

## Notes and News

*Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 13 White Friars, Chester CH1 1NZ, England).*

### Delays in Dispatch of *Acta Crystallographica*

Messrs Munksgaard wish to apologize to subscribers for the delays, very considerable in some cases, in the despatch of the journals of the International Union of Crystallography. The delays arose during transfer of the subscription records to modern electronic data-processing equipment; after the initial troubles this should result in improved service.

Some adjustment will be made to the air-freight surcharge in 1975, in order to compensate regular subscribers in North America for the failure to provide the prompt delivery that they could expect from this service.

### Direct Methods in Crystallography, York, England, 2-11 April 1975

This meeting, held at the University of York, will be in the form of a school. Activities will consist of lectures, practical classes and computer-program demonstrations. Some industrial sponsorship may enable limited grants to be given to participants to assist with travel or subsistence. For further information write to Professor M. M. Woolfson, Department of Physics, University of York, Heslington, York YO1 5DD, England.

## Book Reviews

*Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.*

**Semiconductor physics** By K. SEEGER. Pp.xv + 514, Figs.364. Berlin: Springer Verlag, 1973. Price (Bound) S 430, DM 60.

Since the discovery of the transistor, many textbooks on transport phenomena in semiconductors have been produced. This 514 page volume by Professor Seeger in the Springer Study Edition series is designed primarily for a graduate course in semiconductor physics. In the preface, Seeger implies that this is not a solid-state textbook by stating the need for some supplementation by a solid-state physics course. After an introduction, a chapter follows on band theory at a reasonably elementary level dealing with the Kronig-Penney model and the Brillouin zone. Following an introduction to semiconductor statistics, chapters on standard electron-transport theory follow for the case of a non-degenerate gas, scatter processes in one- and many-valley models and the warped-sphere model. This section is completed by a chapter on quantum transport effects, tunnelling, magnetic freezeout and the magnetophonon effect. The last main section is devoted to optical effects covering optical absorption and reflection, the Franz-Keldysh effect, electro and magneto optical effects, and conducting amorphous and organic semiconductors complete this very thorough survey of semiconductor physics, a difficult task in just over 500 pages. Five useful appendices complete the volume. It is a very readable volume, well illustrated and with emphasis on the physical processes, each topic being introduced by a simple physical description.

However I consider it unfortunate that Professor Seeger has found it necessary to omit a number of topics necessary for an understanding of semiconductor physics, in particular the concept of the reciprocal lattice. Nevertheless, this is a very good, well reproduced book which could prove to be a useful standard text.

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**The solid-liquid interface.** By D. P. WOODRUFF. Pp.viii + 182, Figs. 79, Tables 7. Cambridge Univ. Press, 1973. Price £3.30.

In eight chapters, totalling less than 200 pages, this book provides a monographic treatment of contemporary solidification science as might be viewed today by the metallurgy/materials science community. Although the title implies the much broader area of technical coverage associated with solid-liquid interactions at interfaces, the text, in fact, deals exclusively with solid-liquid phenomena peculiar to certain phase transformations, *viz.* melting and freezing.

The title notwithstanding, the book admirably provides two chapters on the classical thermodynamics of surfaces, along with experimental approaches used to characterize the energetics of equilibrated and nascent (nucleated) solid-melt interphase interfaces; two chapters on statistical theories of interfacial structure; two chapters on morphological stability and instability (such as dendritic solidification); one chapter on polyphase solid-melt interfaces (eutectic solidification); and one chapter on the molecular and atomic mechanisms of crystal growth and dissolution. The author drew his material eclectically from the extensive research literature published on these topics over the past 15 years, including his personal research contributions. The author is commended for providing in a succinct monograph a reasonable topical balance between theory and experiment and between advanced research topics and well established subjects. He has also achieved a modicum of integration among some very diverse aspects of solid-liquid interfacial phenomena by virtue of the book's organization and cross references, which alone make the modest investment in money and time for this book worth while for both student and professional.

The editing and proof-reading of the text are unfortunately substandard. Almost 10% of the pages contain one or more mis-spellings and/or typographical errors. Several inconsistent applications of mathematical and physical symbols appear through carelessness in assembly (*e.g.* in Chapter 2 the consistent use of  $\Delta H_f$  for the enthalpy of fusion is interrupted by the use, without explanation or warning, of