Contents

Part I	Introduction to Neutron Scattering	
	tering of Neutrons as a Tool to Study the Glassy State staff (With 4 Figures)	2
Part II	Dynamics Around the Glass Transition	·
	ering Anomalies Near the Glass Transition Singularity and W. Götze (With 9 Figures)	18
	amics Near the Glass Transition and D. Richter (With 13 Figures)	38
Polymeric Sy By J. Colmen	laxation Behaviour Around the Glass-Transition of Polar stems lero, A. Alegría, J.J. del Val, and J.M. Alberdi lero)	53
Neutron Scatt	s Transition in a Molecular Glass as Observed by Incoherent tering M. Kiebel, and H. Sillescu (With 5 Figures)	58
Transition	on of Neutron Scattering to a New Understanding of the Glass (With 4 Figures)	64
β -NMR on L	iCl 7D ₂ O in the Glassy and the Liquid State P. Heitjans, and A. Schirmer (With 3 Figures)	69
	Two-Component Systems Near the Glass Transition U. Krieger, and J.S. Thakur (With 6 Figures)	74
	the Incoherent Density-Density Correlation Functions of phere Glasses and Jump Motion of Atoms Near the Glass	
By G. Pastore	e, B. Bernu, J.P. Hansen, H. Miyagawa, and Y. Hiwatari	86
•	ems: Model for Colloidal Glasses and K. Kremer (With 3 Figures)	91



Non-exponential Decay of Density Correlation Function in Dense Microemulsions By Sow-Hsin Chen, E.Y. Sheu, and J.S. Huang (With 14 Figures)	96
Free-Volume Distribution in Organic Glasses Studied by 2H NMR of Deuterated Probes	114
By E. Rössler, M. Taupitz, and HM. Vieth (With 7 Figures)	114
Scaling Properties of Fast Motions in a Globular Protein By W. Doster, S. Cusack, and W. Petry (With 4 Figures)	120
The Structural and Dynamical Properties of the Sol-Gel Transition By R. Winter, DW. Hua, X. Song, and J. Jonas (With 6 Figures)	124
Ordinary and Supercooled States in a Liquid Rubidium Model By U. Balucani, T. Gaskell, and R. Vallauri (With 2 Figures)	130
Dynamics of o-Terphenyl in Its Glassy and Supercooled Liquid State as Observed by Incoherent Neutron Scattering By E. Bartsch, M. Kiebel, F. Fujara, H. Sillescu, and W. Petry (With 3 Figures)	135
Dielectric Relaxation in Microemulsions Near the Percolation Threshold By C. Cametti, P. Codastefano, A. Di Biasio, P. Tartaglia, and S.H. Chen (With 2 Figures)	139
Structure and Dynamics of Cyclohexane in Bulk and Constrained Geometry By J.C. Dore, M. Dunn, T. Hasebe, J.H. Strange, and M.C. Bellissent- Funel (With 5 Figures)	144
Dynamic Properties of an Inorganic System Near the Glass Transition By S. Jung, P. Müller, and C. Morkel (With 7 Figures)	149
A Stochastic Model for Phase Transitions By T. Munakata and J. Bosse (With 2 Figures)	154
Kawasaki Dynamics in the Ising Chain By J.M. Nunes da Silva and E.J.S. Lage	160
Signatures of Critical Dynamic Instability Near the Glass Transition: A Neutron Scattering Study	164
By F. Mezei (With 4 Figures)	164
Part III Low Frequency Excitations	
Low Frequency Excitations in Glasses By U. Buchenau (With 8 Figures)	172
Structural Relaxation in a Metallic Glass By JB. Suck (With 4 Figures)	182

Alloys By F. Zougmoré, J.C. Lasjaunias, and O. Béthoux (With 5 Figures)	186		
Low Frequency Excitations in Al-Ge Alloys Quenched Under High Pressure			
By A.I. Kolesnikov, M. Prager, H.R. Schober, U. Buchenau, O.I. Barkalov, I.T. Belash, and E.G. Ponyatovskii (With 6 Figures)			
Opposite Extreme Structural Relaxation Behaviour in Glassformers; a Brillouin Scattering Study of B ₂ O ₃ and Ca _{0.4} K _{0.6} (NO ₃) _{1.4} By M. Grimsditch and L.M. Torell (With 11 Figures)			
Line Shape Analysis of Brillouin Spectra from Glassforming Liquids By S. Loheider, I. Petscherizin, M. Soltwisch, J. Sukmanowski, G. Vögler, and D. Quitmann (With 1 Figure)			
Acoustic Glass Relaxations and Mesomorphic Transitions in Polymer Liquid Crystals Pro J. K. Kriinger, C. Crampage, and J.H. Wandorff (With 2 Firstee)	216		
By J.K. Krüger, C. Grammes, and J.H. Wendorff (With 3 Figures)	216		
Very Low Frequency Light Scattering in Amorphous Silica By A. Fontana, L.M. Gratton, and C. Tosello (With 3 Figures)			
Longitudinal and Transverse Brillouin Intensities in Glasses: Experiments and Interaction Induced Contributions By V. Mazzacurati, M. Nardone, G. Ruocco, and G. Signorelli	225		
(With 2 Figures)	225		
Phonons in Glasses By W. Schirmacher and M. Wagener (With 4 Figures)	231		
Vibrational States and Tunneling By H.R. Schober (With 1 Figure)	235		
Part IV Spin Glasses and Orientational Glasses			
Critical Dynamics of the Spin Glass Transition By J.J. Prejean (With 7 Figures)			
Random Fields and Nonergodicity in the Orientational Glass $K(CN)_xBr_{1-x}$ By K.H. Michel	252		
Nature of the Glass Transition in $(NaCN)_{1-x}$ (KCN) _x By T. Schräder, M. Müller, and A. Loidl (With 5 Figures)			
Correlation Between Glass Behaviour and an Intrinsic Limit of	256		
Metastability: A Time Resolved Investigation By M. Descamps (With 3 Figures)			

The Effect of Orientational and Composition Disorder on the Low Temperature/Low Energy Rotational Excitations of the NH ₃ Groups in Calciumhexaamine Ca(NH ₃) ₆ By P. Damay, F. Leclercq, A.J. Dianoux, and W. Press (With 4 Figures)	266	
What Stabilizes the Orientational Glass Phase? By HO. Carmesin (With 2 Figures)		
Neutron Scattering Study of a Crystal with Random Competing Interactions By H. Grimm (With 5 Figures)		
Quasielastic Broadening of the Coherent Diffuse Scattering from the Orientational Glass $(KBr)_{1-x}(KCN)_x$ By P. Wochner, E. Burkel, J. Peisl, C.M.E. Zeyen, and W. Petry (With 6 Figures)	280	
Part V Fractal Dynamics		
Dynamics of Tenuous Structures By O. Entin-Wohlman, R. Orbach, and G. Polatsek	288	
Dynamics of Silica Networks By J.K. Kjems, T. Freltoft, D. Posselt, and D. Richter (With 4 Figures) .	297	
Crossover in the Vibrational Density of States of Silica Aerogels By H. Conrad, G. Reichenauer, and J. Fricke (With 4 Figures)	304	
Low Frequency Vibrations in Silica Aerogels By G. Reichenauer, J. Fricke, and U. Buchenau (With 6 Figures)		
Low Frequency Light Scattering in Lithium Borate Glasses; a Cross-Over from Phonons to Fractons? By L. Börjesson (With 2 Figures)	316	
Index of Contributors	323	