

1. Record Nr.	UNINA9910349513603321
Autore	Yokouchi Tomoyuki
Titolo	Magneto-transport Properties of Skyrmions and Chiral Spin Structures in MnSi [[electronic resource] /] / by Tomoyuki Yokouchi
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-329-385-3
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (94 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	530.41
Soggetti	Quantum computers Spintronics Magnetism Magnetic materials Surfaces (Physics) Interfaces (Physical sciences) Thin films Solid state physics Nanoscale science Nanoscience Nanostructures Quantum Information Technology, Spintronics Magnetism, Magnetic Materials Surface and Interface Science, Thin Films Solid State Physics Nanoscale Science and Technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Experimental Method -- Planar Hall Effect in MnSi -- Electrical Magnetochiral Effect in MnSi -- Current-Induced Dynamics of Skyrmion Strings Investigated by Nonreciprocal Hall Effect -- Transport Properties and Stability of Skyrmions in MnSi Thin Films -- Conclusion.
Sommario/riassunto	This book provides extensive and novel insights into transport

phenomena in MnSi, paving the way for applying the topology and chirality of spin textures to the development of spintronics devices. In particular, it describes in detail the key measurements, e.g. magnetoresistance and nonlinear electronic transport, and multiple material-fabrication techniques based on molecular beam epitaxy, ion-beam microfabrication and micromagnetic simulation. The book also reviews key aspects of B20-type MnSi chiral magnets, which host magnetic skyrmions, nanoscale objects formed by helical spatial spin structures. Readers are then introduced to cutting-edge findings on the material. Furthermore, by reviewing the author's successful experiments, the book provides readers with a valuable update on the latest achievements in the measurement and fabrication of magnetic materials in spintronics.

---