REVIEWS

Annual Review of Physical Chemistry, Vol. 29, ed. by B. S. Rabinovitch, J. M. Schurr and H. L. Strauss. (Annual Reviews, Inc., Palo Alto, Calif.), 1978. Price : USA $ 17.00; Elsewhere $ 17.50.

This is a most interesting volume containing timely, concise reviews on many frontier areas of physical chemistry. The volume starts with an article on chemical bonding by the great master Mulliken himself; the article mainly deals with electronic structures of molecules in ground state. There is also an article by Goddard and Harding on the description of chemical bonding from *ab initio* calculations which presents results on a number of hydrides. Spectroscopic, photochemical and theoretical studies on visual pigments have been reviewed by Honig. Besides this there are eight reviews on spectroscopic studies, four of which deal with NMR. NMR studies include relaxation studies of solute-solvent interactions (Bryant), membrane structure and dynamics (Bacian and Chan), structure and dynamics of *t* RNA in solution (Patel) and solids under high resolution (Vaughan). Circular dichroism spectroscopy in the vacuum UV region and nonlinear spectroscopy have been reviewed Johnson and Swofford and Albrecht respectively. Transient effects in microwave spectroscopy have been reviewed by Schwendeman. Vibrational structure of surface species by inelastic electron tunneling spectroscopy has been discussed by Weinberg, this technique being particularly useful to study surface chemistry. All the articles dealing with spectroscopic studies are thorough and upto date.

The article on information theory approach to molecular reaction dynamics by Levine includes discussion of inelastic and reactive collisions. Atom and radical recombination reactions and elementary processes on metal single crystal surfaces have been reviewed by Troe and Madix and Benziger respectively. Structure of molecular liquids has been discussed elegantly by Chandler. On solids there are three articles, one dealing with coherent energy transfer (Harris and Zwemer), the second on Piezo-, Pyro- and ferroelectricity in organic materials (Kepler) and the last one on lattice imaging of defect crystals and crystal surfaces (Cowley). Stiff chain polymer. lyotropic liquid crystals form the subject of the review rtaicle by Miller. Other interesting articles are on microcalorimetry of biological systems (Barisas and Gill) and applications of photoelectrochemistry to solar energy conversion (Nozik), the latter being particularly significant to the important area of new energy devices.

Reading this volume has been a most enjoyable experience. Each of the reviews is excellent and useful. There is no doubt that one can keep up with the latest advances in the topic concerned by going through these Annual Reviews which have maintained high quality through the years.

C. N. R. Rao.

Seismic Sea Waves—Tsunamis. By T. S. Murthy. *Bulletin of the Fisheries Research Board of Canada.* (Published by Department of Fisheries and the Environment, Ottowa, Canada), 1977. Pp. x + 337. Price : Canada $ 10, Other countries $ 12.

This book is, as the author says, an attempt to synthesize the current knowledge on Tsunamis. Though the book is mainly intended for oceanographers, it is also useful for researchers engaged in allied fields.

The book consists of six chapters dealing with theoretical and practical aspects of this important but less known sea-wave phenomenon. A sound knowledge of mathematics is necessary to understand the first four chapters wherein the generation, propagation and characteristics of Tsunamis are dealt with in detail. A non-mathematical summary of these chapters would have been of great help to those who do not have sufficient mathematical background. In chapter five, some important tsunamis of the globe are catalogued and analysed. The last chapter deals with Tsunamis warning systems. The instrumentation part of the chapter should have been more detailed. The exhaustive list of references provided at the end will prove invaluable to the researchers in this field.

The book gives a detailed account of the important Seismic sea wave phenomenon—Tsunamis. The style of the author is elegant and pleasing. The printing and get up of the book are excellent. The book is no doubt a worthy addition to geophysical literature.

V. L. S. Bhimasankaram.

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