

Springer

1st  
edition

2011, XII, 176 p.

**Printed book**

Hardcover

**Printed book**

Hardcover

ISBN 978-3-642-04901-9

\$ 349,99

Available

**Discount group**

Professional Books (2)

**Product category**

Reviews

**Series**

Advances in Dielectrics

**Other renditions**

Softcover

ISBN 978-3-642-26627-0

**Chemistry : Polymer Sciences**

Floudas, G., Paluch, M., Grzybowski, A., Ngai, K., University of Ioannina School of Sciences, Ioannina, Greece

# Molecular Dynamics of Glass-Forming Systems

**Effects of Pressure**

- **First book on the subject**
- **First volume of the series "Advances in Dielectrics"**
- **Written by renowned experts**

Pressure is one of the essential thermodynamic variables that, due to some former experimental difficulties, was long known as the "forgotten variable." But this has changed over the last decade. This book includes the most essential first experiments from the 1960's and reviews the progress made in understanding glass formation with the application of pressure in the last ten years. The systems include amorphous polymers and glass-forming liquids, polypeptides and polymer blends. The thermodynamics of these systems, the relation of the structural relaxation to the chemical specificity, and their present and future potential applications are discussed in detail. The book provides (a) an overview of systems exhibiting glassy behavior in relation to their molecular structure and provides readers with the current state of knowledge on the liquid-to-glass transformation, (b) emphasizes the relation between thermodynamic state and dynamic response and (c) shows that the information on the pressure effects on dynamics can be employed in the design of materials for particular applications. It is meant to serve as an advanced introductory book for scientists and graduate students working or planning to work with dynamics. Several scientific papers dealing with the effects of pressure on dynamics have appeared in leading journals in the fields of physics in the last ten years. The book provides researchers and students new to the field with an overview of the knowledge that has been gained in a coherent and comprehensive way.

**Order online at [springer.com/booksellers](http://springer.com/booksellers)****Springer Nature Customer Service Center LLC**

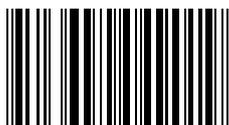
233 Spring Street

New York, NY 10013

USA

T: +1-800-SPRINGER NATURE

(777-4643) or 212-460-1500

[customerservice@springernature.com](mailto:customerservice@springernature.com)

ISBN 978-3-642-04901-9 / BIC: PNNP / SPRINGER NATURE: SCC22008

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.

Part of **SPRINGER NATURE**