

Book reviews

Soviet Scientific Review—Section B. Author and Editor, Vol'Pin. Hardwood Academic Publishers, London. Chemistry Reviews Vol. 8. Corrosion, 1987, 293 pp., US\$290.00. ISBN 3-7186-0176-1. Chemistry Reviews Vol. 9. Quantum and Theoretical Chemistry, 1987, 527 pp., US\$370.00. ISBN 3-7186-0223-1.

Soviet Scientific Reviews publish annual volumes in a range of sciences intended to make accounts of recent scientific advances in the U.S.S.R. more readily and rapidly accessible to the scientist who does not read Russian. The articles in these volumes are reviews of recent developments written by Soviet authors and translated from the Russian by the publisher.

Volume 8 is devoted to problems of metal corrosion and protection, including mechanisms of metal corrosion processes and development of means for metal protection. The volume summarizes research performed over a number of years at the Institute of Physical Chemistry of the U.S.S.R. Academy of Sciences under the direction of the late Professor I.L. Rozenfel'd. The book discusses volatile corrosion inhibitors, research on the relationship between the structure of organic compounds and their protective capability, the electrochemical mechanism of inhibition and the interaction between inhibitors and metals. Chapters also deal with the mechanism of hydrogen sulphide corrosion and the embrittlement of steel by hydrogen in the presence of hydrogen sulphide. There is also a discussion of the corrosion and protection problems in sea water. Other chapters are concerned with the structure of surface oxides and the application of electromodulation spectroscopy on metal oxide electrolyte interfaces.

Volume 9 discusses the achievement of Soviet scientists in theoretical and quantum chemistry. Chapters include vibronic theory, Landau–Zener and Landau–Teller models, electronic processes in quasi-one-dimensional systems, the magnetochemistry of transition metal clusters, aspects of the structure of crystalline carbon and concepts of tunneling of heavy particles in chemical conversions.

While all the chapters are of interest to the chemical theorist, the chapters on vibronic theory by Bersuker and by Levin and the chapter on magnetochemistry and spectroscopy of transition metal exchange clusters by Tsukerblat and coworkers will be of special interest to inorganic chemists and readers of this journal.

There are no author and subject indexes in these volumes.