New Directions in Atomic Physics, Edited by C. Whelan, R. Dreizler, J.H. Macek and H.R. Walters, Kluwer Academic/Plenum Publishers, 1999, pp: 384, ISBN 0-306-46181-1; Price: $177.50 (hc).

Problems on Statistical Mechanics, Edited by D. Brewer, IOP Publishing, 1999, 284, ISBN 0-7503-0521-5 (pbk), 0-7503-0520-7 (hc); Price: $39.00 (pbk), $110.00 (hc).

Globular Clusters, Edited by C. Martinez-Roger, I. Perez-Fournon and F. Sanchez, Cambridge University Press, 1999, pp: 353, ISBN 0-521-77058-0; Price: $69.95 (hc).

BOOK REVIEWS / *CRITIQUES DE LIVRES*

POLYMERS AT SURFACES AND INTERFACES, R. Jones, R. Richards, Cambridge University Press, 1999, pp: 377, ISBN 0-521-47965-7 pbk.(-47440-X pbk.), Price: $39.95 pbk. ($90.00 hc)

It is an unfortunate fact that traditional condensed matter physics has largely neglected the study of polymeric materials in spite of the fact that polymers are found in a multitude of applications. The success of polymers is due, in part, to their physical properties at surfaces and interfaces. There are truly several topics on this specific subject which can be covered in a book.

Chapter one of this book is an introduction and overview of the polymers at surfaces and interfaces.

In the following chapters, the authors then cover a number of important topics including polymer/polymer interfaces, adsorption and surface segregation and, adhesion and mechanical properties of polymer interfaces. The book also includes discussions on tethered polymers at interfaces and polymers spread at air/liquid interfaces. Many experimental methods are relevant in the study of these systems.

Therefore, one chapter is dedicated to an overview of experimental techniques including a discussion on the advantages and disadvantages of each technique. A description of the relevant theories and how they can be applied is also given. In particular the authors provide an excellent discussion of the limitations of mean field theory in these systems.

Perhaps the most striking feature is the scope over which material is covered in this book. ``Polymers at Surfaces and Interfaces" include a large number of important topics in current polymer science. As noted by the authors, the breadth is chosen deliberately ``to make clear the large number of areas in which the interfacial behavior of polymers is relevant and important and to point out the close parallels between different aspects of the subject". As a result, each chapter
is an overview of the ongoing research and current understanding on the topic.

For each topic, the authors give a brief account of the underlying physics of the problem and discuss the relevant theoretical and experimental studies. The reader is left with a broad overview of the current subject and the lack of depth is accounted for by the fact that the reader is aware of the major aspects of each topic.

For a more in-depth discussion, the reader is supplied with a comprehensive list of references and review articles. This book would serve well as a good reference for an advanced undergraduate or graduate course, or as a good introduction for a researcher with an interest in polymers.

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