ mixture as eco‐friendly gas‐insulating medium. High Voltage, 2020, 5, 46-52. | 2.7 | 40 |
| 17 | A triple atom catalyst with ultrahigh loading potential for nitrogen electrochemical reduction. Journal of Materials Chemistry A, 2020, 8, 15086-15093. | 5.2 | 48 |
| 18 | Adsorption Behavior of γ-$Al_2O_3$ Toward Heptafluoroisobutyronitrile and its Decompositions: Theoretical and Experimental Insights. IEEE Access, 2020, 8, 36741-36748. | 2.6 | 9 |

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|---|---------|-----|-----------|
| 19 | Influence regularity of $O_2$ on dielectric and decomposition properties of $C_4F_7N$–$CO_2$–$O_2$ gas mixture for medium-voltage equipment. High Voltage, 2020, 5, 256-263. | 2.7 | 30 |
| 20 | Adsorption and decomposition of SF6 molecule on Î±-Al2O3 (0 0 0 1) surface: a DFT study. Adsorption, 2019, 25, 1625-1632. | 1.4 | 16 |
| 21 | Facile Fabrication of Au Nanoparticles/Tin Oxide/Reduced Graphene Oxide Ternary Nanocomposite and Its High-Performance SF6 Decomposition Components Sensing. Frontiers in Chemistry, 2019, 7, 476. | 1.8 | 11 |
| 22 | Using Pd-Doped Î³-Graphyne to Detect Dissolved Gases in Transformer Oil: A Density Functional Theory Investigation. Nanomaterials, 2019, 9, 1490. | 1.9 | 37 |
| 23 | Sensing properties of Ni-doped boron nitride nanotube to SF6 decomposed components: A DFT study. AIP Advances, 2019, 9, . | 0.6 | 30 |
| 24 | First-principles insight into Ni-doped InN monolayer as a noxious gases scavenger. Applied Surface Science, 2019, 494, 859-866. | 3.1 | 250 |
| 25 | High selectivity n-type InSe monolayer toward decomposition products of sulfur hexafluoride: A density functional theory study. Applied Surface Science, 2019, 479, 852-862. | 3.1 | 20 |
| 26 | Assessment on the toxicity and application risk of C4F7N: A new SF6 alternative gas. Journal of Hazardous Materials, 2019, 368, 653-660. | 6.5 | 78 |
| 27 | Dissolved Gas Analysis in Transformer Oil Using Pt-Doped $WSe_2$ Monolayer Based on First Principles Method. IEEE Access, 2019, 7, 72012-72019. | 2.6 | 58 |
| 28 | A First-Principles Study of the $SF_6$ Decomposed Products Adsorbed Over Defective $WS_2$ Monolayer as Promising Gas Sensing Device. IEEE Transactions on Device and Materials Reliability, 2019, 19, 473-483. | 1.5 | 90 |
| 29 | Repairing the N-vacancy in an InN monolayer using NO molecules: a first-principles study. Nanoscale Advances, 2019, 1, 2003-2008. | 2.2 | 14 |
| 30 | Theoretical study on the interaction between SF6 molecule and BaTiO3(0 0 1) surface: A DFT study. Applied Surface Science, 2019, 483, 409-416. | 3.1 | 25 |
| 31 | Study on the thermal interaction mechanism between C4F7N-N2 and copper, aluminum. Corrosion Science, 2019, 153, 32-46. | 3.0 | 32 |
| 32 | Different doping of penta-graphene as adsorbent and gas sensing material for scavenging and detecting SF6 decomposed species. Sustainable Materials and Technologies, 2019, 21, e00100. | 1.7 | 11 |
| 33 | Dissolved gas analysis in transformer oil using Pd catalyst decorated MoSe2 monolayer: A first-principles theory. Sustainable Materials and Technologies, 2019, 20, e00094. | 1.7 | 99 |
| 34 | Theoretical study of SF6 decomposition on the MoS2 monolayer doped with Ag, Ni, Au, Pt: a first-principles study. Adsorption, 2019, 25, 225-233. | 1.4 | 12 |
