

literature, are covered by one table, twice abridged from a periodical source.

The translation seems excellent, and the misprints few (gadolinium; A. M. Class; L. E. Gross; termodinamical). It is good to see that a third of the bibliographic entries are not Russian-language references, but nevertheless there are imbalances. For example, of 13 leading papers quoted for the thermodynamic theory, 12 are Russian! On topics where especially few home references are given (dielectrics; electrooptics), the text is also very brief. At US \$280 for 763 pages, it is very much at the upper end of the price range.

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**Growth of crystals.** Vol. 12. Edited by A. A. CHERNOV.  
Pp. x+355. New York: Consultants Bureau, 1984.  
Price US \$65.00.

This is an English translation of the Fourth All Union Conference on Crystal Growth held in Tsakhkadzar on 17-22 September 1972, published as part of the *Growth of crystals* series. The proceedings were first published in Russian in 1977 and it has taken until 1984 (some 12 years after the conference) to produce an English translation.

The book contains 54 papers divided between *Vapour growth* (10), *Hydrothermal and solution growth* (12), *Flux growth* (7), *Melt growth* (11), *Crystal characterization* (9) together with a short section (5) on *Crystal growth in magnetic and electric fields*. Most of the papers take the form of short conference communications but longer more authoritative contributions are presented on *Chemical vapour transport* (Kaldis), *Synthetic quartz growth* (Tsinober *et al.*), *High-temperature solution growth* (Neilsen), *Melt growth of YAG* (Bagdasarov), *Oxide crystals* (Charvat), *Production of highly perfect semiconductor crystals* (Mil'vidskii *et al.*) and *X-ray topography* (Kostyukova *et al.*). Of these papers Tsinober *et al.*'s paper on quartz is particularly attractive. The authors direct themselves to some nicely detailed studies of the role dislocations play in the hydrothermal growth of quartz and in particular to

the inter-relationship between growth features on the pinacoid *z* face and dislocations observed by X-ray topography. Many of the other papers, for example Charvat's paper on crystal growth of oxides, discuss state-of-the-art work and are by now extremely dated in content.

The contributed papers vary considerably, noteworthy is Chernov's paper on growth-rate dispersion in potash alum; this was certainly timely in 1972. The choice of other papers to mention can only be subjective but Anikin's paper on the problems of crystallizing large mica crystals, Kirov's discussion of diffusion cell growth and indeed the papers on growth under electric field all make interesting reading. Most readers will find something of interest in these proceedings.

The translation is effective, illustrations and general presentation good but the scope of much of the work is limited and the degree of literature searching poor. However, some 80% of the papers here detail work from eastern Europe that would otherwise not be available, this makes it a worthwhile publication. From the age of the work this book will only appeal to specialist research groups in the crystallization/materials preparation area for whom it certainly provides important data of an archival nature.

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#### Books Received

*The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.*

**Electronic and atomic collisions.** Edited by M. J. COGGIOLA, D. L. HUESTIS and R. P. SAXON. Pp. lv+726. Amsterdam: North-Holland, 1985. Price Dfl 375.00.

**The chemical physics of solvation. Part A: Theory of solvation.** Edited by R. R. DOGONADZE, E. KALMAN, A. A. KORNYSHEV and J. ULSTRUP. Pp. xxx+555. Amsterdam: Elsevier, 1985. Price US \$120.50, Dfl 325.00.