

*Acta Cryst.* (1984). **A40**, 485

### *International Tables for Crystallography*

#### **Volume A: Space-Group Symmetry**

*International Tables for Crystallography*, Volume A *Space-Group Symmetry* has been published by D. Reidel Publishing Company, PO Box 17, 3300 AA Dordrecht, The Netherlands. The first printing is now completely sold out and the Volume is being reprinted. A number of errors have been found in the book and these will be corrected in the reprint. However, a list of errata has been distributed to purchasers of Volume A and this list is reproduced below to ensure the widest availability. Stickers have been produced for fixing to pages 667 and 669 pointing out that the data on these pages have been interchanged. These stickers are available from The Technical Editor, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England.

#### **Errata**

##### *Page*

- |      |   |  |
|------|---|--|
| 12   | Right-hand column, line 20, change "Section 8.2.6" to "Section 8.2.7".  |  |
| 17   | Right-hand column, line 5, change "projection" to "projection direction".   |  |
| 18   | Fig. 2.6.3, lower left-hand drawing, change axis label from " <i>b</i> " to " <i>b<sub>p</sub></i> ".<br>Right-hand column, line 12, change "of the right" to "on the right".                     |  |
| 21   | Left-hand column, section (ii), line 10, delete "213".<br>Left-hand column, section (ii), line 16, change "images" to "image".<br>Left-hand column, section (ii), line 24, change "220" to "228". |  |
| 22   | Right-hand column, section 2.8, Example, line 4, add "(19)" after " <i>P</i> 2,2,2 <sub>1</sub> ".  |  |
| 25   | Left-hand column, line -9, change "ten" to "13".  |  |
| 28   | Table 2.13.2, Column 1 "Type of reflections", fifth block, second entry, change " <i>2h.hhl</i> " to " <i>2h.hhl</i> ".   |  |
| 34   | Right-hand column, Example (4), line 5, <i>Pnna</i> , should be indented to align with the beginning of the line below.   |  |
|      |   | Right-hand column, section (iii), line 15, insert comma after $\mathcal{G}$ .  |
| 40   |   | Table 3.1, for the hexagonal system, in the "Conditions imposed on cell geometry", change " $a = \beta$ " to " $\alpha = \beta$ ".   |
| 45   |   | Table 3.2, Tetragonal, in column " $\bar{4}2m\bar{4}m2$ " the parenthesis before the third and fourth entries from the bottom should be deleted. These two entries should also be moved down half a line to align with the entries in the columns to the left and right. |
| 65   |   | Left-hand column, last line, change "(185)" to "(183)".  |
| 72   |   | Left-hand column, line -13, the expression "metric tensor of the reciprocal lattice" should all be printed in <i>Italics</i> .<br>Left-hand column, line -5 (equation $V' = \dots$ ) change "det ( <i>P</i> )" to "det ( <b><i>P</i></b> )".                             |
| 554  |   | In the right-hand diagram, the symmetry elements in the centres of the two triangles making up the parallelogram should both be labelled $\frac{1}{4}$ .   |
| 667, |   | The information on pages 667 and 669 has been  |
| 669  |   | interchanged. Data on page 669 are for Origin 1 of space group <i>Pn</i> $\bar{3}$ <i>n</i> and data on page 667 for Origin 2.   |
| 707  |   | <b>Symmetry Operations</b> are given on page 705 and not on page 703.  |
| 736  |   | Left-hand column, line 5, change "1932" to "1933".   |
| 746  |   | Table 10.1.2, Trigonal crystal system, change " $3\bar{2}/m$ " to " $\bar{3}2/m$ ";<br>Cubic crystal system, change " $2/m\bar{3}$ " to " $2/m\bar{3}$ ".  |
| 759  |   | Point group <i>3m</i> 1, line 2, column five, the entry should be " $(\bar{k}h\bar{i}l)$ ". [The distributed list of errata erroneously gives $(h\bar{k}i\bar{l})$ .]  |
| 771  |   | Table 10.2.3, No. 9, in column "Generating point groups . . .", " <b>4(1)</b> " should be moved down half a line to centre on the following brace.   |
| 772  |   | Table 10.2.3, No. 18, in column "Generating point groups . . .", change " <b>6m2(mm2)</b> " to " <b>6m2(mm2)</b> ".  |
| 775  |   | Right-hand column, line 7, delete the space after " $\bar{1}$ " and move " $= m$ " to the left. " $\bar{6} = \bar{3} = 3/m$ " should be aligned under " $\bar{6} = 3 \times \bar{1}$ ".  |
| 786  |   | Table 10.6.1, Monoclinic system, the first Schoenflies symbol should be <i>C</i> <sub>2</sub> .  |

#### **Book Reviews**

*Works intended for notice in this column should be sent direct to the Book-Review Editor (J. H. Robertson, School of Chemistry, University of Leeds, Leeds LS2 9JT, England). As far as practicable books will be reviewed in a country different from that of publication.*

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**Инструментальные методы рентгеноструктурного анализа.** Л. А. Асланов. (**Instrumental methods of X-ray analysis.** By L. A. ASLANOV). Pp. 288. University of Moscow Press, 1983. Price 1r 20k.

