BOOK REVIEWS

Principles and Methods of Nuclear Geophysics, (eds) V. L. S. Bhimasankaran, N. Venkat Rao, K. Srirama Murthy and E. I. Savenko, (published by the Association of Exploration Geophysics, Osmania University Campus, Hyderabad), pp. 298, Price: Rs 250; or US $50.

This book is written by experts in this field and perhaps the first book in this field published in India. The efforts of these authors in venturing to write this book in a highly sophisticated field of Nuclear Geophysics deserve credit. The get up and the printing of the book is fairly good.

The book has 11 chapters in which the first three chapters deal with basic nuclear physics. The information provided is rather elementary and can be found in any textbook of nuclear physics. However, since the book is intended to be a textbook for geophysicists, perhaps this is the standard of the knowledge required by the students. The treatment of the semi-conductor detectors is inadequate, the latest and largely used type of detectors (i.e. the solid state nuclear track detectors) have been ignored. The list of energy sources provided in the book is of great practical use to workers in this field.

It is felt that, some questions and exercises at the end of each chapter would have been helpful to the students.

The gamma–gamma methods described in chapter 4 is well presented. Perhaps a list of readily available instruments in this field would have proved to be useful to workers entering this branch. Also it would have been better to highlight the importance and applications of these measurements.

The chapters on XRF and X-ray absorption edge method is fairly well presented but it is surprising to find that the authors have made no effort to acquaint the readers with the pioneering work carried out by Auger and Burhop in this field.

The chapters on nuclear gamma resonance method and neutron gamma methods deal with the subject rather superficially. Details of bore hole studies are highly inadequate. The neutron activation analysis has found a place in this book, probably because of the activation logging, which has prompted the authors to include this chapter here. Though the treatment is simple the authors do not make any effort for the reader, to go ahead with further studies and work in these fields.

Chapter eleven deals with the photo–neutron method and is well presented. The Appendix is probably the most useful part of this book.

General comments

The price of Rs. 250.00 is considered to be too high, particularly if this book is meant to be a textbook for post-graduate students. The matter and the size of the book do not justify such a high price.

The language is very disappointing. It is not chaste and some times even grammatical mistakes have not been corrected. A major editing is required to bring it to some standard.

The references and the bibliography are lacking. Whatever references are mentioned in the book are either of Russian origin or the authors own publications. Standard publications in each field have been ignored. It is felt that in a book of this type each chapter should have a history of the growth of the subject with references. An elaborate reference at the end of each chapter will help the reader in further studies from original publications.

Notwithstanding the above criticisms, I have no hesitation in applauding the authors for bringing out a book on such a highly sophisticated field for the first time in India. I strongly recommend this book to the post-graduate students of geophysics. I do hope that the next edition will take care of the shortcomings mentioned here.

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Solid State Sciences R & D Division—Activities Update 1985, (published by Westinghouse R & D Centre, 1310 Beulah Road, Pittsburgh, Pennsylvania 15235, USA), Price: Not given.

This report contains a brief description of the major technical developments of the Westinghouse R & D division during 1985. The report covers three major areas, viz, Device and Materials Research, Crystal and Device Research and Microelectronic Device Research. Some of the important aspects

discussed are infrared materials and device technology, molecular beam epitaxy of thin film structures, microwave acoustics and magnetics technology, integrated signal processing technology which includes chemical sensors like Langmuir–Blodgett films and metal–phthalocyanine compounds silicon device development technology, growth of crystals for optoacoustic devices, thin film materials and semiconductor processing technology. Although the report contains invaluable state-of-the-art information on many aspects of current applied research in solid state sciences, it is too brief to be useful widely. Another limitation is that no reference to literature is cited.

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The Dieback of Mandarin oranges in Darjeeling District—Pests and Diseases, (ed.) S. Mukhopadhyay, (published by General Printers and Publishers Pvt. Ltd., 119, Lenin Sarani, Calcutta 700 013), 1985, pp 12, Price: Not given.

The bulletin encompasses major facets of citrus dieback which has assumed alarming proportions in almost all major citrus growing areas of the country. The bulletin provides comprehensive information on nine major pests in Darjeeling District with special reference to their morphology and life-history. Seven diseases caused by fungi, one by virus and one by rickettsia-like organism have been dealt in the bulletin describing their symptoms and epidemiology.

The bulletin has been compiled in a simple language illustrated with beautiful colour photographs. The quality of bulletin would have been very high if the distribution and control measures of pests and diseases had also been included.

The bulletin will be useful to the students and research workers engaged in citrus research.

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