Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Theoretical design of magnetic two-dimensional transition metal dichalcogenide semiconductors[1] WENGUANG ZHU, University of Science and Technology of China, DI XIAO, Carnegie Mellon University — We explore the possibility of making single-layer dichalcogenide semiconductors magnetic by doping transition metal ions using density functional calculations. Optimal conditions of doping are suggested based on the study of the energetics and kinetics of magnetic ions in the host materials. The magnetic ordering and magnetic coupling mechanism between the magnetic dopants will also be discussed in this talk. This work may provide a new twist to form truly two-dimensional magnetic semiconductors for spintronic applications.

[1]Supported by NSF of China, USDOE-BES, and USNSF.

Wenguang Zhu
University of Science and Technology of China

Date submitted: 09 Nov 2012 Electronic form version 1.4