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【179】Microfabrication of devices for the measurement of non-local charge transport

Hydrodynamic electron transport has recently been observed in the Weyl semi-metal tungsten diphosphide (WP2). However, manufacturing microdevices from single crystals is very challenging. Here, focused ion beam (FIB) milling is used to pattern and contact microstructures of WP2 aiming to achieve precise device geometries and lowest contact resistances, which is important for accurate measurements. The (magneto-) transport of the samples is characterized at variable temperature (3-300 K) and variable magnetic field (9T). Novel devices are realized for the investigation of hydrodynamic whirlpool formation and to investigate geometry-dependent resistivity.

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