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IAP-SEMINAR

EINLADUNG

*** ACHTUNG SONDERTERMIN ***

Termin: **Freitag, 6.9.2013 um 10:30 Uhr**
Ort: **Technische Universität Wien,
Institut für Angewandte Physik,
Seminarraum 134A, Turm B (gelbe Leitfarbe), 5. OG
1040 Wien, Wiedner Hauptstraße 8-10**

Vortragender: **Dr. Andreas Schmid**
NCEM, Lawrence Berkeley National Laboratory,
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Thema: **Tailoring the chirality of magnetic domain walls by
interface engineering**

Kurzfassung

The rich physics of chiral spin textures includes strongly asymmetric response of left-handed versus right-handed spin structures under applied current, and extremely high domain wall mobility in response to very low critical current density [1,2]. These properties make chiral magnetic materials promising candidates for the development of new spintronics applications. How one might control the magnetic chirality of domain walls and change it between right-handed, left-handed, or achiral, has remained a key question in this field.

Using spin-polarized low energy electron microscopy, we found a new type of chiral domain wall structure in perpendicularly magnetized systems [3]. Moreover, we discovered that subtle adjustment of a non-magnetic spacer layer allows us to tailor the chirality of magnetic [Co/Ni]_n multilayers. By introducing magnetic chirality as a new degree of freedom, this finding raises rich possibilities to influence the dynamic properties of magnetic domain walls.

References

- [1] K.-S. Ryu, et al. Nature Nanotech. 8, 527 (2013)
- [2] S. Emori, et al. Nature Mater. 12, 611 (2013)
- [3] G. Chen et al. Phys. Rev. Lett. 110, 177204 (2013)

*Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar
(45 min mit anschließender gemeinsamer Diskussion) herzlich eingeladen.*

*U. Diebold e.h.
(Seminar-Chairperson)*

*H. Störi e.h.
(LVA-Leiter)*