viewed. Succeeding chapters contain a systematic presentation of the recent developments in studies of atomistic structure, electronic structure, excitations, metal overlayers and surface chemistry. A thorough description of recent experimental and theoretical studies is given. The presentation is characterized by a determined effort to identify and explain the underlying physics through the introduction of simple models. Frequent reference is made to the ionic and tight-binding pictures.

As a highly readable introduction to this subject, the book will be of value to the advanced undergraduate or postgraduate student. Our understanding of oxide surfaces has advanced enormously in the past few years and the research effort dedicated to these systems is still growing rapidly. The interdisciplinary nature of this work – involving (at least) physics, chemistry, geology and materials science – has led to a profusion of different approaches and attitudes. This book draws together many of these strands and thus also provides an excellent point of reference for established researchers in this field. It provides an excellent companion to The Surface Science of Metal Oxides, by V. E. Henrich & P. A. Cox (Cambridge: Cambridge University Press, 1994), which concentrates more on experimental studies. Noguera’s book does not examine the difficult problem of highly correlated oxide materials for which the standard references remain N. F. Mott’s Metal–Insulator Transitions (London: Taylor & Francis Ltd, 1974) and P. A. Cox’s Transition Metal Oxides: an Introduction to their Electronic Structure and Properties (Oxford: Clarendon Press, 1992).

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Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally, a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.


X-ray and neutron dynamical diffraction, theory and applications. Edited by A. AUTHIER, S. LAGOMARSINO and B. K. TANNER. Pp. ix + 419. New York: Plenum Publishing Corporation, 1996. Price US $125.00. ISBN 0-306-45501-3. This volume collects the proceedings of the eponymous 23rd International Course of Crystallography, a NATO Advanced Study Institute, held in Erice, Sicily, in April 1996. The first part reviews the basic principles of dynamical diffraction by perfect and nearly perfect crystals, the second deals with diffraction topography, the third with X-ray standing waves, the fourth with the theory and applications of high-resolution diffractometry, the fifth with multiple-beam diffraction and the sixth with X-ray and neutron interferometry.