There are, at present, a great number of textbooks on the market devoted to X-ray crystallography, but very few on the techniques that are in common use today. Professor

Aslanov has gone a long way towards correcting the imbalance. This is certainly a book both for students and for research workers. It is divided into three main sections: production of X-rays, photographic techniques and diffraction.

In the first section, many details are given about X-ray tubes, collimators, focusing *etc.*, the kind of information that, as I well know, can be difficult to find in the literature, especially in a single account. It is refreshing also to see that the book is reasonably up-to-date since it discusses the

production of X-rays by synchrotron sources (though only Soviet machines are described here). Furthermore, considerable discussion is provided on detectors, including solid-state and television detectors.

The section on photographic methods describes the usual Laue, Weissenberg, precession methods, and so on. But here again more detail is given than one usually finds in books. It is useful, too, to see a discussion on microdensitometry, a much neglected subject.

In the final section a very full explanation, complete with mathematical formulation, is given about all types of diffractometer geometries. This will perhaps be the most useful section of all to the working crystallographer, as this information is very difficult to get hold of elsewhere.

This book makes a valuable contribution to the literature, although, since it is in Russian, it can only have a limited international appeal. It would be a pity if it were not translated into English. There are 176 diagrams, all of them clearly and simply drawn, and the book is generally well written.

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**Phase transformations in crystalline and amorphous solids.** Edited by B. L. MORDIKE. Pp. v+257. Deutsche Gesellschaft für Metallkunde eV, Adenauerallee 21, D-6370 Oberursel 1, 1983. Price DM 92.00, US \$45.00.

This book is a collection of papers presented at a one and a half day conference which had the form of a discussion meeting organized jointly by Deutsche Gesellschaft für Metallkunde eV and Lehrstuhl für Werkstoffkunde und Werkstofftechnik of the University of Clausthal, 1982.

There are nineteen contributions to the volume which represents a majority of the participants in the conference. The intention of the conference was to allow contact between specialists and this is reflected in the fact that almost all of the papers deal with transformation behaviour in rapidly solidified or rapidly quenched solid metallic materials. The authors are predominantly from European institutions so that the book provides an indication of the work in progress at these centres.

Comprehensive studies of the relaxation processes which occur on annealing metallic glasses are reported with the major emphasis being on structural changes detected by dilatometry. Two of the papers describe dilatometers designed specifically for studying these materials and one instrument is described which allows investigation of specimens in the micrometre size range. Results of studies using direct observations of relaxation effects by TEM, SEM and atom probe spectroscopy with field ion microscopy are also described. The studies of the structural aspects of the relaxation processes are complemented by papers which deal with thermodynamic measurements made principally by differential scanning calorimetry and with mathematical

modelling to examine activation energy and enthalpy of relaxation.

The book is produced by reproduction of typed manuscript with the text in English although in some papers the figures are given with the wording in German.

The book would have appeal to those interested in the general field of rapid solidification processing and particularly those wishing to keep abreast of current techniques and materials being studied.

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**Einfuehrung in die Kristallographie.** By W. KLEBER. 15th ed. Foreword and edited by H.-J. BAUTSCH, J. BOHM and I. KLEBER. 384 pp., 370 Figs., 40 Tables, 2 Appendices. Berlin: VEB Verlag Technik, 1983, Price DM 29.

The 'Kleber' is still one of the classic and very useful textbooks on introductory crystallography. After going through many editions within a period of almost 30 years, this latest (15th) edition has been thoroughly revised again, up-dated, and supplemented with recent literature references (up to 1981). An English translation of the 10th edition of 'Kleber', by W. A. and M. A. Wooster, in 1971, has been reviewed in *Acta Cryst.* (1972) A28, 221. Since that time some major changes have been made, especially in the chapters on crystal chemistry and crystal physics. Various old terms like *UP*- and *M*-resonance structures have been replaced by a more conventional description of the covalent bond and of hybrid orbitals. There is also a modern and better organized presentation of the main structure types, including the silicates, especially chain silicates (but the formulae for anthophyllite and actinolite, on p. 154, are incomplete). One slight criticism here is that most of the old structure drawings are still used. These are quite heterogeneous and, in some cases, not informative: e.g. NiAs, scheelite or CdI<sub>2</sub> with S being assigned as the anion instead of I. Also, a somewhat more comprehensive treatment of polymorphism, compiling the various examples which are scattered throughout the text, might have been desirable.

The title of this book does not point out that it is intended primarily for use in earth sciences and also in material sciences. There is practically no coverage of the huge field of inorganic and organic chemical crystallography. The structure of the paraffins, anthracene and some polymers is discussed on two pages; proteins are not mentioned at all. Of course it is hardly possible to cover all topics of crystallography, crystal chemistry and crystal physics in only one book. This does not impair the value of this clearly written and well organized text.

Compared with the previous editions, there are now five main chapters instead of four, namely: 1. *Crystal symmetry and crystal morphology* (75 pp.), 2. *Crystal chemistry* (70 pp.), 3. *Physical-chemical crystallography* (55 pp.), 4. *Crystal*