

## NEWS

**Book reviews****Semiconductor electrodes**

Edited by H. O. Finklea

188 xxii + 520 pages Elsevier US \$179

Semiconductor electrochemistry has made enormous strides over the past 15 years, and a widening variety of materials have been characterized. The driving impetus for this expansion of interest was provided initially by the goal of achieving viable terrestrial solar energy conversion based on photoelectrochemical reactions, and cells with very high efficiencies were developed as a result of concentrated research effort. The emphasis has now shifted away from solar energy conversion towards materials aspects, and it seems likely that semiconductor electrochemistry may return to its origins which were closely associated with device physics. This change of direction requires a reappraisal of the field, and the present book is a useful starting point since its chapters have been organised according to semiconducting material. The book begins with a brief but nevertheless useful introduction to the concepts and terminology of semiconductor electrochemistry, written by the editor of the volume, H. O. Finklea. The chapters which follow are in essence critical literature reviews devoted to particular semiconductors. The first, and by far the most exhaustive, is again by H. O. Finklea. It covers  $\text{TiO}_2$  and  $\text{SrTiO}_3$  in great detail (over 400 references covering literature up to 1985), and it contains several very useful sum-

mary tables. Following chapters are concerned with  $\text{Fe}_2\text{O}_3$  (M. Anderman and J. H. Kennedy),  $\text{SnO}_2$  and  $\text{In}_2\text{O}_3$  (A. Nanthakumar and N. R. Armstrong), Silicon and Germanium (N. S. Lewis and A. B. Bocarsly), CdS, CdSe and CdTe (R. D. Rauh), GaP (D. S. Ginley and M. A. Butler), GaAs (K. W. Frese), InP (L. F. Schneemeyer, A. Heller and B. Miller) and finally the molybdenum and tungsten dichalcogenides (B. Scrosati). The authors of each chapter are well known for their work with the materials concerned, and it is not surprising therefore that they have given authoritative accounts. The literature coverage varies from chapter to chapter with between 60 and 160 references covering the period up to 1985.

The book has been produced from camera ready copy which is, of course, essential for an up to date literature survey. One would expect that the use of camera ready copy would keep the price down, but that is clearly not the case with the present volume. Consequently its circulation will be restricted to libraries and to a minority of individuals with an elastic budget for books. This is a pity, since the book deserves a wider audience, including research students in chemistry and physics who may be involved in materials aspects of semiconductors.

LAURENCE PETER  
*University of Southampton*