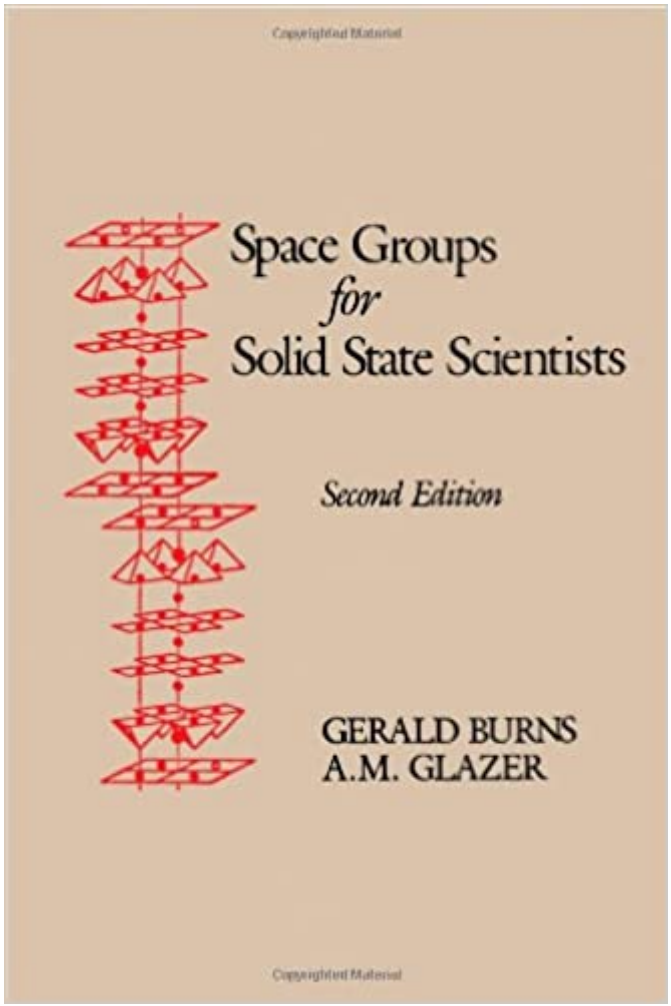
Space Groups For Solid State Scientists, Second Edition



Synopsis

This Second Edition provides solid state scientists, who are not necessarily experts in crystallography, with an understandable and comprehensive guide to the new International Tables for Crystallography. The basic ideas of symmetry, lattices, point groups, and space groups are explained in a clear and detailed manner. Notation is introduced in a step-by-step way so that the reader is supplied with the tools necessary to derive and apply space group information. Of particular interest in this second edition are the discussions of space groups application to such timely topics as high-temperature superconductors, phase transitions, semiconductor superlattices, incommensurate modulation, and icosahedral symmetry. Key Features* Explains the use of space groups to non-crystallographers* Applies space groups to current topics, such as high-temperature superconductors and phase transitions* Includes extensive appendixes, covering all aspects of space groups, including incommensurate modulations and disorder

Book Information

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Customer Reviews

Praise for First Edition: "Space Groups for Solid State Scientists fills a definite need and fills it well....The book is clearly written, in a very readable style. It is lavishly illustrated and well printed. It contains many examples to illustrate the points being made, and these, together with the problems for solution at the end of each chapter, make it suitable for use as a textbook at the graduate level. In addition to its role as a guide to the International Tables the book is valuable for the research scientist because of the many tables it presents." --PHYSICS TODAY "An understandable and comprehensive guide...Of particular interest in this new edition are the discussions of space groups

application to such timely topics as high-temperature superconductors, phase transitions, semiconductor superlattices, incommensurate modulation, and icosahedral symmetry." --SCITECH "The book will be extremely useful to those who are interested in improving their knowledge of space groups for the determination of complicated structures." --MATHEMATICAL REVIEWS

exactly as listed

If I needed to characterize this book in a single word, I would say...excellent. Space groups are a rather abstract discipline in crystallography and hence, many books dealing with the subject are usually very theoretical. Burns' book is written for the applied scientist or engineer who needs a working knowledge on a sophisticated concept such as Space groups. The book is structured in a quite pedagogical style which lends itself to a pleasant self-study perfectly well. Worked-out examples are plenty which helps the reader to familiarize him/herself with the use of the International Tables for Crystallography. The level of the treatment is elementary, yet its scope is comprehensive and the treatment is rigorous. The book is ideally suited for those working in the solid state sciences.

Great book for the beginner who does'nt know very much about space groups or the International tables. The book goes through and shows you examples and step by step of what all that stuff means. It's got some examples at the end, but I skipped that. One annoying thins about this book is that all the settings are in 1st setting for monoclinic so you get p21/a instead of the standard p21/c. If you become a crystallographer you'll know what I mean. Besides that though, it's a great book, very easy reading. Recommended for the beginner.

This book provides a good, clear introduction to Space Groups that will make using International Tables straightforward. The applications are almost entirely crystallographic (very few applications to solid state physics), but a reader can move to that area after studying this book. I like this treatment better than any I've seen for graduate students and practicing nontheorists.

If you have never taken a basic crystallography course then this book will not make any sense. Although the authors attempt to make crystallography understandable, they fail miserably. Their style is very fractured and there is little transition between chapters so it seems as if nothing is connected. In short, the book makes perfect sense if you are ALREADY a crystallographer, but if

you are new to the field then I would recommend some other text.

Space Groups for Solid State Scientists, Second Edition Space Groups for Solid State Scientists, Third Edition The Floridas: The Sunshine State * The Alligator State * The Everglade State * The Orange State * The Flower State * The Peninsula State * The Gulf State Groups and Symmetries: From Finite Groups to Lie Groups (Universitext) The Mathematical Theory of Symmetry in Solids: Representation Theory for Point Groups and Space Groups (Oxford Classic Texts in the Physical Sciences) A to Z of Scientists in Space and Astronomy (Notable Scientists) The Scientists Behind Space (Sci-Hi: Scientists) Fatigue of Materials (Cambridge Solid State Science Series) Second Edition Leading Life-Changing Small Groups (Groups that Grow) Transformational Groups: Creating a New Scorecard for Groups Patai's 1992 Guide to the Chemistry of Functional Groups (Patai's Chemistry of Functional Groups) The Chemistry of Double-Bonded Functional Groups, Supplement A3, 2 Part Set (Patai's Chemistry of Functional Groups) Physics for Scientists and Engineers with Modern Physics: Volume II (3rd Edition) (Physics for Scientists & Engineers) Launch Vehicles Pocket Space Guide: Heritage of the Space Race (Pocket Space Guides) Park Scientists: Gila Monsters, Geysers, and Grizzly Bears in America's Own Backyard (Scientists in the Field Series) The Bat Scientists (Scientists in the Field Series) Advice to Rocket Scientists: A Career Survival Guide for Scientists and Engineers (Library of Flight) Physics for Scientists and Engineers: Vol. 2: Electricity and Magnetism, Light (Physics, for Scientists & Engineers, Chapters 22-35) Brilliant African-American Scientists: Nine Exceptional Lives (Great Scientists and Famous Inventors) The Polar Bear Scientists (Scientists in the Field Series)