Special Issue

Magnetoresistance Effects and Their Application to Spintronic Devices

Message from the Guest Editors

Half-metallic ferromagnets have been attracting intensive research in the view of realising an ideal 100% spin-polarised ferromagnet at room temperature. Among such ferromagnets, Heusler alloys have the greatest potential due to their high Curie temperatures, good lattice matching with major substrates, large minority-spin band-gap, and large magnetic moments in general. In this Special Issue, we focus on their magnetoresistance, in both vertical and lateral junctions, formed with a non-magnetic metallic or insulating layer. These junctions can be implemented in a read sensor in a hard disk drive or in a cell of magnetic random access memory to improve their recording density and operation efficiency. We intend to cover from theory and fundamentals of such junctions to their applications.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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