

book reviews

Works intended for this column should be sent direct to the Book-Review Editor, whose address appears in this issue. All reviews are also available from **Crystallography Journals Online**, supplemented where possible with direct links to the publisher's information.

Disordered Materials by P. M. Ossi.
Springer-Verlag, 2003. Price Euros 59.95
+ VAT, SFR 99.50, GBP 42.00, US\$
64.95. ISBN 3-540-41328-6.

This book is an outgrowth of lecture notes from the Politecnico in Milan. Contrary to what the title might suggest, five out of its six chapters deal almost exclusively with structural aspects of disordered matter; this term is interpreted to include liquid and amorphous systems, and atomic clusters and quasicrystals, but not chemically or structurally disordered crystals, which have previously been extensively studied as models of disorder.

ch. 1 basically rehearses the fundamentals of crystallography while ch. 2 contains a short overview of some measures of disorder. A succinct description of the glass transition is contained in ch. 3, which includes the basic thermodynamic concepts and facts. The unprepared reader may experience problems here in trying to understand what kinetic theories for the glass transition of the mode-coupling family really do predict. Time-dependent quantities such as the intermediate dynamic structure factor are introduced here without previous reference to the van-Hove real-space correlation functions. This makes it difficult to grasp what such functions really represent in terms of atomic motions.

Compared with some of its predecessors in the field, this textbook offers a somewhat more formal treatment of the structure of disordered systems (ch. 4) as well as an enjoyable chapter on atomic clusters, a sub-field enlarged to accommodate the fullerenes and nanostructured materials. In contrast, some parts of ch. 4, dealing with experimental techniques such as vibrational spectroscopy, leave out many of the advances from the last couple of decades relating to our understanding of the spectrum of excitations of amorphous solids (or even liquids).

Finally, ch. 6 on the structure and stability properties of quasicrystals contains a useful introduction to the field for a newcomer.

The book is primarily addressed to practitioners using X-ray scattering techniques as the basic tool. In fact, very few references are made to other radiation scattering techniques such as neutron scattering using isotopic substitution (which may offer obvious advantages over techniques such as EXAFS for the study of multicomponent systems).

All in all, this new addition to the literature on disordered materials complements the existing literature, but falls short of being a standalone textbook.

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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.

Linus Pauling selected scientific papers.

Edited by Barclay Kamb, Linda Pauling Kamb, Peter Jeffress Pauling, Alexander Kamb and Linus Pauling Jr. Singapore: World Scientific, 2001. Vols. 1 and 2 set: 1612 pp., USD 114, ISBN 981-02-2784-1; Vol. 1: 864 pp., USD 98, ISBN 981-02-2939-9; Vol. 2: 748 pp., USD 67, ISBN 981-02-2940-2.

A review of this book, by John Meurig Thomas, has been published in the July 2003 issue of *Acta Cryst. Section A*, pages 434–436.