Special Issue

Chiral *Symmetry* and Spin Dynamics

Message from the Guest Editor

Spin dynamics, usually referring to physical processes involving spin reorientation or excitation of electrons, plays an essential role in emerging Spintronics. Recent studies have revealed intriguing phenomena that break the chiral symmetry in magnetization dynamics. Such effects, including the asymmetric motion of magnetic domain walls (DWs) and nonreciprocal propagation of spin waves (SWs), are attributed to different physical origins, for instance, the Dzyaloshinskii-Moriya interaction (DMI) and spin-transfer torque (STT) effect. Equally interestingly, chiral symmetry breaking in spin dynamics can be a purely geometric effect, arising from, for example, curvilinear shape of magnetic nanocylinders. This Special Issue of Symmetry features articles about chiral symmetry in ferromagnetic or antiferromagnetic systems, covering a broad range of topics including: DM dynamics, SWs, DMI, STT, curvature magnetism, fabrication and characterization of curved magnetic structures.

Guest Editor

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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