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Huan Zhao

Department of Electrical Engineering
University of Southern California

RESEARCH AREAS

Nanodevices, Nanoelectronics, 2D materials, Optoelectronics, Condensed matter physics.

EDUCATION

08/2014 ~ present	PhD student at Department of Electrical Engineering, University of Southern California
09/2010 ~ 06/2014	Bachelor in physics, Nanjing University

SELECTED PUBLICATIONS

1. H. Zhao, J. Wu, H. Zhong, Q. Guo, X. Wang, F. Xia, L. Yang, P.-H. Tan, H. Wang "Interlayer Interactions in Anisotropic Atomically-thin Rhenium Diselenide" ***Nano Research***, 8, 11, pp. 3651-3661, 2015.
2. H. Zhao, Q. Guo, F. Xia, H. Wang "Two-dimensional materials for nanophotonics application" ***Nanophotonics***, 4,22, 2015.
3. Wu, Jiang-Bin; Zhao, Huan*; Li, Yanrui; Ohlberg, Douglas; Shi, Wei; Wu, Wei; Wang, Han; Tan, PingHeng "Optical Anisotropy of Monolayer Molybdenum Disulfide Nanoribbons: Optical Contrast and Raman Scattering", ***Advanced Optical Materials***, in press, 2016.
4. Y. Jia, H. Zhao, Q. Guo, X. Wang, H. Wang, F. Xia "Tunable Plasmon-Phonon Polaritons in Layered Graphene-hexagonal Boron Nitride Heterostructures" ***ACS Photonics***, 2015.
5. X. Wang, A. M. Jones, K. L. Seyler, V. Tran, Y. Jia, H. Zhao, H. Wang, L. Yang, X. Xu, F. Xia "Highly Anisotropic and Robust Excitons in Monolayer Black Phosphorus" ***Nature Nanotechnology***, vol. 10, 6, pp. 517-521, 2015.
6. H. Tian, Q. Guo, Y. Xie, H. Zhao, C. Li, J. J. Cha, F. Xia*, H. Wang*, "Anisotropic Black Phosphorus Synaptic Device for Neuromorphic Applications" ***Advanced Materials***, 2016

PROFESSIONAL SKILLS

Nanofabrications techniques: Electron Beam Lithography, Photolithography, Reactive Ion Etching, Atomic Layer Deposition, Electron Beam Evaporation, Oxygen Plasma Etching, etc.

Characterization techniques: Atomic Force Microscopy, Scanning Electron Microscopy, Raman Spectroscopy, Fourier Transform Infrared Spectroscopy, DC measurements, etc.

Sample preparation skills: Chemical Vapor Deposition, Mechanical Exfoliation, Deterministic transfer of 2D flakes and heterostructures, etc.

Software: DFT calculation software, Matlab, Python, C++, etc.

AWARDS AND HONORS

02/2014	Four-year Viterbi Graduate Fellowship, USC Viterbi School of Engineering
11/2013	The first-class academic scholarship, Physics School of Nanjing University