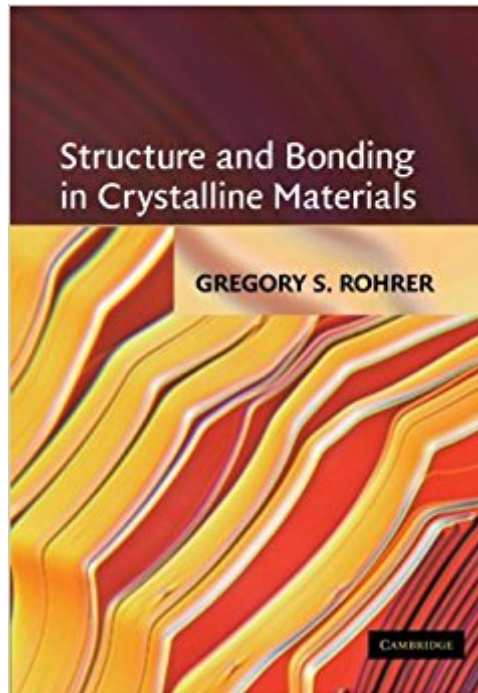




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Structure And Bonding In Crystalline Materials



Synopsis

How can elements be combined to produce a solid with specified properties? This book acquaints readers with the established principles of crystallography and cohesive forces needed to address the fundamental relationship among composition, structure and bonding. Starting with an introduction to periodic trends, the book discusses crystal structures and the various primary and secondary bonding types, and finishes by describing a number of models for predicting phase stability and structure. Its large number of worked examples, exercises, and detailed descriptions of numerous crystal structures make this an outstanding advanced undergraduate or graduate-level textbook for students of materials science.

Book Information

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Customer Reviews

'... a remarkably pointed example of how times have changed. The real strengths of the book are its depth of coverage, bridging advanced undergraduate and postgraduate work, and its material-based approach.' Joan Halfpenny, *Chemistry of Britain* '... an approach to the subject of structure and bonding in crystalline solids ... can be recommended for everyone concerned with crystalline solids in the broadest sense, as a useful compendium and handbook of long-lasting value.' Peter Kroll, *Angewandte Chemie*

One of the motivating questions in materials research today is, how can elements be combined to produce a solid with specified properties? This book describes established principles of crystallography and bonding that are needed to address the fundamental relationship between

structure and cohesion in crystalline solids. Containing a large number of worked examples, exercises, and detailed descriptions of crystal structures, this book is primarily intended as a graduate level textbook for students of materials science. It will also be useful to scientists and engineers who work with solid materials.

Surprisingly useful and good book! I have low expectations of books that look like this, and of college 2nd year textbooks (After you stop using the pretty ones that were also used in high school AP classes). This book is not in color, but I love the organization and the simple yet detailed explanations. It has an index which is awesome. I love reading this textbook. (compared to the x-ray diffraction by cullity textbook that is also required for my Materials Science class on Atomic Structure). Everything is written in an understandable way. I suck at chemistry and haven't taken it for 2years but this book was great for me.

An alright book if you've already got a good background in crystallography. But is rather dry and lacks useful diagrams when compared to other options.

The book sent me was printed using their print on demand service. The print quality is quite poor, with many equations missing subscripts, superscripts, minus signs, etc. It almost seems like they were lost during data compression of the image sent to the printer. I thought all copies of this book had this problem, but then compared it to a classmate with a nearly identical book that was printed during a normal commercial printing run. His book had none of the missing text mine has, and overall has darker printing that is easier to read.

Great source of information for bonding. I used it in a graduate introductory materials science class and found the chapters on bonding to be very helpful in understanding the concepts. Did not look too much into crystal structures.

This book is more like a gathering of different papers and sections of other books. The concepts are not explained in a clear way.

The book came in great condition. However, if you need it for a class, you better order it after the first day of class, because it took a loooooong time to get to me and other people in the class.

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