

## Special Issue

# Quantum Transport and Applications of Functional Devices

### Message from the Guest Editor

The realization of exfoliation of graphene from bulk graphite using Scotch tape has attracted tremendous interest in the field of two-dimensional(2D) materials. Nowadays, the research in 2D materials has gone far beyond graphene to hundreds of new 2D family members. Additionally the transfer of 2D crystals onto other 2D crystals makes it possible to create unique heterostructures, which are the so-called vdW heterostructures. By studying the quantum transport of 2D crystals and vdW heterostructures, novel physical phenomena such as quantum Hall effect, quantum anomalous Hall effect, superconductivity, etc., have been reported in various materials. Based on this, and thanks to the rapid progress of nanofabrication, complex and well-performed functional devices have been fabricated, and some of these functional devices based on 2D materials, such as MoS<sub>2</sub> and graphene, have shown great advantage over traditional functional devices in qualification and practical application. The study of quantum transport and functional devices opens a new world in the field of condensed matter physics.

### Guest Editor

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