"David Snoke is an experimental physicist with a deep understanding of solid state theory. His masterly distillation of the necessary mathematical ideas into understandable physics gained the first edition of this book an enthusiastic readership. This second edition preserves the readability while expanding the content to include some of the most up-to-date 'essential concepts.' A thorough study of the text will provide a new graduate student with a firm foundation for participating in the latest research."

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University of Illinois at Urbana–Champaign

This is an ideal text for graduate students in solid state physics, covering all the essential topics for a practical and intuitive understanding of the field.

KEY FEATURES:

- Covers all the main elements of solid state theory, with each chapter focused on a different set of theoretical tools.
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- Exercises are provided in each chapter to help put knowledge into practice, with a solutions manual for instructors available online.
- Advanced topics including group theory, many-body theory, and phase transitions are introduced in an accessible way.
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Cover illustration: David W. Snoke
The cover image shows the arrangement of atoms in a hexagonal close-packed lattice, in which each atom is the same distance from each of its neighbors.

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- Group theory tables
- Solutions manual for instructors

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