

Recent Papers by IBM Authors

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• Journals are listed alphabetically by title; papers are listed sequentially for each journal.

A

Concurrency of Operations on B-Trees, R. Bayer (Institut für Informatik der Technischen Universität München, Munich, Federal Republic of Germany) and M. Schkolnick (RES San Jose, CA), *Acta Informatica* 9, No. 1, 1-21 (1977).

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Introduction to Group Theory with Applications, G. Burns (RES Yorktown Hts., NY), Academic Press, Inc., New York, 1977.

This book developed from notes used for a group theory course given at the IBM Research Center at three different times over a period of six years. Its goal is to provide a "feel" for the subject. Examples are given for each new concept. Theorems are presented, their importance stressed, and examples of their use given. Proofs are usually relegated to the problems. The book exhibits a leaning toward point groups and the 32 crystallographic point groups. The point group operations provide a convenient tool to use as examples in the study of group theory. Although the book has been used as a textbook, it also may be read without the aid of an instructor. There are enough examples to apply one's knowledge immediately. The notes, appendixes, and problems at the end of each chapter broaden the subject matter of the chapter itself.

Space Groups for Solid State Scientists, G. Burns (RES Yorktown Hts., NY) and M. Glazer (Cavendish Laboratory, Cambridge University, England), Academic Press, Inc., New York, 1977.

This book attempts to show how to obtain all the symmetry and related information from this compilation of space groups as well as how to understand, generate and use the symmetry operations of a crystal. Thus, given the space group symbol, and sometimes the atomic positions, the object is to know what this really means, what the implications are for the symmetry, what the point of the space group is, what the possible site symmetries are, why some space groups have sites with symmetry the same as the point group symmetry while others do not, which character tables one uses for the space group symmetry operations, and many other topics. Chapter 6 shows how one can use the International Tables to obtain all the symmetry information about space groups needed for most solid state crystal problems. Chapter 7 discusses, very briefly, several applications of space group symmetry. Finally there are several appendixes which summarize the bulk of the symmetry information and should serve as a useful reference.