Department of Physics

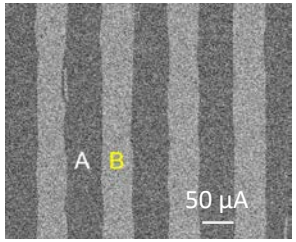
Quantum Electronics Laboratory

My research interests primarily focus on the quantum transport and microwave properties of condensed matter systems, including spintronic devices, nanostructures, 2D materials (such as graphene, topological insulators, ferromagnetic thin films), and semiconductors.

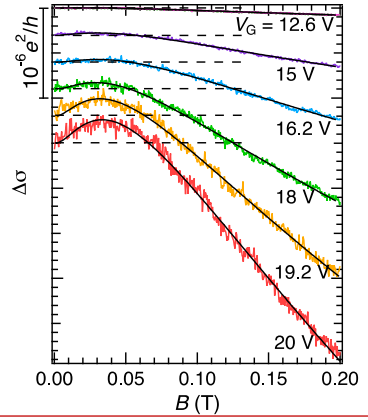
Techniques used in study

- DC transport measurements
- Microwave spectroscopy
- Cryogenics
- Nanofabrication

Magnetic-domain patterning of FePd thin films (Kerr effect microscopy)



Magnetoresistance of *a*-IGZO thin film transistors at cryogenic temperature (1.5 K), which reveals gate-controlled competition between weak localization and weak antilocalization.



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Background:
PhD in Physics, University of Chicago, USA

Funding:
Ministry of Science and Technology
National Taiwan Normal University

Publications

- W.-H. Wang, P.-C. Chang, **P. Jiang***, and W.-C. Lin*, Plasma-induced magnetic patterning of FePd thin films without and with exchange bias, Appl. Surf. Sci. 527, 146831 (2020).
- W.-H. Wang, S.-R. Lyu, E. Heredia, S.-H. Liu, **P. Jiang***, P.-Y. Liao, T.-C. Chang, and H.-M. Chen, Competing weak localization and weak antilocalization in amorphous indium–gallium–zinc-oxide thin-film transistors. Appl. Phys. Lett. 110, 022106 (2017).