



ICAMS special seminar

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The design of magnetic materials with high spin polarization by first-principles

There are two parts in this talk. In part A, we will introduce the newly established National (Wuhan) high Magnetic Field Center. The pulsed magnetic field reaching 90.6 has been obtained. We will discuss what can we do under high magnetic field, and postdoctors interested in working in National (Wuhan) High Magnetic Field Center or School of Physics of Huazhong University of Science and Technology are most welcome.

In part B, we will introduce the research progress of our group on the high-polarization materials of half-metallic magnets (HMMs) and spin gapless semiconductors (SGSs). Our predictions based on the first-principles calculations for several HMMs and SGSs such as Heusler alloys and transition-metal chalcogenides have been confirmed by experiments.

Refs:

1. Phys. Today , Nov.(2011).
2. G.Y. Gao, et al., J. Alloys Compd. 551, 539 (2013).
3. G.Y. Gao and K.-L. Yao, Appl. Phys. Lett. 103, 232409 (2013).
4. G.Y. Gao and K.L. Yao, Appl. Phys. Lett. 105, 182405 (2014).
5. M.E. Jamer, et al., Phys. Rev. B 91, 094409 (2015).

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