Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Measurement of proximity induced superconductivity in MoTe2 WUDI WANG, MINHAO LIU, Department of Physics, Princeton University, QUINN GIBSON , R. J. CAVA, Department of Chemistry, Princeton University, N.P. ONG, Department of Physics, Princeton University — MoTe2 is predicted to have type-II Weyl nodes and many of its novel transport properties have been predicted and studied. Here we reported an experiment on the superconductivity in MoTe2 induced by proximity effect. We fabricated a SQUIPT-like device on mechanical exfoliated MoTe2 micro flakes via nanofabrication. The device contains an Aluminum tunneling probe with AlOx barrier and Al contact. We measured tunneling current from probe to the sample. By fitting the differential conductance (dI/dV), we obtained the superconducting gaps in MoTe2. The dependence of gap in MoTe2 on temperature and magnetic field was measured. We also measured the current-phase relation in Al-MoTe2-Al Josephson junctions with an inductance based measurement technique.

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Date submitted: 11 Nov 2016 Electronic form version 1.4