

Quantum Transport & Optoelectronics in van der Waals Heterostructures

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In this talk I will review our recent experiments on quantum electronic transport and optoelectronics in van der Waals crystals and heterostructures. In particular I will focus on the realization of quantum spin Hall physics in twisted bilayer graphene [1], Andreev tunnelling spectroscopy of superconducting graphene devices [2], infrared optoelectronics with MoTe₂ [3], and magnetism in van der Waals crystals.

References

- [1] J. Sanchez-Yamagishi, J. Luo, P. Jarillo-Herrero *et al.* Nature Nanotechnology (2016)
- [2] L. Bretheau, J.I.Wang, P. Jarillo-Herrero *et al.* [under review]
- [3] Y. Bie, P. Jarillo-Herrero *et al.* [under review]