

Wanzhen He

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EMPLOYMENT

Hong Kong Applied Science and Technology Research Institute, HK *Aug. 2023 - present*

- **Senior Lead Engineer at Advanced Electronic Components and Systems**
- Work on heterogeneous integration technology of semiconductors.

Huawei Technologies Co., Ltd., Shanghai, China *Aug. 2022 - Jul. 2023*

- **Senior Engineer at 2012 Lab, Institute of Hardware Research**
- Work on plasma etching in semiconductors.

EDUCATION

Tsinghua University, Beijing, China *Sep. 2017 - Jul. 2022*

- **Ph.D. in Solid Mechanics**
- Advisor: Prof. Zhiping Xu
- Overall GPA: 3.7/4.0

Tsinghua University, Beijing, China *Sep. 2013 - Jul. 2017*

- **B.Eng. in Engineering Mechanics**
- Overall GPA: 87.5/100
- Double major in economics

INTERNSHIP

China Helicopter Research Institute *Jun. 2016 - Jul. 2016*

Study the derailment problem of helicopter sliding windows, using the finite element analysis to analyze the excessive deformation.

Zhongding Sealing Technologies Co., Ltd. *Jun. 2019 - Aug. 2019*

Conduct the vehicle road spectrum analysis and rubber fatigue simulation, outputting the commercial codes of the fatigue analysis system.

SOFTWARE AND TECHNICAL STRENGTHS

(TD)DFT calculation	VASP, SIESTA, DFTB+, LODESTAR, GPAW, PWMAT, QBALL, TDAP
MD Simulation	LAMMPS, GULP
Continuum simulation	ABAQUS, MOOSE, Fenics
Deep Learning	PyTorch, Keras
Programming	Python, Fortran, Matlab, C++

PUBLICATIONS

Journal Publications

†: equal contribution, *: corresponding author

- [1] **W He**, C Chen, Z Xu*, [Electronic excitation in graphene under single-particle irradiation](#). *Nanotechnology*, 32(16), 165702 (2021).
- [2] **W He**, C Chen, Z Xu*, [Molecular dynamics simulations of silicon carbide nanowires under single-ion irradiation](#). *Journal of Applied Physics*, 126(12), 125902 (2019).
- [3] **W He**, D Geng, Z Xu*, [Pattern evolution characterizes the mechanism and efficiency of CVD graphene growth](#). *Carbon*, 141, 316-322 (2019)
- [4] **W He**†, L Zhai†, C Yam*, Z Xu*, [Current Transients in Graphene Electronics under Single-Particle Irradiation](#). *Small Science*, 3(7), 2300011 (2024).
- [5] H Liu†, **W He**†, Z Liu, I Abidi, Y Ding, P Galligan, M Tamtaji, J Li, Y Cai, T Kang, H Wong, Z Li, P Zhao, Z Gao, Y Mi, Z Xu*, Z Luo*, [Structure evolution of hBN grown on molten Cu by regulating precursor flux during chemical vapor deposition](#). *2D Materials*, 9, 015004 (2022).
- [6] Q Zhang†, **W He**†, Z Xu, L Li, D Geng*, W Hu*, [Oxygen-assisted anisotropic chemical etching of MoSe₂ for enhanced phototransistors](#). *Chemistry of Materials*, 34(9), 4212–4223 (2022).
- [7] M Huang, **W He**, Z Xu, H Zhu*, [Enhanced catalytic mechanism of twin-structured BiVO₄](#). *The Journal of Physical Chemistry Letters*, 12, 10610–10615 (2021).
- [8] L Cai, **W He**, X Xue, J Huang, K Zhou, X Zhou, Z Xu*, G Yu*, [In situ growth of large-area and self-aligned graphene nanoribbon arrays on liquid metal](#). *National Science Review*, 8(12), nwaa298 (2021).
- [9] J Yang, **W He**, Q Jiang, Z Chen, H Ju, X Xue, Z Xu*, P Hu*, G Yu*, [Hydrogen-dominated metal-free growth of graphitic-nitrogen doped graphene with n-type transport behaviors](#). *Carbon*, 161, 123-131 (2020).

Conferences

- The 16th National Conference on Physical Mechanics, 2021, *Graphene Electronics under Single Particle Irradiation* (Oral).
- The 19th International Conference on the Science and Application of Nanotubes and Low-dimensional Materials (NT18), 2018, *Pattern Evolution Characterizes the Mechanism and Efficiency of CVD Graphene Growth* (Poster).

AWARDS

Qinghua Du Scholarship, Tsinghua University	2017-2018
Academic Scholarship, Tsinghua University	2016-2017
Volunteer Scholarship, Tsinghua University	2015-2016