

Materials Research Science and Engineering Centers

High mobility in a van der Waals layered antiferromagnetic metal (IRG-1)

Shiming Lei¹, Jingjing Lin², Yanyu Jia², Mason Gray³, Andreas Topp⁴, Gelareh Farahi², Sebastian Klemenz¹, Tong Gao², Fanny Rodolakis⁵, Jessica L. McChesney⁵, Christian R. Ast⁴, Ali Yazdani², Kenneth S. Burch³, Sanfeng Wu², Nai Phuan Ong², Leslie M. Schoop¹

1 Department of Chemistry, Princeton University USA

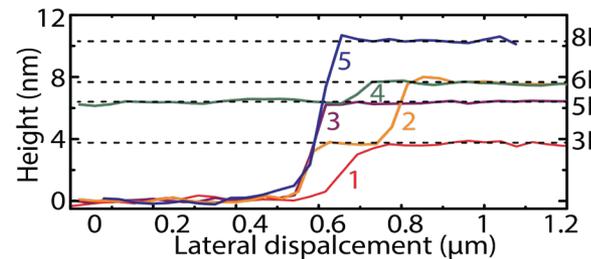
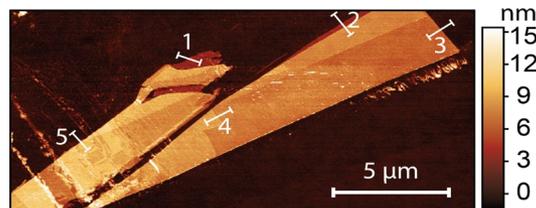
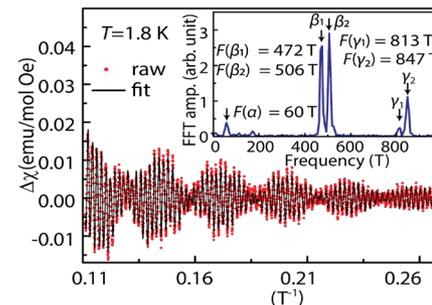
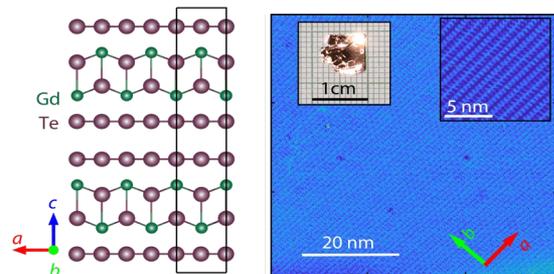
2 Department of Physics, Princeton University USA

3 Department of Physics, Boston College USA

4 Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany,

5 Argonne National Laboratory USA

Sci. Adv. 6 : eaay6407 (2020)



IRG-1 found a material that for the first time combines three different physical properties: magnetic order, very fast-moving electrons, and the capability to be exfoliated to atomically thin sheets.

This work was supported by the NSF through the Princeton Center for Complex Materials, a Materials Research Science and Engineering Center (DMR-1420541). L.M.S. was supported by a Beckman Young Investigator award from the Arnold and Mabel Beckman foundation. L.M.S. and S.L. were additionally supported by a MURI grant on Topological Insulators from the Army Research Office (grant number ARO W911NF-12-1-0461).