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Magnetoresistance Effects and Their Application to Spintronic Devices

Guest Editors:

Prof. Dr. Koki Takanashi

Institute for Materials Research,
Tohoku University, 2-1-1
Katahira, Aoba-ku, Sendai 980-
77, Japan

Prof. Dr. Atsufumi Hirohata

Center for Science and
Innovation in Spintronics,
Tohoku University, Sendai 980-
8577, Japan

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Message from the Guest Editors

Dear Colleagues,

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.

Prof. Dr. Koki Takanashi
Prof. Dr. Atsufumi Hirohata
Guest Editors





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Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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