

International Union of Crystallography

Establishment of a President's Fund

At the Tenth General Assembly of the Union, held in Amsterdam in August 1975, the then President of the Union, Professor Dorothy Hodgkin, suggested that a fund might be set up, in memory of past Presidents, for use in emergencies and under special or difficult circumstances, to help crystallographers to take part in the activities of the Union. The fund would be operated by the President and by the General

Secretary and Treasurer. Professor Hodgkin's suggestion was well received.

Professor Hodgkin has been given the Fankuchen Award for 1977 of the American Crystallographic Association and has donated part of this award to initiate the President's Fund. Members of the crystallographic community are invited to send donations to the fund to the Executive Secretary, International Union of Crystallography, 13 White Friars, Chester CH1 1NZ, England.

Notes and News

Documentation on Crystal Growth

Professor A. M. Vergnoux has compiled and published a book entitled *Documentation sur les Synthèses Cristallines*, listing laboratories in Belgium, France, Italy and Spain which produce single crystals. This work is an extension of a previous brochure compiled by Professor Vergnoux in 1973. Copies may be obtained by sending six international reply coupons (to cover postage costs) to Professor A. M. Vergnoux, 42 rue Ste Claire, 87000 Limoges, France.

Dr R. Nitsche and Dr A. Räuber have compiled a book entitled *Information über Kristallzüchtung*, on behalf of the German Association for Crystal Growth. The book lists laboratories in the Federal Republic of Germany, Switzerland and The Netherlands that are engaged in crystal growth, and it collects data on materials that have been grown during recent years in these laboratories. Copies may be obtained from Dr A. Räuber, Institut für Angewandte Festkörperphysik, Eckerstrasse 4, D-7800 Freiburg, Federal

Republic of Germany, at a price of DM 15 plus an additional DM 2 for postage.

Co-operation Schemes for Crystallographers in Developing Countries

The attention of crystallographers in developing countries, and also other crystallographers interested in helping their colleagues in these countries, is drawn to the announcement of the introduction of special co-operation schemes which was published recently in the *Notes and News* Section of the Union's journals [*Acta Cryst.* (1977). A 33, 251; B 33, 317. *J. Appl. Cryst.* (1977). 10, 76] under the heading **European Crystallographic Committee**. Professor Feil and Dr Kennard would be grateful to anyone who is able to bring these schemes to the attention of the crystallographers for whom they are intended or can give them further publicity in any way.

Book Review

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.

Optical properties of ions in solids (Proceedings of NATO Advanced Study Institute, Erice, Italy, June 1974). Editor: BALDASSARE DI BARTOLO, Assistant Editor: DENNIS PACHECO. Pp. xv + 485. Plenum, 1975. Price \$46.80.

The study of the electronic energy states of ionic defects in solids has gained considerable importance in recent years owing to its immediate applicability in numerous fields such as phosphors, fluorescent materials, lasers, television, etc. In spite of this it is difficult to find a textbook or a monograph on this subject which contains both the basic fundamentals and a good up-to-date review of the current status, suitable for senior undergraduates, beginning graduate students or anyone entering this field. Dr Di Bartolo the Director of the NATO Advanced Study Institute and the editor of this book is to be commended for his endeavors in bringing out this volume.

This book is based on lectures given at this NATO

Institute by internationally renowned experts on the optical properties of ions in solids. Approximately the first third of the book deals with a brief but sufficient and excellent account of group theory, semiclassical radiation theory, theory of absorption and emission spectra and quantum theory of lattice vibrations. The remainder of this book utilizes these ideas and principles in the analysis of the optical properties of different ions such as magnetic ions (transition metal, lanthanide and actinide ions), small molecular ions etc., in various classes of inorganic materials.

In general the optical properties of ions are discussed in many approximations as appropriate, from the simplest one-dimensional configurational coordinate model to the full treatment of phonon sidebands. The spectroscopic and luminescence properties of small molecular ions are surveyed very well by K. K. Rebane and L. A. Rebane with copious reference to Russian literature. Special mention must be made of the clarity of presentation by Watts on the transfer of optical excitation energy between weakly coupled ions, as well as the important stepwise upconversion and coopera-

tive phenomenon observed in high sensitizer concentrations. The same should be said of Orbach's treatment of the phonon-induced spin-lattice relaxation and energy transfer as well as his earlier chapter on the quantum theory of lattice vibrations. Chapters on the spectroscopic properties of magnetic insulators, the role of the Jahn-Teller effect, and spectra of associated donor-acceptor pairs are also included.

All the chapters deal only with the theoretical aspects and experimental details are not presented or discussed. However, a sufficient number of illustrative experimental results and spectra are included at appropriate places.

In summary, there is a good balance in this book between the tutorial style and the review of the current state of the art in this field. Thus this book should be of value not only to the solid-state optics community but also to a wider audience in physics and engineering.

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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.

Crystal growth. Edited by B. R. PAMPLIN. Pp. xiv + 672. Pergamon Press, 1975, Price £10.00, US \$20.00.

This book is the flexicover edition (and about half the price) of the hardback published earlier in the year. The text is identical. A chapter-by-chapter review already published [see *J. Appl. Cryst.* (1976), 9, 61] included the observation that 'hardly any area of crystal growth is passed over in silence; focusing on the important issues, the book deals with their significant stages right up to the most recent developments'.

Progress in crystal growth and assessment: an international review journal. Edited by B. R. PAMPLIN (with an international advisory board). Four issues per annum; first issue, early 1977. Pergamon Press. Price US \$45.00 per annum.

This new review journal will carry articles on all aspects of crystal growth, rather like those in B. R. Pamplin's book *Crystal growth* (above), though shorter.