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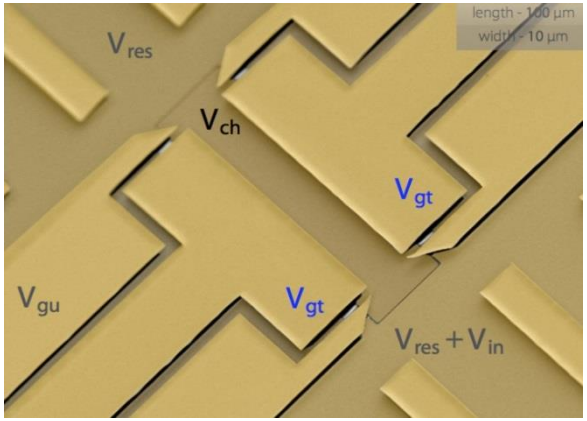
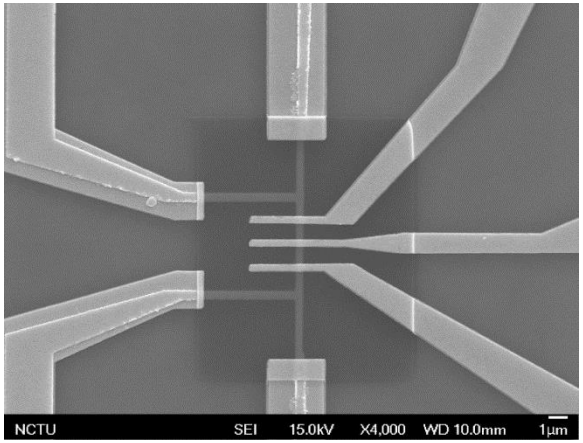
林志忠教授 / 物理研究所

低溫物理、介觀物理、奈米科技低維人工材料、近藤效應

林志忠教授的低溫介觀物理實驗室重心在研究低維人工結構和新穎材料的量子傳輸、相位相干現象、奈米線的電學性質、近藤效應，以及量子相變等課題。

「台灣交通大學－日本理化學研究所聯合實驗室」成立於2012年12月，象徵交大物理領域教學與研究的邁向高度國際化。本聯合實驗室建立了極低溫和高磁場系統，將探討人工低維結構和新穎材料的低溫物性、量子傳輸現象、近藤效應、量子相變，和超流液氦表面的電子操控等課題。





近年論文 – (1) *Observation of strong electron dephasing in highly disordered $Cu_{93}Ge_4Au_3$ thin films*, S. M. Huang, et al., PRL **99**, 046601 (2007). (2) *Direct observation of electron dephasing due to inelastic scattering from defects in weakly disordered AuPd wires*, Y. L. Zhong, et al., PRL **104**, 206803 (2010). (3) *Spin bottleneck in resonant tunneling through double quantum dots with different Zeeman splittings*, S. M. Huang, et al., PRL **104**, 136801 (2010). (4) *Large-scale mesoscopic transport in nanostructured graphene*, H. Zhang, et al., PRL **110**, 066805 (2013). (5) *Stick-slip motion of the Wigner solid on liquid helium*, D. G. Rees, et al., PRL **116**, accepted (2016). (6) *Observation of orbital Kondo effect due to tunneling two-level systems*, S. S. Yeh, et al., submitted. (7) *Complete experimental mapping of the quantum phase diagram for the two-impurity Kondo effect*, Y. R. Lai, et al., submitted. (8) *Ultralow 1/f noise in a heterostructure of superconducting epitaxial cobalt-disilicide thin film on silicon*, S. P. Chiu, et al., submitted.

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