



Skyrmions in Magnetic Materials (SpringerBriefs in Physics)

By Shinichiro Seki, Masahito Mochizuki

Download now

Read Online ➔

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki

This brief reviews current research on magnetic skyrmions, with emphasis on formation mechanisms, observation techniques, and materials design strategies. The response of skyrmions, both static and dynamical, to various electromagnetic fields is also covered in detail.

Recent progress in magnetic imaging techniques has enabled the observation of skyrmions in real space, as well as the analysis of their ordering manner and the details of their internal structure. In metallic systems, conduction electrons moving through the skyrmion spin texture gain a nontrivial quantum Berry phase, which provides topological force to the underlying spin texture and enables the current-induced manipulation of magnetic skyrmions. On the other hand, skyrmions in an insulator can induce electric polarization through relativistic spin-orbit interaction, paving the way for the control of skyrmions by an external electric field without loss of Joule heating. Because of its nanometric scale, particle nature, and electric controllability, skyrmions are considered as potential candidates for new information carriers in the next generation of spintronics devices.

↓ [Download Skyrmions in Magnetic Materials \(SpringerBriefs in ...pdf](#)

📄 [Read Online Skyrmions in Magnetic Materials \(SpringerBriefs ...pdf](#)

Skyrmions in Magnetic Materials (SpringerBriefs in Physics)

By Shinichiro Seki, Masahito Mochizuki

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki

This brief reviews current research on magnetic skyrmions, with emphasis on formation mechanisms, observation techniques, and materials design strategies. The response of skyrmions, both static and dynamical, to various electromagnetic fields is also covered in detail.

Recent progress in magnetic imaging techniques has enabled the observation of skyrmions in real space, as well as the analysis of their ordering manner and the details of their internal structure. In metallic systems, conduction electrons moving through the skyrmion spin texture gain a nontrivial quantum Berry phase, which provides topological force to the underlying spin texture and enables the current-induced manipulation of magnetic skyrmions. On the other hand, skyrmions in an insulator can induce electric polarization through relativistic spin-orbit interaction, paving the way for the control of skyrmions by an external electric field without loss of Joule heating. Because of its nanometric scale, particle nature, and electric controllability, skyrmions are considered as potential candidates for new information carriers in the next generation of spintronics devices.

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki
Bibliography

- Sales Rank: #6661943 in Books
- Published on: 2015-12-05
- Released on: 2015-12-05
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .18" w x 6.10" l, .0 pounds
- Binding: Paperback
- 69 pages

 [Download Skyrmions in Magnetic Materials \(SpringerBriefs in ...pdf](#)

 [Read Online Skyrmions in Magnetic Materials \(SpringerBriefs ...pdf](#)

Editorial Review

Users Review

From reader reviews:

Patrick Vanmeter:

What do you in relation to book? It is not important along? Or just adding material when you need something to explain what the one you have problem? How about your extra time? Or are you busy man or woman? If you don't have spare time to complete others business, it is make you feel bored faster. And you have free time? What did you do? Everyone has many questions above. The doctor has to answer that question since just their can do that. It said that about guide. Book is familiar on every person. Yes, it is right. Because start from on jardín de infancia until university need that Skyrmions in Magnetic Materials (SpringerBriefs in Physics) to read.

Eleanor Abney:

Spent a free time to be fun activity to complete! A lot of people spent their spare time with their family, or all their friends. Usually they accomplishing activity like watching television, likely to beach, or picnic in the park. They actually doing same every week. Do you feel it? Would you like to something different to fill your own free time/ holiday? May be reading a book can be option to fill your totally free time/ holiday. The first thing you ask may be what kinds of e-book that you should read. If you want to try look for book, may be the reserve untitled Skyrmions in Magnetic Materials (SpringerBriefs in Physics) can be excellent book to read. May be it could be best activity to you.

Louis Ono:

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) can be one of your basic books that are good idea. We all recommend that straight away because this reserve has good vocabulary that will increase your knowledge in vocabulary, easy to understand, bit entertaining but nonetheless delivering the information. The author giving his/her effort to place every word into pleasure arrangement in writing Skyrmions in Magnetic Materials (SpringerBriefs in Physics) nevertheless doesn't forget the main level, giving the reader the hottest in addition to based confirm resource details that maybe you can be one of it. This great information can certainly drawn you into brand-new stage of crucial thinking.

Rebecca Muldoon:

Many people spending their moment by playing outside having friends, fun activity with family or just watching TV all day every day. You can have new activity to enjoy your whole day by reading a book. Ugh, you think reading a book really can hard because you have to use the book everywhere? It alright you can

have the e-book, taking everywhere you want in your Smart phone. Like Skymions in Magnetic Materials (SpringerBriefs in Physics) which is obtaining the e-book version. So , try out this book? Let's see.

**Download and Read Online Skymions in Magnetic Materials
(SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki
#2CROAI1NKYM**

Read Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki for online ebook

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki Free PDF download, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki books to read online.

Online Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki ebook PDF download

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki Doc

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki Mobipocket

Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki EPub

2CROAIINKYM: Skyrmions in Magnetic Materials (SpringerBriefs in Physics) By Shinichiro Seki, Masahito Mochizuki