



Advances in Condensed Matter Physics

Special Issue on

Spin Transport and Magnetism in Low-Dimensional Materials

CALL FOR PAPERS

Electron spin manipulation and detection in low-dimensional materials have entered a new phase of growth. The accelerated miniaturization of magnetic storage and the arrival of on-chip magnetic device integration present new challenges for materials and device scientists. They provide ample opportunities for continued innovation in materials structures as well as in device and system concepts for spin-dependent transport and magnetism. Recent advances in this field include interfacial magnetism, diluted magnetic semiconductors, half-metallic ferromagnets, and exploration of low-dimensional materials with controlled spin-states.

The purpose of this special issue is to publish high-quality research papers as well as review articles that report recent advances in spin transport and magnetism in low-dimensional materials, which shed light on the novel treatment of the physical phenomena of nanoscale magnetic materials to be used in next-generation spintronic devices. Original contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include, but are not limited to:

- ▶ Spin injection, manipulation, and detection
- ▶ Interfacial magnetism and charge transfer
- ▶ Spin in two-dimensions: grapheme, 2DEG, and quantum wells
- ▶ Oxide magnetic semiconductors and half-metallic magnetic materials
- ▶ Magnetic nanoparticles, heterostructure, and multilayers
- ▶ GMR, TMR, and CMR materials and magnetic recording materials
- ▶ Spintronic devices and applications
- ▶ Other spin related phenomena

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