| 35 | Influence of Oxygen on the Thermal Decomposition Properties of $C_4F_7N$–$N_2$–$O_2$ as an Eco-Friendly Gas Insulating Medium. ACS Omega, 2019, 4, 18616-18626. | 1.6 | 8 |
| 36 | Thermal compatibility properties of C6F12O-air gas mixture with metal materials. AIP Advances, 2019, 9, . | 0.6 | 12 |

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| 37 | Theoretical study on the interaction of heptafluoro-iso-butyronitrile decomposition products with Al (1 1 1). Molecular Physics, 2019, 117, 218-227. | 0.8 | 4 |
| 38 | Density functional theory study of small Ag cluster adsorbed on graphyne. Applied Surface Science, 2019, 465, 93-102. | 3.1 | 46 |
| 39 | Theoretical study on the interaction between C5-PFK and Al (1 1 1), Ag (1 1 1): A comparative study. Applied Surface Science, 2019, 464, 586-596. | 3.1 | 31 |
| 40 | Experimental study on the partial discharge and AC breakdown properties of $C_4F_7N/CO_2$ mixture. High Voltage, 2019, 4, 12-17. | 2.7 | 45 |
| 41 | Using Single-Layer $HfS_2$ as Prospective Sensing Device Toward Typical Partial Discharge Gas in $SF_6$-Based Gas-Insulated Switchgear. IEEE Transactions on Electron Devices, 2019, 66, 689-695. | 1.6 | 26 |
| 42 | Insight into the compatibility between C4F7N and silver: Experiment and theory. Journal of Physics and Chemistry of Solids, 2019, 126, 105-111. | 1.9 | 14 |
| 43 | Pt &amp; Pd decorated CNT as a workable media for SOF2 sensing: A DFT study. Applied Surface Science, 2019, 471, 335-341. | 3.1 | 125 |
| 44 | Detecting Decompositions of Sulfur Hexafluoride Using $MoS_2$ Monolayer as Gas Sensor. IEEE Sensors Journal, 2019, 19, 39-46. | 2.4 | 51 |
| 45 | High Selective $SO_2$ Gas Sensor Based on Monolayer $\eta$-AsSb to Detect $SF_6$ Decompositions. IEEE Sensors Journal, 2019, 19, 1215-1223. | 2.4 | 21 |
| 46 | Pristine and Cu decorated hexagonal InN monolayer, a promising candidate to detect and scavenge SF6 decompositions based on first-principle study. Journal of Hazardous Materials, 2019, 363, 346-357. | 6.5 | 146 |
| 47 | Adsorption behavior of COF2 and CF4 gas on the MoS2 monolayer doped with Ni: A first-principles study. Applied Surface Science, 2018, 443, 274-279. | 3.1 | 70 |
| 48 | Adsorption mechanism of SF6 decomposed species on pyridine-like PtN3 embedded CNT: A DFT study. Applied Surface Science, 2018, 447, 594-598. | 3.1 | 110 |
| 49 | Detecting decompositions of sulfur hexafluoride using reduced graphene oxide decorated with Pt nanoparticles. Journal Physics D: Applied Physics, 2018, 51, 185304. | 1.3 | 15 |
| 50 | Noble metal (Pt or Au)-doped monolayer MoS2 as a promising adsorbent and gas-sensing material to SO2, SOF2 and SO2F2: a DFT study. Applied Physics A: Materials Science and Processing, 2018, 124, 1. | 1.1 | 105 |
| 51 | Theoretical evaluation of the interaction between C5-PFK molecule and Cu (1 1 1). Journal of Fluorine Chemistry, 2018, 208, 48-54. | 0.9 | 19 |
| 52 | Adsorption and dissociation mechanism of SO2 and H2S on Pt decorated graphene: a DFT-D3 study. Applied Physics A: Materials Science and Processing, 2018, 124, 1. | 1.1 | 32 |
| 53 | Decomposition Properties of $C_4F_7N/N_2$ Gas Mixture: An Environmentally Friendly Gas to Replace $SF_6$. Industrial &amp; Engineering Chemistry Research, 2018, 57, 5173-5182. | 1.8 | 126 |
