

## Book Review

K. P. Lawley (ed.): *Photodissociation and Photoionisation*, Advances in Chemical Physics, Vol. 60, Wiley-Interscience, Chichester, 1985, £47.50.

This volume is an excellent addition to the series which has been noted throughout for the quality of its production. Some small typesetting errors remain, but the number is very few.

Most of the articles quote latest references in 1983, although some references to 1984 appear.

In 'Multiphoton Ionisation of Gaseous Molecules' (29 pages) by H. Reisler and C. Wittig the authors describe the essential experimental techniques and discuss some recent results. The chapter on 'Laser Isotope Separation by the Selective Multiphoton Decomposition Process' by R. D. McAlpine and D. K. Evans (67 pages) is a comprehensive review with much fascinating detail on commercial aspects. B. S. Yakovlev and L. V. Lukin (61 pages) in their article on 'Photoionisation in Non-Polar Liquids' review critically the Onsager theory and applications of it. 'Photoelectron Spectroscopy of Excited States' by K. Kimura (38 pages) describes the technique and the results accumulated so far. Van der Waals molecules were covered in two articles in Vol. 47 of this series; the article by K. J. Janda (43 pages) 'Predissociation of Polyatomic van der Waals Molecules' updates that material, describing experimental work on triatomics, dimers and large clusters. J. T. Moseley principally describes the fragmentation of various diatomic and triatomic cations, as well as the anions  $O_3^-$  and  $CO_3^-$  in 'Ion Photofragment Spectroscopy' (53 pages). In 'The Franck-Condon Principle in Bound-Free Transitions' J. Tellinghuisen (70 pages) describes calculations on systems with structured continua, and gives a valuable tabulation of diatomic systems displaying this characteristic. Finally there are two articles on the theoretical aspects: 'Theoretical Aspects of Photodissociation and Intramolecular Dynamics' by P. Brumer and M. Shapiro (31 pages) in which some quantum statistical aspects are discussed, and 'Quantum Theory of Molecular Photodissociation' by G. G. Balint-Kurti and M. Shapiro (47 pages) which gives a comprehensive coverage of the theory including treatments of the differential and integral photofragment cross-sections.

At £47.50 the volume is not excessively priced and would be a valuable addition to most research libraries.

May the high standard be maintained in future volumes of the series.

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