



## Advanced Topological Insulators

Huixia Luo (Editor)

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### DESCRIPTION

This book is the first pedagogical synthesis of the field of topological insulators and superconductors, one of the most exciting areas of research in condensed matter physics. Presenting the latest developments, while providing all the calculations necessary for a self-contained and complete description of the discipline, it is ideal for researchers and graduate students preparing to work in this area, and it will be an essential reference both within and outside the classroom. The book begins with the fundamental description on the topological phases of matter such as one, two- and three-dimensional topological insulators, and methods and tools for topological material's investigations, topological insulators for advanced optoelectronic devices, topological superconductors, saturable absorber and in plasmonic devices. Advanced Topological Insulators provides researchers and graduate students with the physical understanding and mathematical tools needed to embark on research in this rapidly evolving field.

### ABOUT THE AUTHOR

**Huixia Luo** received her PhD in physical materials science from Leibniz University, Hanover, Germany in 2012. After a postdoc period at Princeton University, she joined the School of Materials Science and Engineering at Sun Yat-Sen University, Guangzhou, China in 2016. She has published more than 30 peer-reviewed papers in SCI journals. Professor Luo is engaged in searching for

the novel functional inorganic materials (oxygen transport membrane materials) and the condensed physical materials (such as new superconductor, magnetic material, topological insulators, Dirac and Weyl semimetals, etc).

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