| 54 | Electronic structure and H2S adsorption property of Pt3 cluster decorated (8, 0) SWCNT. Applied Surface Science, 2018, 428, 82-88. | 3.1 | 30 |

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| 55 | Dissociative adsorption of environment-friendly insulating medium C3F7CN on Cu(111) and Al(111) surface: A theoretical evaluation. Applied Surface Science, 2018, 434, 549-560. | 3.1 | 45 |
| 56 | Detecting decompositions of sulfur hexafluoride using Ge modified SWCNT: a theoretical evaluation. , 2018, , . | | 0 |
| 57 | Mono- and Bi-Molecular Adsorption of SF6 Decomposition Products on Pt Doped Graphene: A First-Principles Investigation. Applied Sciences (Switzerland), 2018, 8, 2010. | 1.3 | 4 |
| 58 | A Promising Gas Sensor Based on Monolayer $alpha$-SbN to Detect $SO_2$ Among $SF_6$ Decompositions. , 2018, 2, 1-4. | | 10 |
| 59 | Adsorption of $SF_6$ Decomposed Products over ZnO(101Ì…0): Effects of O and Zn Vacancies. ACS Omega, 2018, 3, 18739-18752. | 1.6 | 9 |
| 60 | Insight Into the Compatibility Between $C_6F_{12}O$ and Metal Materials: Experiment and Theory. IEEE Access, 2018, 6, 58154-58160. | 2.6 | 25 |
| 61 | Insights into the interaction between C4F7N decomposition products and Cu (1 1 1), Ag (1 1 1) surface. Journal of Fluorine Chemistry, 2018, 213, 24-30. | 0.9 | 19 |
| 62 | Theoretical Study of Monolayer $PtSe_2$ as Outstanding Gas Sensor to Detect $SF_6$ Decompositions. IEEE Electron Device Letters, 2018, 39, 1405-1408. | 2.2 | 67 |
| 63 | Study on the Dielectric Properties of $C_4F_7N/N_2$ Mixture Under Highly Non-Uniform Electric Field. IEEE Access, 2018, 6, 42868-42876. | 2.6 | 30 |
| 64 | Simulation and experiment on the catalytic degradation of high-concentration SF6 on TiO2 surface under UV light. AIP Advances, 2018, 8, . | 0.6 | 13 |
| 65 | Theoretical study of the interaction of SF6 molecule on Ag(1â€¯1â€¯1) surfaces: A DFT study. Applied Surface Science, 2018, 457, 745-751. | 3.1 | 30 |
| 66 | Sulfur dioxide adsorbed on pristine and Au dimer decorated Î³-graphyne: A density functional theory study. Applied Surface Science, 2018, 458, 781-789. | 3.1 | 25 |
| 67 | Geometric structure and SOF2 adsorption behavior of Ptn (n=1-4) clustered (8, 0) single-walled CNT using density functional theory. Journal of Fluorine Chemistry, 2018, 211, 148-153. | 0.9 | 25 |
| 68 | Borophene: a promising adsorbent material with strong ability and capacity for SO2 adsorption. Applied Physics A: Materials Science and Processing, 2018, 124, 1. | 1.1 | 36 |
| 69 | Adsorption performance of Rh decorated SWCNT upon SF 6 decomposed components based on DFT method. Applied Surface Science, 2017, 420, 825-832. | 3.1 | 53 |
| 70 | Understanding of SF 6 decompositions adsorbed on cobalt-doped SWCNT: A DFT study. Applied Surface Science, 2017, 420, 371-382. | 3.1 | 32 |
| 71 | Reactive molecular dynamics study of the decomposition mechanism of the environmentally friendly insulating medium $C_3F_7CN$. RSC Advances, 2017, 7, 50663-50671. | 1.7 | 36 |
| 72 | Investigation of Gas-Sensing Property of Acid-Deposited Polyaniline Thin-Film Sensors for Detecting H2S and SO2. Sensors, 2016, 16, 1889. | 2.1 | 18 |