

**ARCHIVES OF HEAT TRANSFER: Volume 1***Edited by Naim Afgan**Hemisphere Publishing Corporation, 79 Madison Ave., New York, NY 10016; 466 pages, \$95, (1989)***Reviewed by****Cesar C. Santana and Judit Z. Halasz****State University of Campinas****Campinas, SP, BRAZIL**

The purpose of this book is to present selected contributions to the scientific meetings organized by the International Center for Heat and Mass Transfer between 1968 and 1987. It includes forty papers on fundamentals and applications ranging from boundary layers to high temperature heat exchangers.

According to the editorial preface, the aim of the book is to select contributions representative of the state-of-the-art in each category which had the most impact on each field during a time-span of twenty years. This aim has been achieved. Additionally, a very important and complete list of references is available for each topic.

In the reviewers' opinion, some of the papers had lost their up-to-date importance and new selections could probably have been considered.

Considering the book as a whole, it can serve as a good reference source for several subjects in heat and mass transfer research. □

**PHOTOREACTIVE POLYMERS: The Science and Technology of Resists***by Arnost Reiser**John Wiley & Sons, NY; (1989) \$49.95***Reviewed by****David S. Soane****University of California, Berkeley**

*Photoreactive Polymers* covers a broad range of subjects, including a brief history of resists, negative photoresists, photophysics and photochemistry in solid polymers, photoinitiated polymerization, positive resists based on diazonaphthoquinones, the rudiments of imaging science, deep-UV lithography, electron beam lithography, X-ray and ion beam lithographies, and finally multilayer resists and plasma processing. The presentation of these subjects parallels approximately the chronological appearance of the resists and their associated technologies. Each topic is dealt with in the space of one chapter. Taken as a whole, this book provides a truly comprehensive overview of the science of photoreactive polymers.

Chapter One is unique in that no other monographs seem to have given such a thorough cover-

age of the dawning days of photoreactive polymers. This degree of care and research dedication has permeated throughout the book, and the author has achieved a rather unbiased treatment of all the subject areas of the book. I find that practically all the important issues and major developments have been described.

Chemistry, such as explicit details of chemical reactions, chemical and physical photoevents, proposed mechanisms, and the wide varieties of resists and their structures, is the strong suit of the book. For chemical engineering students who have not been exposed to much organic chemistry, especially photoreactive polymer chemistry, this book is an essential tool. It will undoubtedly save the readers much library time and provide the necessary background for advanced reading of current literature.

Comparatively, this book devotes less to processes that are much more familiar to chemical engineers, *i.e.*, processes that involve basic transport theories and polymer dynamics. Fortunately, these are the exact places where traditional chemical engineers may grasp the concepts most readily and further contribute to the advancement of the science and technology of resists. Even though an in-depth treatment of these areas has not been given, the basics of these processes and related research problems have been prominently identified. Adequate references have also been cited for beginners.

In short, this book is quite useful for chemical engineers who are interested in the field of photoreactive polymers. □

**ChE** books received

*Corrosion: For Students of Science and Engineering*, by K. R. Trethewey, J. Chamberlain; John Wiley & Sons, Inc., 1 Wiley Drive., Somerset, NJ 08875-1272 (1988) 382 pages, \$38.95

*Fundamentals of Chemistry With Qualitative Analysis*, Third Edition, by Brady and Holum; John Wiley & Sons, Inc., 1 Wiley Drive, Somerset, NJ 08875-1272 (1988) 1112+ pages, \$51.50

*Concepts in Biochemistry*, Third Edition, by William K. Stephenson; John Wiley & Sons, Inc., 1 Wiley Drive, Somerset, NJ 08875-1272 (1988) 229 pages \$19.40

*Industrial Energy Management and Utilization*, by L. C. Witte, P. S. Schmidt, and D. R. Brown; Hemisphere Publishing Co., 79 Madison Ave., New York, NY 10016; 666 pages (1988) \$40

*Kinetic Aspects of Analytical Chemistry*, by H. A. Mottola; Wiley-Interscience, 605 Third Ave., New York, NY 10158-0012; 285 pages

*New Polymer Technology for Auto Body Exteriors*, Schmeal and Purcell (eds); AIChE, 345 East 47 St., New York, NY 10017; 92 pages, \$15 members, \$30 non-members

*Heat Transfer in Tube Banks in Crossflow*, A. Zukauskas and R. Ulinskas; Hemisphere Publishing Co., 79 Madison Ave., New York, NY 10016-7892; (1988) 199 pages, \$69.50