Special Issue

Magnetic Materials for Spintronics Devices

Message from the Guest Editors

Magnetic materials play an important role in developing improved devices for spintronics and similar applications. While hard disk drives and magnetic field sensors have been commercially available for a long time, most spintronics elements still necessitate further research and development to achieve reliable and reproducible devices. In these spintronics devices, different physical effects are used, such as GMR or TMR, to realize magnetic tunnel junctions, spin valves, diodes, logic gates, memory cells, etc. They can be applied for logic operations, information processing and storage, neuromorphic computing, or sensors. Amongst the materials with special physical effects that may be used in spintronics devices are, e.g., systems with Dzyaloshinskii-Moriya interactions, exotic magnetic states, magnetization texture, periodic magnonic systems, and magnonic crystals. In addition to experimental investigations, computational methods are also of interest. This Special Issue is open for the most recent research and developments in spintronics devices, as well as comprehensive reviews of the recent state of this emerging technology.

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