Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Magnetic Field Tuned Crossover from Kondo effect to Fermi Liquid like Behavior in VTe_2 single crystals[1] XIAXIN DING, Nanjing University, Los Alamos Natl Lab, JIE XING, Nanjing University, GANG LI, LUIS BALICAS, NHMFL-FSU, HAI-HU WEN, Nanjing University — The magnetotransport properties of VTe2 single crystals were investigated at low temperatures in magnetic fields up to 35 T. It is found that the resistivity displays a logarithmic increase at low temperatures, which could be explained by the Kondo effect. By analyzing the negative magnetoresistance at low temperatures, it is shown that the Kondo impurity may be given by the localized magnetic moment of extra V ions. Further supporting evidence of the Kondo insulating behavior could be found in the temperature dependence of resistivity under an applied magnetic field. Finally, we found a magnetic field tuned crossover from the Kondo singlet state to the Fermi liquid state under high magnetic fields.

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Date submitted: 10 Nov 2016 Electronic form version 1.4