

BOOK REVIEWS

Selection of books for review is based on the editors' opinions regarding possible reader interest and on the availability of the book to the editors. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.



Semiconductor Detectors for Nuclear Radiation Measurement

<i>Author</i>	Sandor Deme
<i>Publisher</i>	John Wiley & Sons (1972)
<i>Pages</i>	319
<i>Price</i>	\$13.95
<i>Reviewer</i>	F. C. Adams

In the Preface of this book it is stated by the author that "its purpose is to assist the physicists, chemists, biologists, physicians, and engineers who are already familiar with the know-how of nuclear measuring techniques and want to use semiconductor detectors in their experiments. The book is intended for those interested in semiconductor detectors as a measuring tool and do not think it is necessary to learn all details given in the comprehensive, large and up-to-date monographs. An ample list of references will help those who wish to study any of the problems more thoroughly."

If this is the purpose of the book, it is interesting to try to ascertain whether the author realized his objectives. It is certainly true, as is claimed by Dr. Deme, that semiconductor detectors have resulted in a rapid expansion in the sixties and that they are now used by research workers in widely scattered domains of pure and applied science. Another book on the subject of semiconductor radiation detectors can thus always be considered as a welcome addition, even if several other books exist.

The information in this book is useful, the material is well balanced between the several topics consid-

ered, and the development is clear and concise. It may be valuable for interested parties in all the fields mentioned but especially for someone not working directly with but interested in the field as a first reading on the subject. Indeed, the reader should not be familiar with other radiation detectors as claimed by the author because the fundamentals are developed assuming practically no previous knowledge on the subject of nuclear radiation detection from the reader. The book contains the following chapters: Interaction of nuclear radiation with matter, general properties of semiconductors, principle of operation and general features of semiconductor detectors, preparation of semiconductor detectors, applications, and electronic equipment for semiconductor detectors.

A large number of clear illustrations should be noted. Indeed, the illustrations are mostly well chosen and increase considerably the readability and effectiveness of most of the text. An ample list of nearly 200 references is given but whether these references are of much help for further study of the reader is doubtful. The really important publications or the very useful survey articles should have been separated from the publications describing minor technical developments. Also, a survey of the other books covering the same subject could have been given. References from the Soviet Union are often overlooked in literature surveys. This is not the case in the list of references, but they could nevertheless be of much more use if their titles were translated in English. What is worse, except for a few happy readers, these references are listed in the Cyrillic alphabet.

The book is the English translation of an Hungarian text, and this

brings us to the main drawbacks. Translations in general suffer from appearing a rather long time after the original text and in a fast moving field, as this one is, this is clearly undesirable. The references listed decrease drastically in 1968 and not a single one for 1969 is listed. The text is thus only up to date to 1968. The same fact is also reflected in the text. There is the omission of numerous significant contributions in the field within the last four or five years, and the spectra shown reflect the technological possibilities of semiconductor detectors of over half a decade ago. All this is not too harmful when it does not create wrong impressions and misunderstandings with the reader. This possibility might have been neutralized by carefully scrutinizing the text for out-of-date facts immediately before or during the translation. The author is not necessarily to blame for the long delay between the writing of the manuscript and the final publication date. The publishers should finally recognize the fact that with publications in the fast developing technological or scientific fields a quick interaction on their part is essential for a commercially successful book.

Despite the above mentioned shortcomings, Deme's book can be fully recommended for first reading of the subject.

F. C. Adams has been active 12 years in the field of neutron activation analysis and radiochemistry as a scientific investigator at the University of Ghent, Belgium. He is now professor of chemistry at the newly created University of Antwerp, Belgium. He is the author of some 50 publications, mostly on radioanalytical chemistry, and of a book on applied gamma-ray spectrometry.