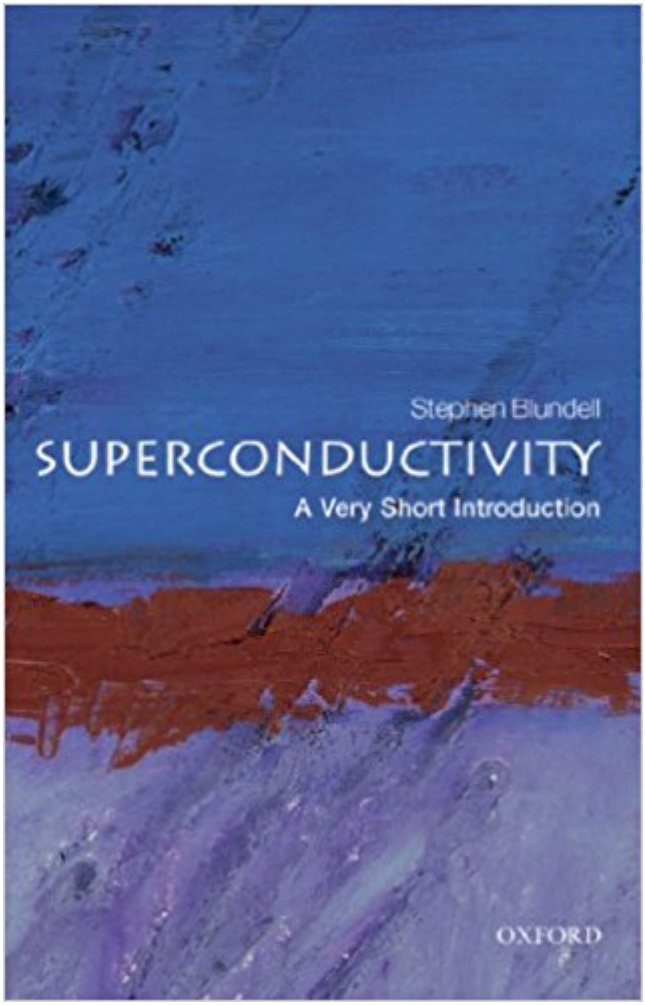
Superconductivity: A Very Short Introduction (Very Short Introductions)



Synopsis

Superconductivity is one of the most exciting areas of research in physics today. Outlining the history of its discovery, and the race to understand its many mysterious and counter-intuitive phenomena, this Very Short Introduction explains in accessible terms the theories that have been developed, and how they have influenced other areas of science, including the Higgs boson of particle physics and ideas about the early Universe. It is an engaging andinformative account of a fascinating scientific detective story, and an intelligible insight into some deep and beautiful ideas of physics.ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Book Information

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Customer Reviews

Having heavily criticized the author’s other book I must say this was surprisingly good. I understand

superconductivity well now, and the book leaves no nagging questions about it’s central themes, unlike ’Magnetism: A Very Short Introduction’. However, some tangential details like why do gases cool when expanded (when basic thermodynamics would lead you to guess the opposite was true) could have been explained as I don’t really know that much of physics. 4 stars if such details were added.

A very good, concise, and qualitative overview of the mechanisms (and their discoveries) in superconductivity. Not a single math equation in the entire book, but as someone in their last year of a dual math and physics undergraduate education, I don’t consider that to be a downfall in any way whatsoever.

Awesome historical story of development. As well as a general discussion and perspective on the foundations of superconductivity, which is necessary for true physical analysis of the state.

A solid Introduction to the very fascinating story of superconductivity. Discusses the history and some theory and discusses the great scientists who helped put this theory together.

Almost a non-technical introduction of superconductivity. By non-technical, I mean "without equation", but you will need some background in Solid State Physics to understand some chapters.

This short introduction does a very good job of explaining both the relevant physics and the history of superconductivity. The author begins by tracing back to the roots of low temperature physics and explains how advances led to the discovery of superconductivity. This historical approach of tracing the ideas as they happened is used throughout the book, and is very helpful in guiding the discussion about what superconductivity is, and the possible mechanism through which it works; it allows you to understand the evolution of physicists’ thoughts on superconductivity and have an idea of the progress made in the past century (and of the amount of progress that still needs to be made). This approach also works to bring the human element into the picture, often talking about the physicists who made the discoveries (giving some attention to two-time Nobel Prize winner John Bardeen).In the end, superconductivity remains to be thoroughly understood, and the author does a good job explaining in a non-technical manner what is understood about superconductivity, and, perhaps as importantly, what is not fully understood. The author also points to the very important applications of superconductors in the modern world and possible future uses.If you are interested

in physics, condensed matter in general is an underrepresented subject for popular audiences, and this book does an excellent job of not only remedying this, but showing that this branch of physics can be just as interesting as particle and astrophysics.

This is really good. Reading this short book gave me incentive to look for more information on this aspect of physics. As an introduction to superconductivity, it is excellant.

very good.